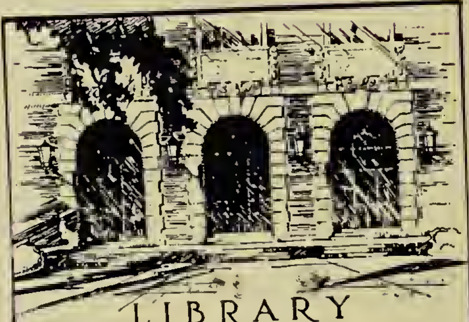

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Original Articles

THE CLINICAL HISTORY AND RECOGNITION OF TUBERCULOUS MENINGITIS.

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NEW YORK.

The symptomatology of tuberculous meningitis when well inaugurated is certainly characteristic and can offer very few difficulties to those who have followed any number of these cases through an illness. There has always been, however, a desire on the part of clinicians to recognize the disease in its incipient stage, or as the books call it, the first stage of the disease. So important a matter is this to the practitioner that the consultant is often confronted in his daily work with the important problem as to whether a certain symptom complex can definitely be said to be indicative of tuberculous meningitis. There was a discussion of this matter in a meeting of the Pediatric Society in 1890. At this time stress was laid on the fact that the early diagnosis of tuberculous meningitis was not only difficult, but in some cases well nigh impossible. Such symptoms as persistent vomiting, irregularity of pulse and of respiration and apathy certainly were indefinite guides to an early diagnosis. To-day, however, with our advanced clinical methods, we are able to approach a case with greater certainty than was possible in past years.

During the past six years I have been fortunate in having under direct observation no less than fifty-two cases of tuberculous meningitis in my hospital service. These cases were admitted at different periods of the disease, some coming to me on the second day of pronounced symptoms, others as late as the sixth week of the disease, the average duration of the disease before admission to my service being one week.

In all the cases which I will utilize for this paper the diagnosis was fixed clinically and confirmed either by postmortem examination, lumbar puncture or by animal experimentation. An opportunity is thus offered to consider an accurate symptomatology of cases which have been absolutely proved to be of a tuberculous nature. In all a tentative clinical diagnosis was at first made before the lumbar puncture was considered. In other words, no case was punctured unless there was a suspicion, at least, of meningitis, primarily that of the tuberculous variety.

AGE OF THE PATIENT.

The oldest case coming under our observation was ten years, the youngest six months. Eleven were under one year of age. Thirty-four per cent. (18 cases) were under two years of age, and thirty per cent, (16) were under four; thirty-four (18) were four years of age and over. The average of all the cases was four years and four months.

I have studied these cases first as regards the mode of onset; the condition of the nervous system, as evinced in rigidity of the neck, the Kernig symptom, the Babinski reflexes, general reflexes, the MacEwen sign, hyperesthesia, condition of the facial muscles and those of the eyes; the breathing, as to rhythm, whether regular or not; the condition of the fundus of the eye; that of the blood, whether a leucocytosis was present or not; and the results obtained by lumbar puncture. Incidentally, also, the course of the temperature, the complications and the presence of eruptions.

MODE OF ONSET.

The mode of onset in tuberculous meningitis has always been a matter for careful study and consideration, and there are cases recorded in the literature in which the mode of onset of tuberculous meningitis closely resembled that of cerebro-spinal meningitis of the epidemic type. Osler records a case in which the onset was sudden and in which the fatal issue occurred within six days.

In all my cases, old or young, I have never met an instance of such a rapid and lethal course of the disease. The nearest approach to such a rapid onset is the following:

Patient.—Male, aged 10½ years; family history negative.

Past Illness.—Measles, when 1 year old and diphtheria (?) at 4. Right arm fractured three years ago. No history of ear disease or glandular enlargement; no cough, night sweats nor hemoptysis; had been struck on the nose four weeks previously with a very hard snowball. Nose became very much swollen and red, and was apparently in normal condition again in about a week.

Present Illness.—This began one week before the child was seen with feeling of lassitude, loss of appetite and headache. On the night of onset of illness vomited once, projectile in character. Mother said there had been no fever and strabismus until past twenty-four hours. No chill or convulsions, but constant severe frontal headache without delirium. Pain in nape of neck since day previous, but mother did not notice rigidity. Photophobia had been marked since onset. Bowels had been markedly constipated all week, and there had been some abdominal pain. Urination was normal.

Physical Examination.—This was made on January 27. General condition good, well nourished, mental condition not apathetic; child answered questions intelligently. Marked hyperesthesia causing child to resist interference. The MacEwen sign was absent; delayed tâche cérébrales, erythematous flush over lower thorax, abdomen and thighs anteriorly. Larynx, thyroid and spine negative; finger tips showed slight cyanosis, no clubbing. Neck showed marked rigidity.

Eyes: Pupils equal, react to light and to accommodation. Marked internal strabismus of right eye; slight internal strabismus of the left; no petechiæ, but slight injection of conjunctivæ; no facial paralysis.

Ears and mastoids were negative.

Mouth: Tongue moist, heavily coated; teeth and gums in good condition; throat congested. No herpes, but a fissure at left oral angle.

Lymph nodes: Postcervical, axillary, inguinal and left epitrochlear nodes were palpable.

[redacted] supra-clavicular retraction—nsile lower is good; anterior negative; posterior dulness at apex with a few sibilant râles; prolonged respiration.

Heart: Upper border at third rib; right border at r. b. of sternum; left border at nipple line; apex beat visible and palpable in fifth space, outside of the nipple line; no precordial bulging; action slightly irregular; slight accentuation of first sound at apex; systolic murmur over both basic orifices; moderate accentuation of second pulmonic sound.

Pulses; Equal; slightly irregular, full, moderate force. No thickening or tension.

Liver: Fourth space, sixth space to one finger below free border, not palpable.

Abdomen: Distended, tympanitic, except in hypogastrium, where it was dull; no fluid wave; left kidney palpable, ascending colon too full for satisfactory palpation of right kidney. Spleen observed by tympany; not palpable.

Extremities: Patellar reflex present; Kernig present on both sides; no clonus; no Babinski; cremasteric reflexes on both sides and umbilical reflex present.

Genitals: Both testes descended; right inguinal being large; no impulse on coughing.

Rectum: Negative.

January 30: Patient was quite rational for past twenty-four hours; Kernig persisted in spite of fall of temperature. There was considerable rigidity of neck and strabismus was still present. He did not pass into the intervals of delirium which were previously present and took his nourishment well; hyperesthesia was marked; slept well.

February 1: From time of admission patient had a moderate continuous fever, with slight morning and evening variation. He was conscious, but lapsed frequently into mild delirium; did not complain of headache and did not vomit. The meningeal signs were practically unchanged; respirations were markedly irregular; the white blood cells, 15,800.

February 4: In the past few days condition had become poor; patient was more stuporous, but still conscious when spoken to; no longer complained of headache or pain. On February 3 temperature rose to 103.8; the fever generally had been high and continuous; internal strabismus was more marked and there was flattening of right side of face; the mouth was drawn to left side. There was marked rigidity, but no opisthotonus; Kernig sign was more marked on left side and there was no Babinski. Marked tâche cérébrale; very slight twitching of the arm.

February 5: Slight improvement in patient's mental condition; he answered when spoken to, but speech was very indistinct and low; right facial palsy persisted; respirations were audible and the tongue had a tendency to fall back; since the afternoon previous patient had difficulty in swallowing. Double optic neuritis was present and around the right disc were seen several hemorrhages.

February 6: Temperature, 99.4; Kernig sign present (10 a. m.). Lumbar puncture was performed and about 50 c.c. clear fluid were withdrawn.

Pathologic Report.—Cytology: Polynuclears, 10 per cent.; lymphocytes, 90 per cent. Spreads: Tubercle bacilli. Culture: Negative. Albumin: Increased. Sugar: Negative.

On admission this case impressed the writer as being one of cerebrospinal meningitis of the epidemic variety on account of the marked rigidity, hyperesthesia, the activity of the delirium, and the positiveness of the assertion of the parents of the sudden onset. When lumbar puncture was made the error was proved.

In all classes of society parents do not always observe accurately, and it is possible in all these cases in which the onset is said to be abrupt that there has been an indefinite period preceding the pronounced symptoms in which the patient did not feel entirely well. Children do not complain of mild symptoms as a rule. They are so anxious to be about and in the open that a slight headache and any indisposition, or a mild degree of fever, would scarcely be noticed. Hence I must regard all data as to sudden onset in the majority of cases of tuberculous meningitis as of doubtful nature.

Most mothers, it is true, are excellent clinical observers of their own children if they are allowed the time to observe. Among the poorer classes such time is not at their disposal, and the result is that the initial period of the disease is lost to observation. One mother may notice the insidious change in the conduct of her child, whereas another mother would scarcely have the time to see these changes, being too much occupied with her other duties to observe. It may be said here that in 86 per cent of the cases, that is in 42 cases, a positive history of insidious onset was given. The mother could tell us that the infant or child was not quite well, complained (if it was old enough) of slight headache and vomited from time to time. In those cases which came to us early, as in the second day of the disease, there was no history of vomiting. Generally there was a slight febrile movement, or the child was irritable, refused to nurse, or the mother simply noticed that the little one was not itself. It is only in those cases that came to us after the disease had lasted a week that there was a history of vomiting. In some of the cases among the older children there was complaint of pain and headache, in other cases there may have been a convulsion. As a rule, however, convulsions were not present until the disease had lasted fully twelve days or two weeks.

In the remaining cases (10) there was lacking a history of slow onset. One mother, bringing a child of six and a half years of age with a duration of illness of six weeks, thought that the disease began suddenly with fever, chill and headache. In our history there were two other cases of seven and eight years, respectively, in which the mother thought the disease began suddenly with vomiting and headache. Another case of two years, in which the mother asserted that vomiting and convulsions suddenly set in. In all these cases the house physician could not obtain a positive history of sudden onset, so that the child may have been ill for a week previous to the vomiting and convulsions, with slight malaise, and a busy mother, distracted by household cares, may not have noticed that the child was ailing. Therefore, confirming what is generally known of this disease, the onset in the majority of the cases that we could trace in the reliable histories was slow and insidious.

NERVOUS SYSTEM.

The condition of the nervous system is of special interest in all these cases. Of greatest importance is the presence or absence of rigidity. There are some cases of tuberculous meningitis in which such rigidity is absent at all periods of the disease. Fourteen of our cases were of such a nature, in other words, 27 per cent. In some cases opisthotonos and rigidity, if present, as a rule were slightly marked, that is, the head was movable almost to a normal degree. Rigidity in all cases is tested simply as a child lies in bed; the head is raised, and if with the head the body is raised also, rigidity is considered to be present. In some cases a rigidity may only mean a stiffness of the neck; such a symptom will be easily recognized by any intelligent physician. In no case did rigidity appear before the first week, and in this respect tuberculous meningitis differs markedly from the meningitis of the acute cerebrospinal type, that is, especially of the epi-

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demic form, in which rigidity is the rule and opisthotonos not infrequent.

Patients with tuberculous meningitis lie stupid, they do not notice what is going on and do not react to irritation as do cases of meningitis of the epidemic form. Hyperesthesia, either of the surface or the senses, as a rule, is absent or slightly marked. Such was the condition in 90 per cent. of my cases. In this respect tuberculous meningitis differs distinctly from that of the epidemic cerebrospinal form, in which hyperesthesia is the rule, not only from the onset but throughout the disease.

Much stress has been laid by various authors on the diagnostic value of the Kernig symptom in cases of meningitis, but it must be said that though we have found the Kernig symptom present in 22 of our 52 cases, it was absent in others, and does not aid the ultimate diagnosis of the disease. In fact, clinically, there are other symptoms which are more significant in the cases of tuberculous meningitis, which we have studied, than the Kernig symptom.

Strange to say, the Babinski reflex in children over two years of age is a much more valuable guide, clinically, as to the nature of the meningitis, if meningeal symptoms are present, than the Kernig phenomenon. In our 52 cases of tuberculous meningitis the Babinski reflex was present in 23 cases, and, if present, to my mind, it is presumptive evidence of the tuberculous nature of the disease, as compared to what is noted in the acute suppurative forms of meningitis. I have only found it present in exceptional cases of cerebrospinal meningitis of the epidemic type or of the suppurative form. The general reflexes were present in most of our cases of tuberculous meningitis, except in those where the patients came to us very late in the disease; in these they were abolished.

SKIN ERUPTIONS.

The presence or absence of herpes or skin eruptions does not help us in the diagnosis of tuberculous meningitis, inasmuch as their absence is the rule and their presence is very inconstant. Certainly the presence of herpes and petechiæ are characteristic of cerebrospinal meningitis of the epidemic form, and at the outset of meningitis the presence of petechiæ speaks in favor of the epidemic form of the disease and will aid us in excluding the tuberculous forms. Herpes are seen in tuberculous meningitis, and if present are due possibly to a complicating neuritis or pneumonia.

Some of the minor points of diagnosis, such as the tâche cérébrale, which is present in most cases, not only of meningitis but in affections accompanied by cerebral symptoms, is of very little value and useless as an aid to diagnosis.

The pulse also as to its frequency and quality is of questionable value in the diagnosis of tuberculous meningitis. It is true in the acute suppurative forms of meningitis, especially cerebrospinal meningitis of the epidemic type, the pulse is quite rapid. But there are periods in this disease where the pulse may not only be slow but irregular, as in tuberculous meningitis, so that we can scarcely conclude from the frequency and quality of the pulse anything of diagnostic import.

The respirations in tuberculous meningitis are irregular in rhythm, sighing in character and in some cases take that form called Cheyne-Stokes. The same form of respiration is seen in meningitis of various types, so that we can scarcely consider the respiration, its character and frequency, as of any value in concluding as to the specific form of meningitis present.

Vomiting in tuberculous meningitis occurs at a time when the ventricles begin to be distended with fluid. It is rarely persistent. In a few cases of my series there was a history of unusual vomiting, but in no case could it be said that this vomiting formed a leading feature of the disease, nor did it attract attention to any extent, and its presence had to be ascertained by close questioning of the parents or friends of the patients. As a rule vomiting occurs once or twice in tuberculous meningitis. It is certainly not persistent. After the condition of hydrocephalus is well established vomiting may be repeated at frequent intervals.

TEMPERATURE.

Of great utility is an exact observation of the course of the temperature at an early period of the disease. The absence of fever or a persistently low temperature with some of the cerebral symptoms detailed in this paper is very strong evidence of the presence of tuberculous meningitis. In those cases of tuberculous meningitis in which the temperature ranges as high as 104 and 105 we are either in the presence of a complication or in the period of the disease close to the exitus. As a rule, toward the exitus the temperature rises.

PARESIS.

The presence or absence of localized paresis of the face or extremities is only useful as an aid to diagnosis toward the close of the disease. Being absent at an earlier period of the affection, it is of no value at this time and only becomes apparent when the accumulation of fluid in the ventricles and subarachnoid space is considerable. Pareses having once been established, their evanescent character is of great import. It is not infrequent to find that left facial paresis one day will give way to a paresis on the right side of the face the next. This is quite characteristic of tuberculous meningitis, and can only be explained by the fact that some of these pareses are caused by pressure on the nerves at the base of the brain and that this pressure is apt to change from time to time, varying with the amount of distension of the lateral ventricles by fluid.

BLOOD.

The presence or the absence of a leucocytosis, or, we may say, the presence of a leucopenia, has long been considered as a very valuable adjunct to diagnosis in tuberculous meningitis, as in tuberculous processes elsewhere. In 35 cases of the series of 52 that we have studied the leucocyte count was lower than 20,000 to the c.mm. at certain periods of the disease. In the remaining cases the leucocyte count varied from 20,000 to 29,000 white blood cells to the c.mm. In no case did the leucocyte count exceed 29,000 to the c.mm. except in those cases in which a blood count was taken in the presence of impending death. In such cases the leucocyte count was found to be 32,000 to the c.mm. and in one case 39,000. It may be said, therefore, that leucopenia is presumptive evidence of a tuberculous process. We can not conclude positively in the absence of the opposite condition that no tuberculous process is present.

The lowest leucocyte count of any tuberculous case of the 52 utilized in this paper was 5,200. The condition of the blood, therefore, as far as the leucocyte count is concerned, does not reveal anything pathognomonic of the disease.

THE CONDITION OF THE EYES.

Of great interest in this form of meningitis, as compared to other types of the disease, is the condition of the fundus. The eyes of all our cases of meningitis were examined by Dr. Grüning or his assistants in the eye service of the hospital and he examined 46 of our cases of tuberculous meningitis. Of these cases the fundus was normal at the outset of 34 per cent. of the cases. In 66 per cent. of the cases there was some change in the disc, varying from optic neuritis to the presence of tubercle in the tissue of the choroid. In some cases the disc was simply swollen and indistinct in its margin, in other cases the veins were distended. The interesting fact is that choroid tubercle was present in 9 cases of the 46 examined as early as the second day of duration of the active symptoms of the disease, that is from the first to the sixth week of the disease. These tubercles in the choroid may be discovered at any period of the affection. I have seen them present in the fundus when the cerebral symptoms were insignificant.

As distinguished from this condition of the fundus in tuberculous meningitis, we may mention the fact that in meningitis of other types, especially in the cerebrospinal meningitis of the epidemic type, the fundus in the majority of the cases shows very little, if any, change throughout the disease. The presence of optic neuritis in cerebrospinal meningitis is exceptional! it certainly is not as frequent as in tuberculous meningitis.

PERCUSSION OF THE SKULL.

Of great value at the outset of tuberculous meningitis, where the symptoms are rather equivocal and while the child is still apparently conscious and plays during part of the day, is percussion of the skull. MacEwen was the first to apply this method of diagnosis, and his cases were mostly those of tumor or abscess at the base of the brain pressing on the veins in this locality and thus causing hydrocephalus. Although he investigated a large variety of cases in children and applied percussion of the skull to them in making a diagnosis of distension of the ventricles by fluid, he did not devote his attention to any one disease specially. In my studies of tuberculous meningitis and meningitis of the epidemic cerebrospinal type I have followed out percussion of the skull according to the method of MacEwen. This method I have described elsewhere, and I have applied it to healthy children in order to determine at what age this sign could be relied upon as an abnormal manifestation in children. That is, at what period of life the tympanitic note obtained by percussion over the lateral ventricles could aid us in a diagnosis of hydrocephalus. It may be said that beyond the age of two to two and one-half years, when the skull is completely ossified, this sign should not be present if there is a normal conformity of the head and if there has been no pre-existing hydrocephalus.

In 34 of the 52 cases which I have studied of tuberculous meningitis I have found that a percussion of the head at a very early period of the disease following MacEwen's method as to the position of the patient, which should be upright with the head slightly inclined to one side, the percussion being performed at the pterion, is a most valuable means of discovering the presence of hydrocephalus interna in tuberculous meningitis.

I recall the case of a girl of fourteen, who had been ill only one week, complained of headache, felt tired, with a tendency to be drowsy at times of the day, at others she was quite bright. The patient had absolutely no fever for eight days. When I saw the patient she was apparently asleep in bed; could be easily aroused, and when aroused recognized her physicians. There was very little rigidity of the neck, although Kernig's sign was present. Percussion of the skull cap in this case, according to the lines marked out by MacEwen, gave a tympanitic note over the pterion, and on this I unhesitatingly made a diagnosis of hydrocephalus, to the astonishment of the physician, who thought he had to deal with a case of hysteria, knowing, as I did, that hysteria could certainly not produce a percussion note of tympanitic character over the situation of the lateral ventricles of the brain.

This case was subsequently seen by other consultants, who were inclined at first to disagree with the diagnosis of tuberculous meningitis. A week subsequent to my examination the patient died with the classical symptoms of tuberculous meningitis, the other consultants agreeing in the diagnosis. Percussion of the skull at an early period of tuberculous meningitis is certainly one of the most valuable aids in diagnosis.

LUMBAR PUNCTURE.

The fluid obtained by lumbar puncture in cases of meningitis of the tuberculous and other varieties has been studied as to the pressure under which it is contained in the ventricles and in the subarachnoid space. (Quincke, Ricken, Falkenheim, Pfoundler.) As to its appearance, speaking now of tuberculous meningitis, (Lichtheim, Schiff, Brenner); as to its density (Achord and Loeper); its cryoscopy (Widal and Sicard); its chemical properties (Gautier, Achard); its toxicity (Widal, Sicard, Lensé), and its agglutinating properties in case of the tubercle bacillus (Hawthorn).

All above directions of study are of great value scientifically and have their important remote bearings. Clinically, the physician at the bedside is not equipped to carry out methods which will give him details as to the above, and we must seek practical results rather from an examination of the bacterial and cellular content of the fluid obtained by lumbar puncture. Inoculations in animals and cultures are also tedious, and though certain as far as animal experiment is concerned, 100 per cent. of the cases being positive (Widal and LeSourd), the physician seeking immediate results must resort to an examination of the centrifuged fluid by stain for the tubercle bacillus. Even here one would think that uniform results would be obtained. Marfan found bacilli only in exceptional cases; Heubner had similar results. Friedjung found them frequently; Kohts in 50 per cent. of the cases, Pfaundler in 70 per cent of the cases, Schlawyk and Manicatide in 16 of 19 cases. Lichtheim found the tubercle bacillus always present. Pfaundler found the bacilli more readily in the later periods of the disease (75 per cent.) than in the early stages (33 per cent.). Our own cases seem to show that though in the later stages of the disease the bacilli may be more abundant, their presence in the early stages can be verified by patient search of the fluid.

I have intimated in this paper that in 52 cases of tuberculous meningitis I have been able to make a diagnosis clinically in the majority of cases without the aid of what may be considered our most valuable, precise diagnostic method, that of lumbar puncture. In other words, lumbar puncture in the majority of my cases was performed after the diagnosis of tuberculous meningitis had been made as a possible condition. The fluid withdrawn was then examined as to the presence or absence of tubercle bacilli.

I have left this procedure for more detailed consideration because I wish to show that it is possible with moderate certainty, to make a diagnosis of tuberculous meningitis early in the disease from a consideration of clinical methods which I am describing. No case of tuberculous meningitis should be positively considered as such until it had been studied for some length of time, a few days at least, because first appearances are always deceptive, and such a diagnosis once made is quite a serious blow to the friends of the patient. We should be exceedingly cautious, therefore, not to fix the diagnosis of tuberculous meningitis without the aid of an extended previous study of the case either through another physician or our own study at the bedside. Once having made a diagnosis of its possible presence, we may then proceed, and then only, to make a lumbar puncture in order to fix the diagnosis beyond equivocation.

I have never made a lumbar puncture in these cases without feeling that a meningitis of some kind was present. In other words, lumbar puncture should be resorted to only as a means of confirming or excluding the presence of a disease whose prognosis is hopeless. In this respect is it valuable to the friends of the patient? It is in tuberculous meningitis, especially, that much confusion has resulted on account of the various data given in different clinics as the result of the careful examination of the fluid obtained by puncture. Personally we consider that lumbar puncture is an absolutely certain means in a majority of cases of confirming the diagnosis of tuberculous meningitis, for we feel that in the majority of the cases tubercle bacilli can be found in the puncture fluid if care and diligence be exercised. The fluid, of course, must be drawn so as to be free of the mixture of blood, and a certain amount of experience is necessary to succeed in this respect. It must then be carefully centrifuged in order to examine the sediment. During the past five years we have examined 66 successive cases, of which two were doubtful, diagnosed clinically as tuberculous meningitis with a view of detecting tubercle bacillus in the puncture fluid. In 42 cases we have found the tubercle bacilli. I may say here that one man alone examined all fluids, and it is due to his patience that we have been able to prove that a diagnosis is possible in the majority of cases from the examination of the puncture fluid. Dr. Bernstein of the Mt. Sinai Hospital staff has devoted his time to this study, and a more detailed account of this work can be found in a monograph recently published by him.

In previous years we have not been successful in obtaining positive results in the examination of the puncture fluid, and we feel that this has been due to a faulty technic. In the years 1904 to 1906 29 cases diagnosed as tuberculous meningitis revealed tubercle bacilli in the fluid of puncture in 24. In two of these 29 cases a diagnosis was not fixed positively at the time of puncture. Thus in 24 of 27 cases punctured tubercle bacilli were found as confirming the clinical diagnosis. In those cases, it may be mentioned, incidentally, in which tubercle bacilli were not found in the puncture fluid, the laboratory was kind enough to inject this fluid into guinea-pigs, and in this way secured a positive result. This, however, was in an early period of our studies on the disease.

Thus it may be said that, given a case which clinically leads us to surmise the presence of tuberculous meningitis, a lumbar puncture is the most valuable aid we have to fix the diagnosis beyond a doubt, because in the majority of cases tubercle bacilli can, by patient search, be found in the fluids.

In some cases tubercle bacilli are not found during life in the puncture fluid, but are found in very large numbers in the fluid withdrawn from the subarachnoid space after death. This can be explained by the fact that during life there is a constant circulation wave present in the subarachnoid space, which keeps the tubercle bacilli in equal suspension, thus few tubercle bacilli will naturally escape discovery. After death this circulation wave ceases, a sedimentation of the bacilli takes place, especially in the bottom of the spinal canal, and are thus easily withdrawn in the puncture fluid.

We have studied also the cytology of the fluid obtained by lumbar puncture in tuberculous meningitis. This cytology we have tabulated in 18 cases as follows:

CYTOLOGY OF THE FLUID OBTAINED BY LUMBAR PUNCTURE; 19 CASES OF TUBERCULOUS MENINGITIS.

Per cent. Polynuclear cells.	Per cent. Mononuclear cells.	Per cent. Polynuclear cells.	Per cent. Mononuclear cells.
5	95	50	50
..	100	5	95
20	80	..	100
10	90	3	97
15	85	..	100
10	90	3	97
30	70	30	70
10	90	15	85
8	92	35	65
8	92		
Albumin.	**Sugar.**	**Albumin.**	**Sugar.**
+	0	+	0
+	0	4m.	0
+	0	+	0
?	0	+	0
—	—	+ ⅛	0
+ 3m.	0	+	0
3m.	0	5m.	0

Fourteen cases examined for sugar 0, and albumin increased.

The cellular content of the fluid obtained by lumbar puncture in cases of tuberculous meningitis has been studied by Widal, Sicard and Ravant and shown to be not only of great interest, but also of diagnostic import. Their studies have been enlarged by Lenhartz, Pfaundler, Councilman, Wentworth and others. It may be stated that in the fluid obtained from cases of tuberculous meningitis there is a predominance of the lymphocytes in the greatest number of cases. The rôle played by the polynuclear leucocytes has been a matter of much discussion, and it has been shown that in rare cases the polynuclear leucocytes may predominate in the fluid obtained by the puncture. Bernheim, Moser and Marcon-Mutzner have published such cases. It may be said, however, that this polynuclear picture is not a primary one in tuberculous meningitis. It is found either in the latter stages of the disease, when there is a great invasion of the tubercle bacilli into the diseased area or in cases in which there is a mixed secondary infection. At all events polynucleosis coincides with an invasion of an increased number of tubercle bacilli or the breaking down of old caseous areas, and thus numbers of bacilli are set free into the cerebrospinal fluid so that an error which might be at first made by a misrepresentation of the predominance of polynuclear leucocytes is rectified by the easy discovery of tubercle bacilli in the puncture fluid. On the other hand, lymphocytosis of the puncture fluid has been seen, exceptionally in cases of meningism in typhoid fever, in the serous meningitis of bronchopneumonia, gastroenteritis, in the cerebral tumor, and in the adult in syphilitic meningitis (Widal). However these facts may disappoint us as to the primary pathognomic significance of a lymphocytosis of the cephalorachidian fluid, we still can feel that in the presence of symptoms pointing clinically to a tuberculous meningitis a predominance of lymphocytes in the fluid obtained by lumbar puncture is of great value in coming to a definite conclusion as to the nature of the process in the meninges. It certainly rules out certain acute purulent forms of meningitis. Thus in our list of 19 cases 17 showed a predominance of lymphocytes to the extent of 70 per cent. or more. In this we must not forget that in the so-called forms of basic meningitis (cerebrospinal acute) we may in the chronic stages obtain a lymphocytosis. In such cases, however, the history will aid us in coming to a conclusion as to the significance of the lymphocytosis. Thus it may be said that a polynuclear leucocytic predominance is certainly indicative of the acute suppurative forms of meningitis, the presence of an excess of lymphocytes in the puncture fluid to the extent shown is strongly in favor of a tuberculous process.

Of interest chemically are the facts that normally the cerebrospinal fluid contains a substance which reduces Fehling's, but does not rotate polarized light; this is absent in cases of tuberculous meningitis. There is also in tuberculous cases an increased amount of albumin in the cerebrospinal fluid; Arthus finds almost always a substance called serine. We will not dilate on this aspect of the question of composition of the cerebrospinal fluid, as it seems to have as yet a limited practical clinical bearing. Of 14 cases examined for me all contained an increased amount of albumin and in none was glucose present.

THE DIAGNOSIS.

It will be seen from what has been said that the diagnosis of tuberculous meningitis in the early stages of the disease is feasible to-day, whereas it was well nigh impossible formerly. The slow onset interrupted by periods of irritability, etc., the irregularity of the pulse and respiration, the low or normal temperature, the absence of hyperesthesia, the lack of appetite, the discovery of hydrocephalus by percussion of the skull as described, will all lead us to establish a meningitis of the tuberculous type. If after this we can obtain by lumbar puncture an examination of the subarachnoid fluid, in the majority of cases, we will fix the diagnosis beyond a doubt. The examination of the fundus of the eye for changes which accompany tuberculous meningitis in the initial stage, although successful in a certain proportion, as has been shown in this paper, leaves us without any positive data in the majority of cases.

If we compare what has been said with what is known of the onset of several forms of meningitis, especially those of the cerebrospinal meningococcic or pneumococcic type, we will see that there can be no question, certainly in the vast majority of cases, as to the possibility of making a diagnosis. Aside from the examination of the puncture fluid, the onset in the acute forms of meningitis of the epidemic type is always abrupt and unmistakably so. The high temperature also in the acute cases of the suppurative type, the rigidity, the constant presence of a Kernig, and the active hyperesthesia will complete the picture.

More difficult, it seems to me, will be the diagnosis as to the specific form of meningitis in children below two years of age who have been sick for some length of time. In these cases we know that the posterior basic forms of meningitis with their low or normal temperatures, the hydrocephalus, the low leucocyte count, the lack of hyperesthesia, the absence of anything even in the puncture fluid in some cases to aid us in a diagnosis, will make us fall back on the history of the case as to its acute onset before we can conclude whether we have a tuberculous process present or a chronic condition following an acute attack of cerebrospinal meningitis.

INTERMITTENT TICK FEVER.

PRELIMINARY REPORT ON A NEW TYPE OF FEVER DUE TO TICK BITE (IXODIASIS).*

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The older physicians in the Rocky Mountain regions have always insisted that there is a special type of fever indigenous to this section of the country. This fever or, as it appears to me, groups of fevers, has been given various names, but principally that of mountain fever. The group has simply been dismissed in recent years, although many good observers still hold that there is a type of fever which is neither malaria nor typhoid. It has been very generally held that exact laboratory methods would place these supposed specific fevers as aberrant types of one or the other of the two diseases.

A beginning has been made, however, in the description of the "Spotted Fever of the Rocky Mountains." This affection is now generally conceded a specific nature. So far as known it is very closely limited to narrow tracts of country and has a dreadful mortality rate. It has been assumed, although on insufficient evidence, that the disease is a form of ixodiasis. It also seems likely that here there may be a question of more than one disease, since very dissimilar cases without eruption have been assumed to be mild forms of the more severe disease.

Careful laboratory investigations with the fevers at this post gave most unsatisfactory results. Time and again marked remittent and intermittent fevers were encountered and the blood examinations remained negative. As a result a discouraging number of entries accumulated on the sick report with the diagnosis: "Fever; type undetermined." It was finally noticed that these fevers came in little groups. Then that the men affected had all recently returned from the vicinity of the maneuver reservation where they had gone either on fishing pass or on practice marches. Finally it was observed that all these men had been bitten by ticks and, indeed, a number of the men ascribed their fever to these tick bites. Working with these clues, much corroborative evidence was easily found. Then an opportunity arose to study six cases of fever arising in a party of eight men. These men had all been on pass in the mountains, and, of the eight, the six taken down with the fever had been bitten by ticks. Four of these six cases are here reported. Since that time the connection between the tick bites and the following fever has been frequently demonstrated. In July, 1906, there were under observation and study, in the post, three severe cases of tick fever developing in a party of five people who spent one night camping in the tick region. These cases are all identical with those to be described later.

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* Special report to the Surgeon General U. S. Army; published by his authority.

I believe that the connection between the tick bite and the fever is indubitable.

The region in which the men from this post have become infected is that section embraced in the headwaters of the three small streams which go to make up Crow Creek. A large portion of this territory is in the maneuver reservation.

From observations made here it appears necessary to produce the infection, whatever it is, that the tick should fasten itself on the skin of the patient. In other words, that the rostrum of the insect should become imbedded. It also seems likely that the number of ticks biting the patient has some influence on the severity of the following attack, although on this point I am not entirely clear. Certain it is that in one of the sharpest cases (Case 5) observed here the patient had the largest number of imbedded ticks. Twelve in all had fastened themselves into this man's skin. In all the cases not only was there an undoubted history of tick bites, but there was distinct evidence of the bite at the place where the insect had been attached. In many of the cases small nodules had formed at the point of attachment of the insect. These nodules persisted for weeks. They were hard, pale and quite painless and varied in size from that of a pea to a small marble. In other cases the location of the bite was marked by a small red papule. From a number of these papules the rostrum of the insect was recovered. In these the rostrum had evidently been torn off and left behind in improper attempts at removing the ticks. Beyond the conditions here described there was no local reaction to the bite of the tick. Particularly were there none of the sharp local reactions that are sometimes described, amounting in some cases to cellulitis or abscess formation.[1]

A number of specimens of the tick were collected and sent to the office of the surgeon-general for identification on June 25, 1905. The ticks were referred to Dr. Charles Wardell Stiles of the Public Health and Marine-Hospital Service, who tentatively identified them as *Dermacentor andersoni*. This is the same tick which is supposed to be associated with spotted fever. Since that time I have had considerable correspondence with Dr. Stiles on the subject of the exact identification of this parasite with particular reference to its differentiation from *Dermacentor occidentalis* (Marx). He wrote me under date of March 5, 1906, that he has recently had an opportunity of examining all the original type specimens of *Dermacentor occidentalis* and finds that it is identical with *Dermacentor andersoni*. As the *Dermacentor occidentalis* has priority, the name Andersoni which he gave this special tick must be suppressed. The definite identification of the tick is, therefore, *Dermacentor occidentalis*.

GENERAL DESCRIPTION OF THE DISEASE.

Generally the cases correspond to one type. After a short period of incubation, with brief and ill-defined prodromal symptoms, the attack is ushered in by a chill. Beginning slightly before the chill there is nausea or vomiting and intense pain in the muscles and joints, increasing with the appearance of the chill and becoming more severe with the rise of temperature. The chill lasts two or three hours, and with it a febrile movement begins, lasting, as a rule, forty-eight hours, although in exceptional instances it may only last twenty-four hours. Then a remission occurs and the temperature falls nearly or quite to the normal. The duration of the remission is about forty-eight hours, following which the same cycle is repeated.

As observed here, the disease consists of from three to seven such paroxysms, after which the patient, barring a pronounced anemia, is well. There is another type, but not so common as that just described, in which after the initial chill the temperature rises, ladder-like, for two or three days. These cases have more marked prodromes and more marked abdominal symptoms (abdominal tenderness and enlargement of the spleen) and present a clinical picture which is, at first, extremely suggestive of typhoid fever.

PERIOD OF INCUBATION AND PRODROMAL STAGE.

The period of incubation varies between three and seven days. In the majority of cases the initial paroxysm developed four days after being bitten by the ticks. In one case only was the period reduced to three days, and in one no symptoms developed for seven days.

Nearly all the patients went through an ill-defined prodromal period marked by languor, malaise, fleeting pains in the muscles and joints, headache more or less severe, nausea and vomiting. Following these symptoms the attack itself begins with the chill.

THE ATTACK.

Initial Chill.—The initial chill is present in all of the cases. It is severe and lasts from two to three hours. It is not an active chattering chill, like the cold stage of malarial ague, but is accompanied by much more discomfort and acute pain. Nausea and vomiting, even if not prominent during the prodromal period, now become marked. Following the chill there is a subjective sense of heat, although the actual rise of temperature begins with or shortly after the chill. After two or three hours there is a moderate sweating stage. With the beginning of the chill the headache and pains in the bones and joints become very severe. The patient is acutely miserable and suffers quite as much if not more than in the painful phases of dengue or epidemic influenza, certainly much more than in the ordinary benign malarial infections.

The Paroxysm.—The fever rapidly rises to 103 or 104 F., and remains high with narrow fluctuations for forty-eight hours in the ordinary type of paroxysm. In some few cases the febrile stage only lasts twenty-four hours. After this stage is passed an intermission or remission occurs, during which the temperature falls to or near the normal. In this stage, as a rule, the patient is quite comfortable. The severe headache and bone and joint pains disappear. Nothing remains but a feeling of exhaustion and weariness. This intermission lasts forty-eight hours, thus completing the cycle, when a second chill takes place and the second paroxysm begins and terminates as the first; a two-day fever and a two-day intermission. The succeeding paroxysms after the second are apt to be progressively milder. Very exceptionally this rule of periodicity is altered and there is a one-day fever, but always then with a three-day intermission; in the large majority of cases, however, the two-day fever and two-day intermission obtains.

Abdomen.—Generally there is pain and some degree of tenderness distributed over the entire abdomen, but nowhere very severe. In two cases there was a slight degree of meteorism, with gurgling in the right iliac fossa. The tenderness is, perhaps, a little bit more pronounced over the hepatic and splenic areas. No enlargement of the liver could be certainly demonstrated.

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[1] Vide Anderson's and Stiles' reports.

On the other hand, enlargement of the spleen with tenderness can be shown almost from the beginning, although moderate in extent. As has been already stated, a few cases presented rather more marked abdominal symptoms and, together with a creeping temperature, made at first a picture extremely suggestive of typhoid fever.

Urine.—Nothing unusual was found in the urine of any of the patients. Numerous examinations showed some high specific gravities and the usual conditions found in febrile urines.

Blood.—Particular attention was paid to the study of the blood and careful search was made for the so-called *Piroplasma hominis* (Wilson and Chowning, 1903) or some allied form. Some few objects were found resembling the published descriptions and drawings in Anderson's report.[2] A very careful study of these bodies leads me to the conclusion that they are either artefacts or, more likely, evidences of vacuolization of the erythrocyte with deposit of the staining materials in the margins of the vacuole. It seems to me that Craig's[3] criticism of *Piroplasma hominis* is probably entirely correct. It impresses me that the evidence on which the validity of *Piroplasma hominis* rests is very insecure, and for that reason very little importance was placed on similar appearances in the blood of these cases.

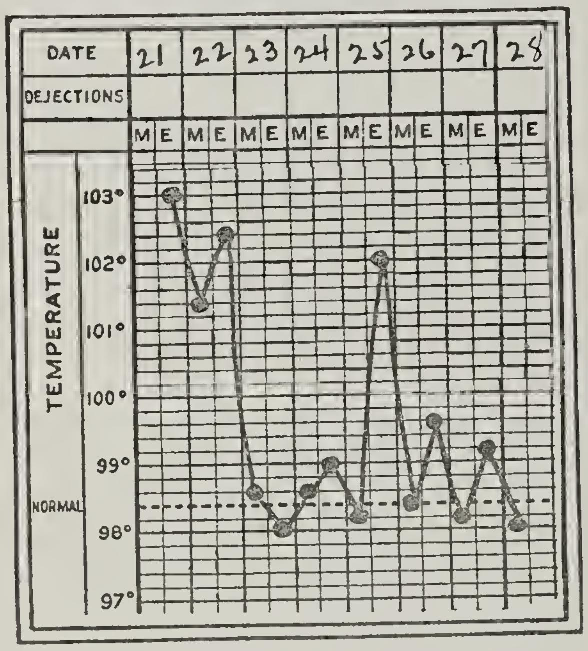

Chart 1.—Illustrating the temperature in Case 3.

There is a constant and progressive fall in the number of red cells. This fall was constantly observed and, paroxysm for paroxysm, is certainly as marked as the red corpuscle loss following severe malarial seizures. In some of these cases a numerical loss of almost 20 per cent. followed one seizure. Particular attention is invited to the blood chart in Case 5, in which a daily complete blood study was made. In this case it will be observed that three two-day paroxysms resulted in a fall in the number of red cells from 5,800,000 (which is considered a fair normal in this altitude, 6,200 feet) to 2,600,000. The loss is apparent not only in the faces and mucous membranes of the patients, but also in the appearance of the blood drops taken for examination. The pallor and poverty of the blood is very apparent to the naked eye. The loss is replaced slowly and for two months in the patient whose chart is here shown there was well-marked anemia.

The hemoglobin loss follows the diminution of red cells very closely. Therefore, the color index is not much disturbed. In this chart the hemoglobin fell to 48 per cent. (estimation with Dare hemoglobinometer). The restitution of the hemoglobin to normal is somewhat slower than the restitution of the red cells. Consequently during convalescence the color index is slightly minus.

With regard to the leucocytes no decided finding was made other than an increase in one type of cell. It is evident that there is no marked leucocytosis, although nearly all the cases showed a slight increase in their numbers. Differential counts showed a constant moderate increase in the large mononuclear cells which in numbers amounted not only to a relative but also to an absolute increase in their numbers. Six differential counts in Case 5 resulted as follows:

Polymorphonuclear	76.6	77.	72.	71.	73.	72.
Large mononuclear	12.4	13.6	15.6	16.5	15.6	16.6
Lymphocytes	9.6	9.	11.	12.	10.	11.
Eosinophiles	.8	.4	.9	.6	.8	.4
Mast cells	.6	.0	.5	.0	.6	.0
	100.0	100.0	100.0	100.0	100.0	100.0

This leucocyte formula is suggestive, since considerable stress has been laid on the significance of a marked increase in the large mononuclear cells in malaria. In the so-called human piroplasmosis (spotted fever of the Rocky Mountains) Anderson gives the following formula averaged from two counts in a case observed by him, and it will be seen that the leucocyte change in this, too, is similar.

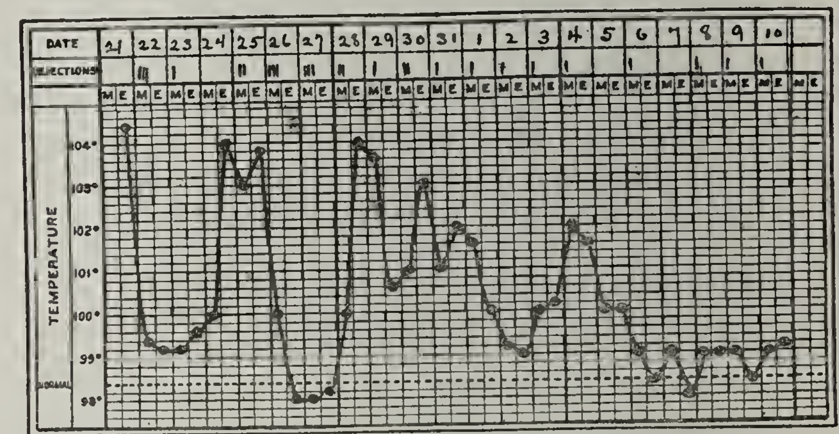

Chart 2.—Illustrating the temperature and remissions in Case 5.

Polymorphonuclears	77.7
Large mononuclears	11.4
Small lymphocytes	10.0
Eosinophiles	.9
	100.0

The agglutination reaction with the bacillus of typhoid fever was carefully and repeatedly looked for in each case, and in all the examinations were negative. Search for malarial parasites was also made in all the cases and in none were any found.

TREATMENT.

Quinin was administered in all the earlier cases without any apparent effect. I believe that it increases the subjective discomfort. It certainly has no beneficial effect either on the paroxysm directly or in the line of preventing its recurrence. I am quite convinced that arsenic has a controlling and curative effect on the disease, particularly when used subcutaneously or intravenously. The subcutaneous injections are, in my opinion, distinctly to be preferred to the intravenous, but are apt to be followed by annoying burning which lasts from fifteen to thirty minutes. The best formula is Kobner's, and if a little cocain be added to it the burning will be prevented, thus:

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[2] Bulletin 14, Hygienic Laboratory; Public Health and Marine-Hospital Service.

[3] Amer. Med., Dec. 10, 1904.

℞. Sodii Arsenitis	0.1
Cocain Hydrochlor	0.4
Aquæ	10.0

This solution should be sterilized and is used in a dose of from 1 to 2 c.c. twice daily. After the acute phases the blood deterioration must be met by smaller doses of arsenic or by the administration of the ordinary iron preparations.

Brief case histories of the six patients on sick report and of one case occurring in the post this year are here appended.

Case 1.—G. B., private Eighth Battery Field Artillery; born in Michigan, 1879; in the service 2 9/12 years. Family history negative.

Previous Personal History.—Diseases of childhood. Chancroids one year ago.

Present Illness.—He left post for the reservation on June 10, and returned on June 12. On the morning of June 12 he found five ticks attached. He had a severe chill on Friday, June 16, lasting about two hours, with severe headache and severe pain in all the bones and joints. He had fever all that day and the next, and then had two good days, during which he complained of feeling dragged out. He was admitted to sick report at the beginning of the second paroxysm, with a temperature of 102.3 F. Altogether he had six paroxysms of the two-day fever type with two-day intermissions. On the whole, this was a mild case.

Case 2.—F. P. P., private Eighth Battery Field Artillery; born in Kentucky; aged 24; in the service 2 10/12 years. Family history negative.

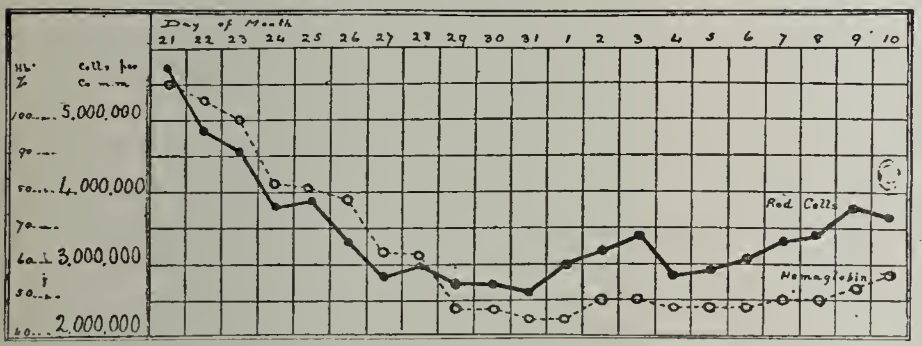

Chart 3.—Blood chart in Case 5. The solid line shows number of red cells; the broken line shows hemoglobin percentage.

Previous Personal History.—Operation for appendicitis three years ago; recovery complete.

Present Illness.—He went to the reservation on June 10 and returned on June 12. During his stay there and after his return to the post he found six ticks attached. He had a severe chill on June 16, with fever, headache, and sore joints. The next chill was on Monday, June 19. It lasted three hours, with the same symptoms as before, with the addition of vomiting. The patient was admitted to hospital during the fourth paroxysm. On admission the places where he had been bitten were marked by hard, pale nodules the size of a pea. Five such nodules were found and one papule from which the rostrum of a tick was extracted. There was a marked anemia. The red cells numbered 3,650,000; hemoglobin, 60 per cent. This attack was apparently cut short by arsenic.

Case 3.—A. M. T., private Eighth Battery Field Artillery; born in Ohio; aged 25; in the service 7/12 years. Family and previous history negative.

Present Illness.—He went to the reservation on June 10, returning on June 12. On June 11, Sunday, several ticks fastened on him, just how many he does not know. He had a severe chill with nausea, fever, headache and pain in the bones on Thursday, June 15. The chill lasted four hours and the fever all through the next day he says. The next chill was on Monday, June 19. He was admitted to hospital in his third paroxysm and had one more after entering, making four in all. On admission there were clear marks where four ticks had attached themselves to the skin. Chart 1 shows the last two attacks. The blood loss was moderate.

Case 4.—J. S., private Eighth Battery Field Artillery; born in Ohio; aged 23; in the service 9/12 years. Family and previous history negative.

Present Illness.—He went to the reservation in company with the three other men on June 10, returning to the post on June 12. Some time on June 11 three ticks attached themselves to the skin. He had a chill with nausea and fever on June 14 and slight chilly sensations with fever on the fifteenth. The next two days he felt quite comfortable. Then he had another hard chill and thinks that the fever lasted three days with two days in between, when he felt tired out, but thinks he had no fever. On June 23 he had his third attack, for which he entered the hospital.

This was a mild case and complete recovery was fairly rapid. The blood loss was moderate.

Case 5.—C. R., lance corporal, Hospital Corps, U. S. A. Family and previous history negative.

Present Illness.—He went to the timber reservation on fishing pass on July 14. On the 15th several ticks bit him and the next day several more, in all twelve. He had a very severe chill on July 20, with nausea and vomiting. After the chill he had a severe fever and pains in the head and all the joints. The chilly sensations continued all that day and the following morning. The afternoon of July 21 he was admitted to hospital with a temperature of 104.2 F. He had then an active delirium. The second paroxysm occurred on July 24 and a third on July 28. After this third paroxysm the temperature remained continuously above the normal for several days, and the usual remission did not occur until August 2. A mild attack was observed on August 4. Chart 2 shows the temperature changes in this case, and Chart 3 the blood changes. This man was acutely ill, and in about ten days had developed a profound anemia, which is shown in Chart 3. For two months following the attack he was weak and pale and the blood recovery was slow and tedious. During the second week of his illness his disease represented what I have described before as the "typhoid type" with considerable abdominal tenderness, enlarged spleen and continuous though irregular temperature.

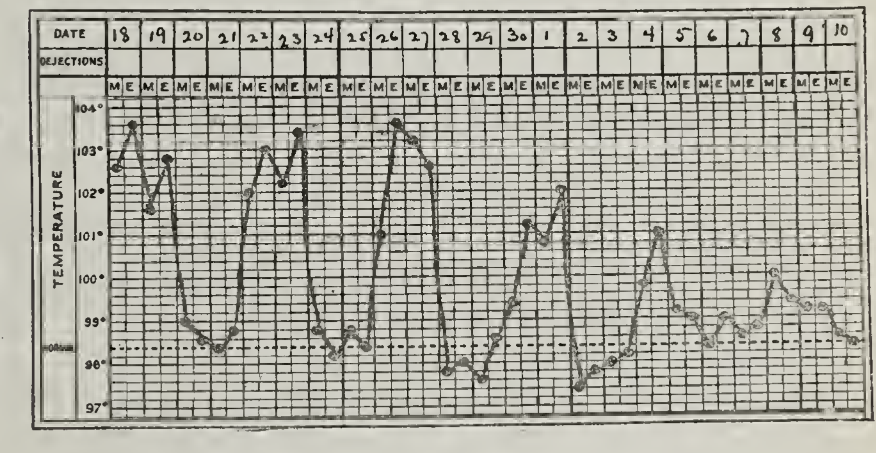

Chart 4.—Illustrating temperature and remissions in Case 7.

Case 6.—S. E. B., trumpeter, Company B, Eleventh Infantry. Family and previous history negative.

Present Illness.—This man was in the party with the patient in Case 5. So far as he remembers, six ticks fastened on him, although on admission to hospital only three papules could be found and one hard little nodule to show where the insects had taken hold. The initial chill came four days after, but was not severe. Three days later he had a second chill and on July 24 a third chill. All these were accompanied by fever, headache and general aching and soreness. He was admitted to hospital in his third chill, and he had a fourth and fifth paroxysm. He was not clear in his own mind as to just how long the the first three attacks had lasted. The fourth and fifth attacks, however, were of the one-day fever period with three-day intermissions. This case was a mild one and is detailed principally on account of the variation in the periodicity of the attack. The length of time is the same from the beginning of one attack to the beginning of the next, only in this instance the attack lasts but one day, making the interval three days. This phenomenon is very likely due to an attenuated infection or to a decline in the virulency of the case as the end of the disease approaches.

Case 7.—Miss S., aged 24, white, female, unmarried. Personal history negative; has never had malaria or any other fever.

Present Illness.—On June 14 she went with a fishing party to the dam in the reserve. On the 15th several ticks fastened on her. Three of these she pulled away forcibly and a fourth, she says, came off without any trouble. On the 18th she had a severe chill with nausea and vomiting. For several hours before the chill she had felt languid and had a slight nausea. She also had a slight headache. With the chill she had high fever and became delirious. The following day the fever had remitted about one degree (Chart 4) and the delirium had passed away, but she suffered very greatly from headache and pains all over her body. At this time two red papules were noticeable at a point near the right anterior superior spine of the ilium. From both of these the rostrums of the offending ticks were removed. There was another papule on the right chest and two between the shoulder blades. In one of these latter the rostrum of a tick was also imbedded. During the second day there was considerable tenderness over the entire abdomen, possibly a little more marked over the right iliac fossa, the liver and the spleen. The liver was not enlarged. The spleen was moderately enlarged and rather tender on deep pressure. On the third and fourth days the fever became almost normal, and the patient said that she felt well, although greatly weakened. The second paroxysm began on the fifth day, and the subjective symptoms were, if anything, more severe than in the first attack. From that time the course of the disease, as may be seen from Chart 4, was typical; the two-day fever periods and two-day intermissions continuing through six cycles. In this case there was considerable loss of weight, as well as a very severe anemia. The blood conditions in this instance have not yet been fully worked out.

IS SCARLET FEVER A STREPTOCOCCUS DISEASE?

LUDVIG HEKTOEN, M.D.

CHICAGO.

Since the earliest application of microbiological methods to the study of scarlet fever the streptococcus has claimed the lion's share of attention. Its significance has grown as the observations have extended. At present the streptococcus is held by some to be the actual cause of the disease, while others, and I think the majority, look on it as essentially a secondary invader on which, however, depends to a large extent the fate of the patient.

For the purpose of discussing this question it is necessary first of all to consider the occurrence and the distribution of streptococci in scarlet fever. Numerous investigations[1] have indicated that streptococci occur on the tonsils of scarlet fever in far greater abundance than in health. In his study of the bacteria of the throat and skin in scarlet fever Weaver calls special attention to the enormous numbers of streptococci in the throat in this disease and to their gradual disappearance as convalescence progresses. For various reasons, but principally because of the lack of convenient means, most of the studies of tonsillar streptococci give few details in regard to the cultures obtained. On this account G. F. Ruediger[2] last year made a careful detailed study by means of the newer methods, of the streptococci and diplococci in the throat in scarlet fever, certain other diseases, and health. Ruediger made use of the blood-agar plate method of Schottmüller and Rosenow. On the blood-agar plate *Streptococcus pyogenes* produces small gray colonies, surrounded by a perfectly clear area of laking, while the colonies of certain other chain-forming cocci and of pneumococci are green. His results must be considered as striking because they show that *Streptococcus pyogenes* is constantly present in great abundance on the tonsils of patients with scarlet fever and with simple tonsillitis before the throat symptoms begin to subside. He found *Streptococcus pyogenes* in small numbers only in 59 per cent. of the 51 normal throats he examined, while pneumococci and the large groups of organisms (*Streptococcus viridans*) that lies between *Streptococcus pyogenes* and the pneumococcus were found in about equal numbers in the normal and the scarlatinal throats, thus showing that constant presence on the tonsils of *Streptococcus pyogenes* in large numbers is an outstanding feature of scarlet fever.

From the throat streptococci frequently pass to neighboring structures and give rise to more or less serious complications. They may also reach the circulating blood and cause streptococcemia as well as various internal and articular localizations.

In 100 unselected cases of scarlet fever in which I examined the blood systematically during life, streptococci developed in the cultures from cases, all of which recovered, although several were very ill.[3] In Jochmann's series of 161 cases streptococci were recovered in 25 patients, all of whom died.[4]

By way of explanation of this divergence I may point out that my cases occurred in a mild epidemic, were strictly unselected, most of the patients being over 10 years of age and many over 20, whereas Jochmann's cases occurred in a frightfully severe epidemic, the patients being children under 10 and probably not strictly unselected. All observers agree that in fatal scarlatina general streptococcus infection is demonstrable after death in the large majority of the cases. Baginsky and Sommerfield[5] report streptococci in the blood and the internal organs of every one of 82 patients, including several in whom death occurred early and in whom there were no gross lesions. In other series general streptococcus infection was presented in a smaller percentage of the cases (Wright, Pearce, Slawyk, Jochmann, etc.), and several instances of fatal fulminating scarlatina have been described in which there was no demonstrable evidence of serious streptococcus infection (Böhm, Jochmann). In general streptococcus infection *Streptococcus pyogenes* appears to be the predominating form; occasionally, however, we meet *Streptococcus viridans*.

Now, if streptococci play an essential and constant part in scarlet fever as, indeed, seems to be the case, then we would expect to find in the blood of the patients various specific antibodies of streptococci, more particularly agglutinins and opsonins. And in case the streptococci concerned in scarlet fever differ essentially from other streptococci we naturally would hope to find in these biologic reactions means of differentiating between them.

As a matter of fact, various observations have been made on the agglutination of streptococci by scarlatinal and other serums, but the results lack the desired uniformity. In an important article on the subject Weaver[6] has pointed out that this in part may be due to technical difficulties and in part because it has not been recognized adequately that variations in the composition and reaction of the culture medium have a marked influence on the agglutinability of streptococci.

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[1] For references to the literature see Weaver, Trans. Chicago Path. Soc., 1903, v, 222, and Jour. Med. Research, 1903, ix, 246.

[2] The Jour. A. M. A., 1906, xlvii, 1171; Jour. Infect. Dis., 1906, iii, 755.

[3] The Journal A. M. A., 1903, xl, 685.

[4] Ztsch. klin. Med., 1905, lvi, 316.

[5] Arch. f. Kinderheilkunde, 1902, xxxiii, 1.

[6] Jour. Infect. Dis., 1904, i, 91.

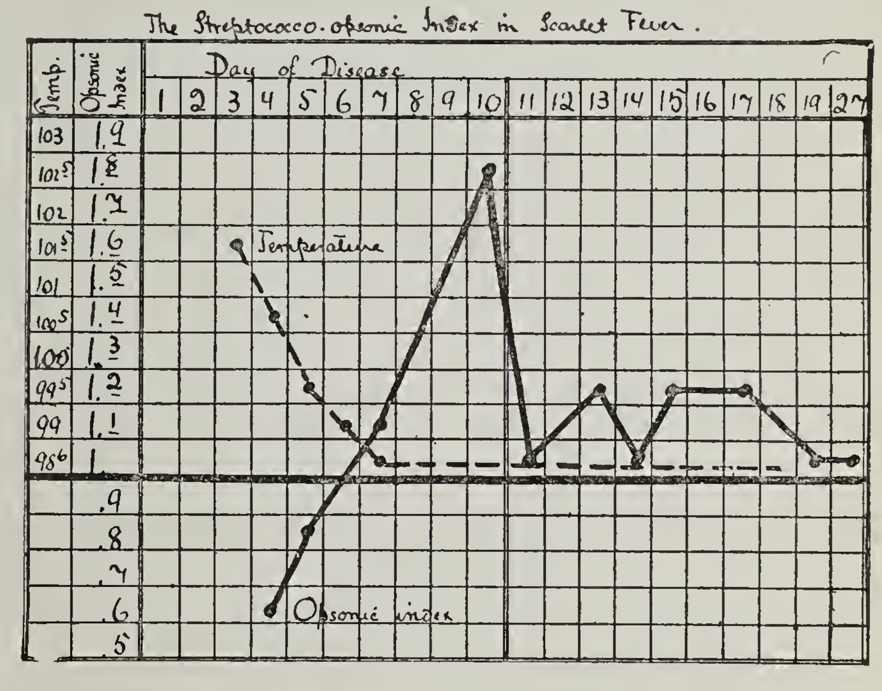
In general Weaver's results show that in scarlet fever agglutinins develop for streptococci, but that these agglutinins are not specific for streptococci obtained from cases of scarlet fever, and like agglutinins form to an equal degree in erysipelas and even in pneumonia and probably other infections not necessarily streptococcal. We see then that as the matter now stands no decisive conclusions are indicated by the agglutination of streptococci by scarlet fever serum as to their relation to scarlet fever. The scarlatinal streptococco-agglutinins should be studied still more closely in the hope of obtaining results of more positive significance. Thus, it is quite possible that fairly characteristic relations may be found to exist between the agglutinin curve and the course and character of the attack. Experiments with the serums of animals immunized with streptococci have given results that in some instances are rather suggestive of a degree of specificity on the part of scarlatinal streptococci. Ruediger found that most strains of *Streptococcus pyogenes* isolated from the throat in scarlet fever were clumped in fairly high dilutions of the serum of sheep immunized with an organism from the same source but not at all by the serum of sheep immunized with a streptococcus from phlegmon of the leg or with *Streptococcus viridans.* Here also further work is necessary.

As to the streptococco-opsonic index in scarlet fever I may say that a recent study in our laboratory by Miss Tunnicliff, the results of which are not yet published, indicate definitely that the index is below normal during the acute stages of the disease in the majority of cases; as the symptoms subside the index commonly rises above the normal to which the return may be more or less abrupt. During uncomplicated convalescence the index is normal or a little above. If complicating streptococcus localizations set in the index remains low until improvement begins. These variations in the streptococco-opsonic index appear to be specific because they are not associated with corresponding variations in the opsonic index for other bacteria such as the pneumococcus, the staphylococcus, and pseudodiphtheria bacilli.

From the facts presented in this condensed form we are justified in concluding: (1) That the predominant feature of the bacteriology of the throat in scarlet fever is the constant presence of large numbers of *Streptococcus pyogenes;* (2) that the overwhelming majority of the so-called complications and of the deaths in scarlet fever are due to invasion of the tissues and the blood by this microbe; and (3) that in scarlet fever, even when mild, the organism gives evidence of systemic reaction to streptococci by variations in the streptococco-opsonic index and probably also by the formation of streptococco-agglutinins. There is, therefore, no escape from the conclusion that *Streptococcus pyogenes* or some form thereof plays a most significant part in the scarlatinal process, but are we ready to take the final step and to conclude that scarlet fever is wholly a streptococcus disease, all the phenomena of which, including the acquired immunity, are satisfactorily explained by the distribution of the cocci in the tissues and by the intoxication with their products?

It is quite true that many of the essential phenomena of scarlet fever, such as the initial symptoms, the angina, the fever, the leucocytosis, and even the rash, may be explained by what we already know of the pathogenic powers of *Streptococcus pyogenes* and which probably in no small degree actually shares in their production, but there is no analogy in recognized streptococcus infections of the immunity conferred by scarlet fever even when mild. We have no evidence that scarlet fever leaves behind it any lasting immunity to streptococci, and we do know that the specific immunity which results from streptococcus infections in general is not at all marked and is only brief in duration. Consequently if scarlet fever is caused by a form of *Streptococcus pyogenes* this must be assumed to possess very pronounced and peculiar immunizing properties, of which as yet we have been unable to discover definite experimental or other evidence. There are other phases of this question that might be discussed with profit did space permit. For example, there is the reported lack of evidence of streptococcus invasion in certain instances of fulminating scarlatina.

Let us now for a moment consider acceptance of the streptococcal theory of scarlet fever from the point of view of the spread of the disease. This acceptance would seem to involve us in no special difficulty so far as the most important of the recognized modes of dissemination are concerned, namely, through contact in various ways with materials from the throat; it is different, however, with respect to the question of the infectiousness of the skin and the reputed longevity of the scarlatinal virus. It is universally believed that the scales of scarlet fever patients are infectious far into convalescence. According to Weaver's careful study, the bacteria obtainable in the skin and scales of scarlatina are quite the same as those found on the skin in health. Raskin obtained streptococci from the skin in 4 cases in 20; Gordon's search yielded no positive results; Weaver found streptococci in skin cultures in one case in 15; and Dreyer (unpublished observation) failed to find streptococci on the skin of 30 cases. The conclusion is plain—if streptococci cause scarlet fever they reach the surface of the body so rarely that the infectiousness of the skin must be greatly overrated. Medical literature contains numerous instances of apparent conservation of the scarlatinal virus over long period of time—several years—whereas the longest time that Weaver[1] could cultivate streptococci from preserved scarlatinal material was 90 days.



Thus it becomes evident that there are rather definite obstacles to the unreserved acceptance of the streptococcus theory of scarlet fever. The view that the specific cause of scarlet fever is not known[7] and that the streptococcus is a concomitant or secondary invader for the growth and activity of which the conditions in this disease are peculiarly favorable, seems to me to harmonize better with the facts now at hand. This view receives strong support from the fact that smallpox when fatal is practically always associated with streptococcus invasion,[8] so that the suggestion has been made that smallpox, too, is a streptococcus disease.[9] Perkins and Pay[10] dispose of this claim, however, by causing smallpox in the monkey with materials entirely free from streptococci, which by themselves, as expected, have no such effect.[11] It has been said that smallpox would be a relatively harmless disease were it not for the streptococcus invasion, and there are certainly good reasons to look on scarlet fever in the same light.

From the fact that there is no evidence in scarlet fever of increased activity on the part of pneumococci and certain related cocci that normally inhabit the throat, we may infer that the conditions in the scarlatinal throat are peculiarly favorable to *Streptococcus pyogenes*. Indeed, in view of the paramount importance of streptococci in the course and outcome of scarlet fever the chief significance of the pure scarlatinal virus would seem to lie in its power to open the door, so to speak, to streptococci. From this point of view the need for potent antistreptococcus remedies is as urgent and their eventual specific effects as logically explainable as would be the case were scarlet fever considered a streptococcus disease pure and simple.

One point remains. In view of the fact that streptococci grow in virulence in the susceptible animal organism it becomes our duty to guard carefully by adequate isolation against the transfer of especially virulent strains from patient to patient. We can understand from what we know of the dissemination of throat and mouth bacteria in coughing and other ways the great chance for such transfer when patients lie side by side in the same room. Perhaps the sad instances of several deaths from scarlet fever of children of the same family, sometimes spoken of as examples of family susceptibility to scarlatina, often result from the passage from child to child of especially virulent streptococci.

SOME SYPHILITIC DISEASES OF THE EYE.

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Of all diseases of the eye probably syphilis is responsible for a greater number of ocular affections than any one disease known, so I can not, in a paper of this character, go into an exhaustive study of diagnosis, prognosis and treatment, but will confine my remarks to giving the essentials of diagnosis, and take up each subject as seen from the anterior aspect of the eye.

EYELIDS.

Secondary syphilitic ulcers may occur in the eyelids from the breaking down of a gumma originating in the skin or in the subcutaneous tissue and cartilage. The most frequent location of the lesion is in the skin, near the lid margin or below the inner canthus, though it may occur on the conjunctival surface of the lid. It manifests itself usually at a late stage of the disease and should be classified as a tertiary lesion. The fact that this lesion may occur after all other symptoms of syphilis have subsided necessarily makes a diagnosis rather difficult, especially if it is situated over the lachrymal sac; in this event dacryocystitis is apt to be confounded with it. It is at times difficult to differentiate between this lesion and epithelioma, as the latter occurs more frequently on the eyelids than elsewhere.

CONJUNCTIVA.

The conjunctiva is very rarely affected primarily, but inflammation usually occurs when the iris and ciliary body are involved, the edema seen in these cases being caused by an obstruction to the return flow of the circulation. It has been my good fortune to see one case of gumma of the conjunctiva; this in a man 36 years old, who had been infected six years previously. The patient had received treatment for about three months after the initial lesion, and in the following year also he had taken more or less treatment, but, as all symptoms of syphilis had long since disappeared, he did not appreciate the necessity of further treatment, and the gumma of the conjunctiva was a result four years later. When I first saw him there was a round, hard mass, the size of a pea, glazed in appearance and almost white, situated at the sclerocorneal junction on the outer side of the right eye. Though he gave me a history of syphilis, a diagnosis was not made at the time, as I was uncertain as to the character of the trouble, and I requested him to return later in the week. On his return he told me that he had spent a very uncomfortable night with his eye. Examination disclosed a true broken-down gumma, ulcerated, and the whole surrounding tissue deeply injected. A salve of iodoform was prescribed to be used locally, and subcutaneous injections of the albuminate of mercury were begun at once, with iodid of sodium internally. After twelve injections, one given daily, and taking iodid up to 225 minims per day, the gumma completely disappeared, except for a slight contraction of the tissue.

For the past five years I have made a practice of examining the conjunctiva of each syphilitic coming into my office; my object in doing this was to find a mucous patch, but so far my efforts have been in vain. However, I expect some day to find one, as there does not seem to be any reason why they should not be found on the conjunctiva as they are elsewhere.

LACHRYMAL SAC AND DUCT.

The lachrymal sac and duct is frequently invaded by syphilis through the nose. In all the cases of stricture of the lachrymal canal in syphilis which have come under my observation I have always been able to find the cause in the nose. Syphilitic rhinitis, both acute and chronic, is very common, and when we have great destruction of the nasal bones and membranes dacryocystitis usually occurs with varying severity.

THE CORNEA.

Interstitial keratitis has its origin in syphilis in perhaps 60 per cent. or more of all cases, and the true form is always hereditary. I have never seen a case caused by acquired syphilis, and believe the cases reported as such have simply been produced by iridochoroiditis, which has involved the deep layer of the cornea. Antonelli directs attention to the ophthalmoscopic appearance in congenital syphilis, namely: "A certain degree of pallor, sclerosis of the papilla, a massing of the pigment on the papillary border, a certain narrowing of the retinal arteries and a granular state of the retinal pigment." The symptoms of this variety of keratitis are a grayish discoloration at the periphery or some other part of the cornea. This color soon spreads over the whole of the membrane, which is infiltrated and its surface dull. At first the infiltration is translucent, it then becomes thickened and of a grayish tint, becoming darker until the iris is quite obscured. There is ciliary injection without congestion of the conjunctiva, lachrymation, photophobia and ciliary pain are also present, the latter due to an iritis which is nearly always present in these cases. The deep punctate keratitis of syphilis is situated in the deeper planes of the cornea; the iris, ciliary body and choroid are nearly always invaded. We have numerous small, deep infiltrations appearing in front of Descemet's membrane and in the center of the cornea. These infiltrations may become ulcerated in a few cases and leave very dense and permanent opacities.

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[7] Whether the protozoon-like bodies described by Mallory (Jour. Med. Research, 1904, x, 483), in the skin of scarlet fever, the parasitic nature of which is corroborated by Duval (Virchow's Archiv, 1905, 179, 485), but questioned by Field (Jour. Exp. Med., 1905, vii, 343), have any etiologic significance is of course a question for the future.

[8] Ewing: Trans. Assoc. Am. Phys., 1902, xvlii, 208.

[9] De Waele and Sugg: Arch. intern. Pharmaco-dynamie et Therapie, 1903, xii, 205; Münch. med. Wochschr., 1905; Centrbl. f. Bakt., i, 1905, xxxix, 324.

[10] Jour. Med. Research, 1903, x, 195.

[11] On account of incommunicability of scarlet fever to animals the investigator is without ready means to determine whether scarlatinal materials or microbes he may isolate therefrom have specific pathogenic powers.

A word in regard to the treatment of these forms of keratitis: I have never seen a case, no matter how ill nourished and cachectic the patient may have been, that small doses of mercury did not act in a most satisfactory manner from the very start. It seems to exert a tonic influence.

IRIS AND CILIARY BODY.

The iris and ciliary body are perhaps more often invaded by syphilis than any other part of the globe, and syphilis is the common predisposing cause of iritis. About 70 per cent. of all cases of iritis are caused by this disease, and I have found in examining the histories of 1,500 cases of syphilis, reported in a previous paper,[1] that iritis occurred in over 3 per cent. of all cases. There are a certain number of cases in which the clinical aspect will not give any indication of the constitutional cause of the inflammation; so we are more or less dependent on the history of the case and other data to confirm our diagnosis. In syphilis there are a certain number of characteristic signs in a given number of cases which will allow us at once to recognize the etiology of the disease. The most palpable of these are the papules—small raised masses imbedded in the iris, usually not exceeding three in number and generally located in the pupillary zone, but they may be seen at the periphery of the anterior chamber, or elsewhere. They begin as small points, increasing in size, until finally, in a few cases, they may attain such size as to touch the posterior surface of the cornea. During this time their color changes from a reddish brown to a lighter shade, and on closer inspection we shall find numerous small vessels surrounding them. They may disappear completely, or leave small arch-shaped synechiæ. A white line is not infrequently seen at the bottom of the anterior chamber, due to the accumulated debris of broken down condylomata. At the pupillary edge of the iris, a rusty hue is sometimes observed, and is probably due to condylomatous masses, diffused throughout the tissues in that position. The posterior synechiæ in this form of iritis are suggestive of the etiology of the trouble, as they are broad and dark in color, thus differing in a marked degree from those of rheumatism, for instance, which are thin and light in color. This then, is the iritis of secondary syphilis, which is nearly always of a plastic type and has little tendency to recur. In nearly all cases attachment between the iris and the lens capsule takes place, unless the case is seen early.

Hereditary syphilitic iritis appears in the first few years of life, and also at a much later period. According to Hutchinson, the average age at which infantile iritis begins is five months, it affects females more often than males, attacks one or both eyes, and, though generally associated with a free exudation of lymph, is not much marked by redness of the eye. The cornea remains clear and the ailment is attended by few of the more severe symptoms met with in adults. Most of the cases show one or more of the signs of hereditary taint—as cachexia, psoriasis-like cutaneous eruptions, aphthæ or sores about the mouth, condylomata about the anus, or "snuffles." When iritis attacks other subjects, it may occur alone or with interstitial keratitis. If alone, the inflammation usually appears in the ciliary body, and spreads to the iris at a later stage, so we have an iridocyclitis. It is very hard at times to recognize, as patients may show no signs of hereditary syphilis elsewhere. In other cases we may find associated with it, disseminated choroiditis, which is characteristic of syphilis. The iris reacts to light very sluggishly and ciliary congestion, purplish in color and patchy in distribution, is present. Sometimes a pupil may get blocked by a grayish layer of débris which seems to cling to the edge of the iris, and punctate deposits constantly appear in the cornea. Secondary glaucoma is a frequent sequel. In hereditary syphilis, iritis assumes the form of a serous irido-cyclitis and may appear alone or with interstitial keratitis.

Syphilitic cyclitis may be plastic, serous or gummatous, and is almost invariably associated with iritis; the symptoms are pain, diminished vision due to deposits upon the posterior surface of the cornea, precipitates in the vitreous, exudations between the iris and lens capsule, and ciliary injection. Galezowski, in studying symptoms of syphilis in the ciliary body, says:

> 1. Whenever syphilitic iritis is accompanied by punctate keratitis, either chronic or recent, areas of atrophic choroiditis will be found in the ora serrata.
>
> 2. In parenchymatous interstitial keratitis, when due to hereditary syphilis, disseminated plaques, which sometimes reach the posterior segment, are seen in the ora serrata; more often, however, they are confined to the ciliary region.
>
> 3. Diffuse syphilitic choroiditis, with disease of the vitreous, always presents atrophic alterations of the ora serrata, and the opacities of that humor are due to the latter lesion.
>
> 4. In ataxic atrophy of the discs, atrophic and pigment changes occur in the ora serrata.
>
> 5. In syphilitic inflammation of the cerebral or cerebro-spinal nerves, characteristic signs of the disease appear in the ora serrata.

Gallenga reports two cases of syphilitic gumma of the ciliary body, but I have never seen a case.

Before leaving the subject of irido-cyclitis, I wish to make a few remarks upon the pathogenesis of primary iritis of syphilis. Brailey says:

> Almost all ailments capable of giving rise to inflammation of the iris are intimately associated with, if not actually caused by, micro-organisms. As regards syphilis, gonorrhea, tubercle, leprosy, influenza and relapsing fever, this fact will be disputed by none. Organisms have been described in many fevers—typhoid, smallpox and pneumonia—during recovery from which, inflammatory infections of the iris and ciliary body may occur. From all the facts brought to bear on the

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[1] Relative frequency of Iritis in Syphilis and Rheumatism, observed in 3,000 cases. Ophthalmic Record, November, 1899.

subject, it would indicate that syphilitic iritis is due to the presence of microbes.

Alexander believes that specific iritis is produced by vascular alterations, and points to the fact that Fuchs and Friedal have shown that the walls of the vessels of the iris are the seat of a gummatous degeneration. Brailey states that the ordinary form of the disease appears as an early secondary symptom during the time when the specific virus is diffusing itself, by means of the blood, throughout the entire economy. Nodular growths or condylomata are present in every case and are strongly suggestive of local irritation, such as might well be set up by bacilli deposited from the aqueous humor. Bronmer has given particulars of three cases in which concussion of the eyeball was followed speedily by local syphilitic disease.

In many cases of irido-cyclitis, the patient tells us that the disease was set up by some slight injury to the eyes. A case in question came under my care some months ago.

History.——— ———, aged 38 years, was walking along the street, carnival week, and a woman threw "confetti" into his face, some of which got into his left eye, producing at the time more or less irritation. Two days later, he came into my office with a typical case of specific irido-cyclitis. A history of syphilis was obtained, but he had never had iritis before, so it would seem that the bacilli deposited by the aqueous humor were there and only required some slight irritation to start them working industriously.

RETINA.

That syphilitic retinitis, pure and simple, does exist, seems to be beyond question, as such careful and painstaking observers at Leibreich, Mooren Mauthner have reported cases, while Ole Bull reports its occurrence in half of all the syphilitic cases seen by him.

We have observed in cases of severe iritis, more or less irritation of the retina. During the past twelve years I have had exceptional opportunities for observing syphilitic diseases of the eye, and in this time I have seen at least three positive cases of syphilitic retinitis without the choroid or iris being involved. The three cases were all due to the acquired form of syphilis, and appeared from four months to seven months after infection. In one case the retinitis was preceded by iritis, but the latter trouble had entirely subsided without injury to the eye. The most remarkable incident, outside the rarity of such cases, was that none of these patients had been fully under the influence of mercury, though each had been using inunctions for several weeks previous to the discovery of retinitis. I will not go into the details of these three cases here, as I expect soon to make a further and more elaborate report. In two cases there were dust-like particles in the posterior part of the vitreous, producing a cloudy appearance in front of the papilla. In the other case this condition was absent. In all there was a grayish opacity of the retina, and particularly along the course of the blood vessels; small, white foci were seen towards the periphery of the retina, developing along the course of the blood vessels, berry-like in appearance and covering the vessels in places. The arteries seemed somewhat thinner, and the veins were much larger than normal.

Syphilitic hemorrhagic retinitis not infrequently occurs in the course of syphilis and usually in the tertiary period of the disease. Of course, the predominating clinical symptom is a great number of hemorrhagic spots of different sizes and shapes; dust-like opacities are seen in the vitreous, the retina appears opaque, the arteries are small and the veins are dark and large. Persistent headache is a constant factor in this disease until the patient is thoroughly under the influence of mercury and iodids.

Relapsing syphilitic central retinitis is a very rare affection; personally, I have seen only 1 case in about 2,000 cases of syphilis which have been under my observation. There is a sudden disturbance of vision, which disappears after a few days, to reappear. These recurrent attacks may keep up indefinitely. During the attacks the vision is much impaired. At first the vision is very good between the attacks, but later it is reduced. There is seen a slight shadow on the macula, but the papilla and surrounding field remain perfectly clear. Fine white points appear in groups around a grayish macula and during the intervals of attacks this cloudiness disappears entirely. In my case the trouble was cured after three months of heroic anti-syphilitic treatment. Three years have passed since the case was first seen and there has not been any recurrent attack.

Transitory recurrent bitemporal hemianopsia may be caused by syphilitic tumors affecting the chiasm. Oppenheimer regards this form of hemianopsia as a sign of basal syphilitic lesion.

Swanzy directs attention to the fact, that symptoms caused by syphilitic gummata at the base of the brain are frequently inconstant, that is to say, a nerve which is paralyzed to-day, may be found to perform its functions well to-morrow, while the paralysis of some other nerve may continue. In nearly all cases of hemianopsia and blindness brought about by gumma situated somewhere in the optic tract and chiasm, if the blindness is recent, we can, with a great degree of certainty, hope for useful vision, if not for entire relief. This, of course, can only be brought about through heroic anti-syphilitic treatment. Diseases of the blood vessels of the retina and iris caused by syphilis, while not very common, yet occur with sufficient frequency to attract attention.

Syphilis not only induces inflammatory changes in the retina as elsewhere, but frequently produces changes in the blood vessels similar to those seen in senile or albuminuric sclerosis. Blood extravasations, opacities of the vessels and sometimes retinal opacities are seen.

In syphilis, Haab attaches considerable importance as a diagnostic sign to decrease of the retinal vessels when the opacities of the walls appear as fine disseminated scales upon the arteries. He states further that other similar vessel-degenerations rarely show this appearance. New vessel formation is quite frequent in syphilis and takes place after hemorrhages of syphilitic origin.

CHOROID.

Disseminated choroiditis is caused by syphilis in perhaps 80 per cent. of all cases. In acquired syphilis the disease makes its appearance in from six to eighteen months or possibly longer, after infection. In hereditary syphilis the disease comes on in the first three or four years of life, or probably at a later date. In the early stages, in the acquired form, we see perfectly round white spots of a pinkish hue. The retinal vessels are clearly seen as they pass over the spots. The next change takes place in the center of the spot which becomes very white; at the same time the pigment ring begins to show itself and gradually becomes darker. The pigment ring and other details now sharpen up and the enclosed surface appears as a dull, yellowish-white plaque. Sometimes little shreds of lymph are seen during this stage attached by one edge to the choroidal plaque and undulating in the vitreous. Patches of complete atrophy appear, bounded by a ring of black pigment; the entire surface in this ring is white or bluish-white and glistening, and we cannot see any trace of the choroidal vessels or pigment, yet the retinal vessels go across without interruption. The appearance of the fundus, between the choroidal spots, is usually normal. When the inner layers of the retina become affected the case is always more or less serious and a loss of sight may take place either from atrophy of the disc or from detachment of the retina.

Iritis, interstitial keratitis and scleritis may make their appearance during the course of the disease. Liquefaction of the vitreous may take place with partial or complete dislocation of the lens. The occurrence of a group of yellowish-white flecks near the macula and of dust-like opacities of the vitreous, with change in the walls of the choroidal and retinal vessels, is nearly always characteristic of syphilis.

Syphilitic chorio-retinitis is always characterized at first by fine dust-like vitreous opacities and increased redness of the disc, which latter is surrounded by a halo of grayish discoloration. There is an absence of the patchy condition characteristic of choroidal inflammation alone. This form is frequently preceded by iritis. Night blindness is usually a marked feature. The field of vision rarely shows any marked diminution. In the early stages the diagnosis is quite difficult; there is a smoky appearance of the details of the fundus, however, which is characteristic. The vitreous opacities, increased redness of the disc and opacities of the surrounding retina, are frequently the only diagnostic signs.

Later, as the disease progresses, there is often found overfullness of the retinal veins. with a contraction of the calibers of the arteries and paleness of the disc.

POLYCYTHEMIA.

J. F. ALDRICH, M.D. AND LE ROY CRUMMER, M.D.
SHENANDOAH, IOWA. OMAHA.

The recent exhaustive articles[1] on this subject have changed our plans in considering the condition in detail and referring to the previous work which has been done on this subject, but cases are still so rare that we think it expedient to report this one in considerable detail. This case seems of especial interest in that while it has the entire triad of symptoms completely developed, it differs in some important essentials from the cases previously reported.

Patient.—Mrs. J. M. D., aged 53, first seen by Dr. Aldrich Jan. 11, 1906, complained of considerable dyspnea on exertion. She had also noticed that she had an immense growth in the left abdomen.

Family History.—This was negative. The father was living at the age of 86, and was in reasonably good health. The mother died at 50, from a "lingering consumption." The patient had waited on her mother constantly for three months prior to her death, but developed no symptoms following this exposure. She has two brothers living, aged 50 and 55 years respectively, and both in good health. Four sisters died in early infancy, the causes of their deaths being unknown to the patient. One brother died of a wound received in the Civil War when but 20 years old.

Personal History.—When a child the patient had eczema on the scalp and along the shins, and at about the same time, had a severe attack of ringworm. She also had measles, scarlet fever, chickenpox and mumps during childhood. She never had any of the other diseases, nor has she ever been seriously sick at any time since puberty. There was no history of typhoid or malaria, and she has never had symptoms which would indicate a tuberculous infection. Menstruation began at 14 and terminated in a normal climacteric at the age of 50. Before marriage she had dysmenorrhea, but was much better after marriage, and has considered herself normal in that respect marriage, and has considered herself normal in that respect ever since. She has borne six children, the latest eleven years ago.

History of Present Condition.—For eight years she noticed a redness of the face so striking at times that even the school children noticed it and would run past her house exclaiming: "Look out for the red Indian woman." During this entire period she had a feeling of fulness of the head and dizziness at times. This still continues, but occurs only at comparatively long intervals. Three years ago she first noticed a tumor in the abdomen, which enlarged rapidly, and at the end of the first year was as large as a cocoanut. This tumor grew slowly, but continuously, and she did not notice at any time a decrease in size. She never had any form of hemorrhage.

Symptoms.—The patient complained of extreme fatigue, a feeling of weight and dragging in the abdomen, and pressure over the bladder. She suffered somewhat from nausea, a slight distress after eating, and occasional attacks of diarrhea. She never had fever, but perspired easily. There had never been much loss of weight.

Present Condition.—Jan. 11, 1906. Patient was in fair flesh, had no difficulty in walking, and showed no trace of fatigue after rather a hard trip. The color of the face and hands was striking. The exposed skin had a dusky red color, and on closer examination, enlarged veins were seen in fine network throughout the skin. The conjunctiva presented the same appearance. The teeth and gums were normal; there was no tonsillar enlargement. The cervical glands, as well as those in other regions, were normal. The lungs were normal, save for a slight emphysema. The heart was normal in size and sounds, and there was no dulness of the mediastinum. Examination of the abdomen showed no ascites, no enlarged veins, and the liver not perceptibly enlarged. The entire left half of the abdomen was filled with a heavy tumor, which came out from under the costal border at the seventh cartilage, extending down to one inch to the right of the umbilicus. One inch below the umbilicus it turned and ran almost horizontally across to the antero superior spine of the ilium, and thence behind the crest of the ilium. There were three typical notches of the median edge, which, however, were very blunt. Careful palpation gave an impression that this tumor was thicker in the anteroposterior diameter than is usual with splenic enlargements. The length of the anteroposterior diameter from the costal border to the lowest point in the abdomen was seven and one-half inches. The tumor was seven inches from the extreme right edge to the point where it disappeared behind the crest of the ilium. The skin was everywhere mottled, but there were no enlarged veins except on the face and hands. There was no edema, but some tenderness on percussion over the sternum, tibia and other long bones. Urinary examination gave normal findings.

Blood Examination (Crummer).—

Red blood cells (Thoma Zeiss)	7,700,000
White blood cells	4,700
Hemoglobin (F. M.)	120 per cent.
Index	approx. 4/5

Smears stained by the Ehrlich's nitrophile and eosin-methylene blue method showed considerable variation in the size and contour of the red blood cells. There were many microcytes and a few pale-staining macrocytes. A few cells show slight poikilocytosis, and in almost every field polychromatosis could be recognized. Nucleated red cells were found in considerable numbers. While counting 200 white cells, 24 nucleated red blood cells were seen, which equals 6,600 nucleated red blood cells per c.cm. Five or six were typical normoblasts, while the others showed many characteristics of the megaloblastic type of cell.

The differential white cell count showed:

Polymorphonuclears	72.5 per cent.
Eosinophiles	4.0 per cent.
Large lymphocytes	8.0 per cent.
Small lymphocytes	11.0 per cent.
Myelocytes	4.5 per cent.

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[1] Englebach and Brown: THE JOUR. A. M. A., Oct. 20, 1906. This article contains a complete biography.

Treatment.—Acting on the advice of Turk, the patient was placed on Fowler's solution, which, however, she did not stand very well, and a pill, containing arsenous oxid, .001 gm.; pepper, .020 gm.; and licorice, .050 gm., was substituted with the same bad results. The tumor mass was regularly given fifteen minutes' exposure to the Roentgen ray, and an abdominal support was ordered.

Subsequent History.—On February 11, the patient again presented herself for examination, feeling much better, and stronger in every way; the symptoms had practically disappeared. She had had eleven Roentgen-ray treatments. The tumor was smaller in size; its transverse diameter being four and one-half inches, while its longitudinal diameter was five and one-half inches. The anteroposterior diameter had diminished, and it had assumed more nearly the shape of the ordinary splenic tumor. On examination the urine was found normal in every particular. The blood pressure by the Riva Rocco (wide cuff) apparatus was 132 mm.

Blood examination on this date:

Red blood cells	6,048,000
White blood cells	5,500
Hemoglobin	90 per cent.
Index	approx. 3/4

The microscopic findings were the same as at previous examination.

Jan. 5, 1907: It has been impossible to make further blood examination of the patient, but a report was just received stating that the patient continued well during the spring and summer, was able to work, and was entirely relieved of pain and distress in the abdomen. She had an attack of jaundice during August and the early part of September, which gradually cleared up, and since that time she has been less cyanotic. In September the spleen began to enlarge again, but on taking Fowler's solution it gradually diminished in size and is now less than half as large as it was at the time of first observation. Now it does not extend to the median line or as low as the umbilicus. Subjectively, she feels better and stronger in every way.

This case presents the usual features of polycythemia in its characteristic form, as in cases hitherto reported. It is furthermore one of the few reported cases in which improvement has been definitely noted. Concerning the theories of pathogenesis applied to this case, we have, it is true, a history of exposure to tuberculosis before the disease began, which might support the theory of Rendu and Widal,[2] as to the tuberculous origin of this trouble, but careful examination showed absolutely no other signs of a tuberculous process, and it would hardly be fair to assume that this case was also one of localized splenic tuberculosis, particularly as the blood examination showed more definitely than in any of the hitherto published cases, the signs of an irritative lesion of the bone marrow (megaloblasts and myelocytes), thus in a great measure substantiating Turk's[3] assumption that polycythemia is in reality a primary disease of the red bone marrow.

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[2] "Splenomegalie tuberculeuse sans leucémie avec hyperglobulie et cyanose." Bull. et mem. de la société med. des hôp., 1899, 111, p. 528.

[3] Wiener klin. Wochschr., 1904, Nos. 6 and 7.

Removal of Foreign Bodies from Female Rectum.—Kakuschkin states in the *Russische med. Rundschau* for December that it is an easy matter to remove a foreign body from the female rectum if it is manipulated downward with two fingers of the hand introduced into the vagina. The perineum is pressed up and back by the other hand at the same time. In a personal case the nozzle of a syringe had dropped off in the rectum and the passage of stools failed to dislodge it, but it was readily manipulated downward with two fingers in the vagina. He remarks that the lower segment of the rectum belongs to the gynecologists, and that unless a foreign body is soon removed it is liable to be forced upward with the antiperistaltic movements.

THE RADICAL MASTOID OPERATION.[*]

FRANK ALLPORT, M.D.
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CHICAGO.

(Concluded from page 1092.)

Ballance, of London, makes a plastic operation that is used by many operators and undoubtedly yields good results. He cuts through the inferior wall of the cartilaginous meatus (Fig. 27) from its tympanic end to the inferior portion of the concha. This incision is then curved (Fig. 28) upward and backward until the level of the anterior beginning of the helix is reached where it stops.

This cartilaginous flap is thinned of all possible superfluous tissue, and sometimes of some of its cartilage, and is then turned back and the curved portion fastened with through and through sutures (Fig. 29) to the large anterior mastoid flap (Fig. 30). The parts are thus placed in position (Fig. 31) and the meatus expanded and forced against the bone as well as possible by firm gauze packing (Fig. 32). Some operators do not trust to the various flap operations to epidermize the bone cavity, and claim surer and speedier results by grafting skin into the cavity, either at the time of primary operation or at a secondary operation performed in from ten to fourteen days after the original procedure, by first completely reopening the wound, then grafting and again closing the wound, as recommended by Ballance. I do not use grafts at all unless in the subsequent healing of the case they become indicated, which I find to be rather seldom; nevertheless, there is no good reason for not using them and they undoubtedly expedite and assure perfect healing. Such skin grafts may be very large as recommended by Ballance (Figs. 36, 37, 38), who usually finds one graft to be sufficient, or smaller as proposed by Jansen and others, but of whatever dimensions they may be used they should, of course, always be cut as thin as possible by a sharp flat razor, the blade being lubricated by a warm normal salt solution. The graft may be transferred from the razor to a warm wet spatula (Fig. 34) by means of needles (Fig. 33) with handles, and then placed in its position on the bone by the same instruments, being, of course, careful to wipe the parts as dry as possible before the graft is permanently placed. It may be coaxed into its position by firmly twisted cotton on an applicator or by the "stoppers" (Fig. 35) as devised by Ballance. The grafts may be held in position by small balls of cotton dusted with aristol or xeroform powder, or Ballance recommends that the entire operative area be covered first with gold foil and then packed with small antiseptically-dusted cotton balls or with narrow, dry gauze (Fig. 39) and allowed to remain for one week and then removed by the meatus, as, of course, the post-auricular wound is immediately closed after the placing of the grafts, packings, etc. Some operators graft by placing either large or small pieces of tissue on the raw surfaces, through the meatus, and holding them there by small pledgets of gauze or cotton. This procedure is performed at varying times after the major operation, some preferring to do it at the first dressing, others a little later, and some only grafting at all when obstinate, unhealed surfaces call for such a procedure.

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[*] Figures 42, 43, 44 and 45 are omitted. They will appear in the reprints of this article.

AFTER TREATMENT.

Leaving the subject of skin grafting now and taking up the after treatment of cases on which radical mastoid operation has been performed, it may be said that the bandage should remain in position, unless contraindications occur, for three, four or five days, when it should be carefully removed with an abundance of irrigation to avoid pain and injury. The area operated on should be thoroughly irrigated, cleaned, soaked with some antiseptic solution, dried, dusted with xeroform powder and firmly repacked with gauze and then bandaged. I believe many excellent operations are spoiled by poor after treatment, and by this I refer especially to poor packings, as exuberant granulations are the menace of good healing. These cavities should be kept tightly packed until dermatization is well under way. It should be remembered that in this large, surgically produced cavity are several sub-cavities of varying sizes and depths. In the first place there is the large antrum and mastoid cavity, that should be kept firmly packed to its utmost recesses. This cavity being back of the meatus, and, therefore, somewhat out of sight, is apt to be neglected by the dressing surgeon, in which case exuberant granulations will speedily form and unpleasant and embarrassing complications will surely occur. Then there is what is left of the osseous meatus, with the inner tympanic wall at its extremity. This must be kept firmly packed, as granulations will spring up and occlude the meatal space, thus hindering and sometimes nullifying the results of a good operation. There is also a somewhat curving, gutter-like concavity, representing the aditus ad antrum, connecting the tympanic and antral cavities, in which exuberant granulations are likely to form, with their embarrassing consequences, where great pains should be taken in the packing (Fig. 40).

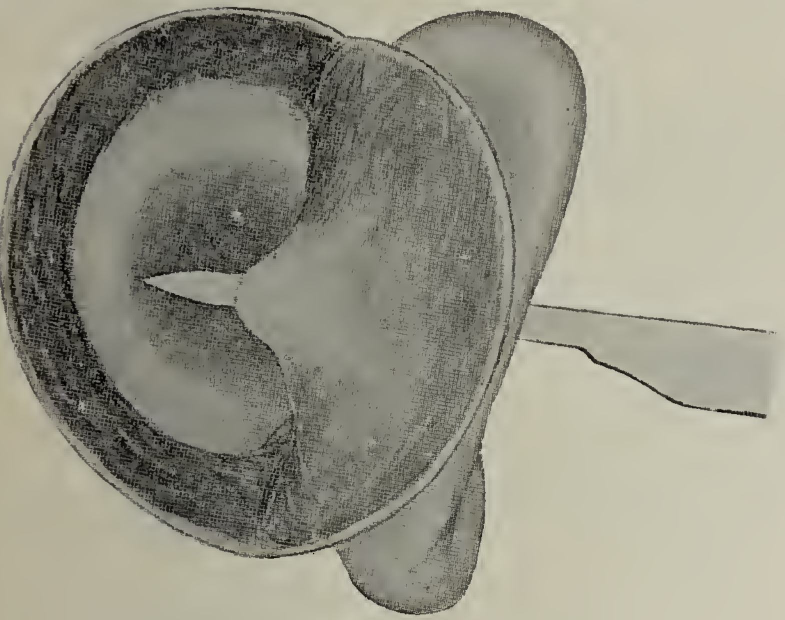
Fig. 27.—The Ballance flap. (After Ballance.)

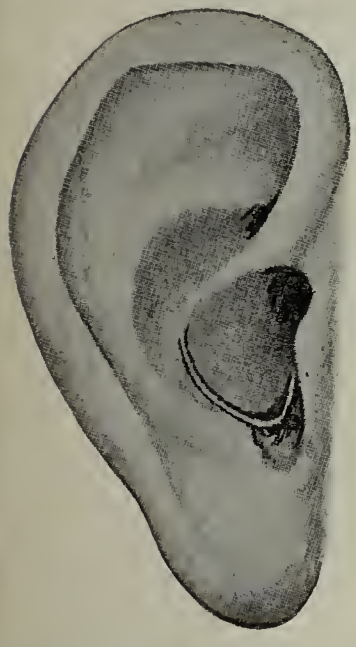
Fig. 28.—The Ballance flap, showing curve of incision. (After Ballance.)

The general custom among surgeons is to pack these wounds with a single long strip of gauze, but in doing this I have found it impossible to accurately and firmly pack all the different sub-spaces, as adequate pressure of gauze in one place will move it from its position in another, and besides this, where so much gauze is being used in a continuous strip it is impossible to see just what is being done. I, therefore (after the first dressing) use several pieces of gauze, which are separately packed into the different cavities. In the first place, a very small piece of gauze is packed into the gutter-like concavity connecting the tympanic and antral cavities. To do this accurately a small narrow-edged packer (Fig. 41) is necessary, and for this purpose I employ an especially devised instrument, which is narrow, has a roughened edge, and readily carries the gauze on its point. After this little pledget has been placed another small piece of gauze is packed against the inner tympanic wall. A longer piece may now be packed backward, upward and inward into the antrum and mastoid space and firmly tucked into position with the bent packer so that no loose end drops down into the meatal space to obscure our vision. The remaining space may now be packed with gauze, great caution being taken not to displace any of the previously placed pledgets. In this way all important cavities are firmly and permanently packed and the growth of exuberant granulations rendered unlikely. It is surprising

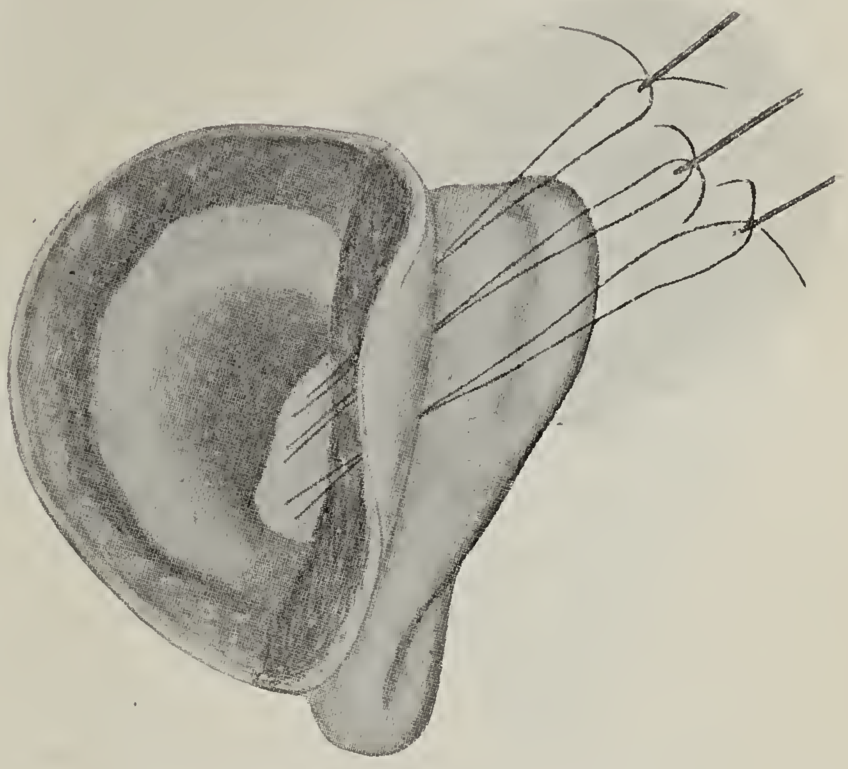
Fig. 29.—The Ballance flap. (After Ballance.)

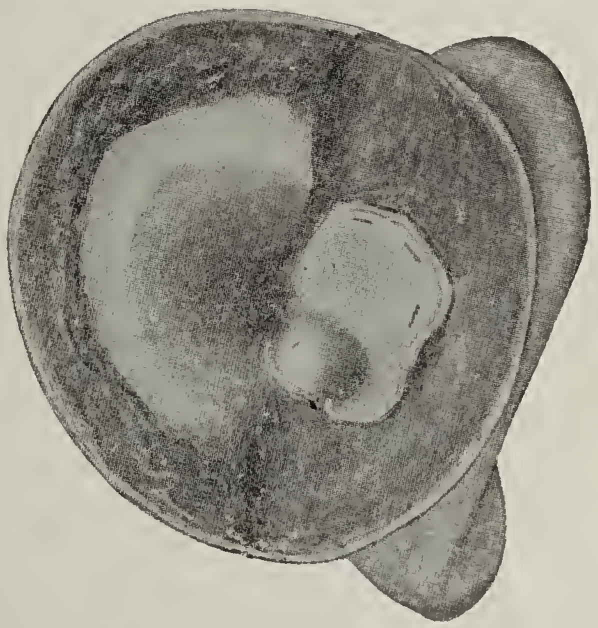
Fig. 30.—The Ballance flap. (After Ballance.)

how beautifully cases progress toward a speedy cure under this method of packing, and I urge on mastoid operators its faithful trial.

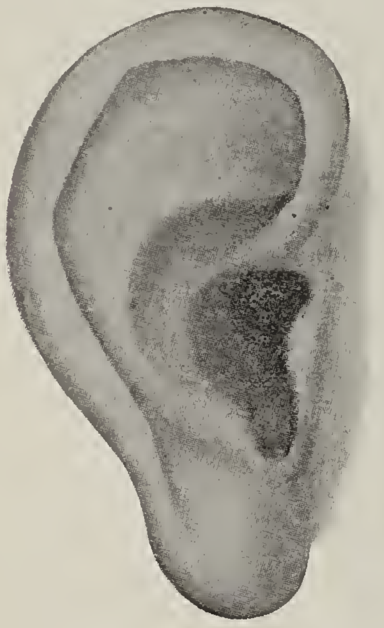

Fig. 31.—The Ballance flap. (After Ballance.)

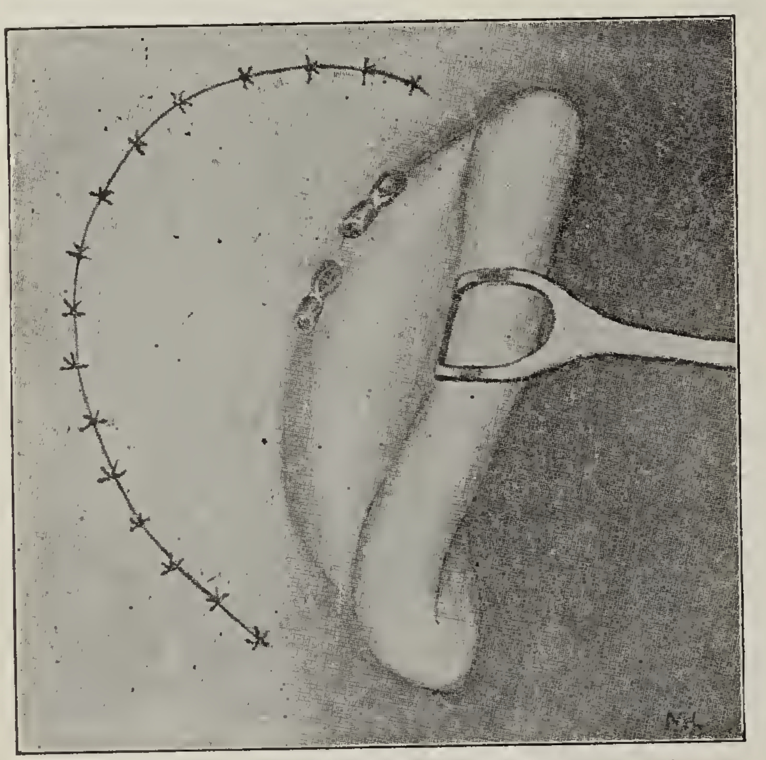

Fig. 32.—The Ballance flap. (After Ballance.)

The dressing should be repeated in two days and then again in two days, when the sutures should be removed. The original forceps as devised by Michel for the removal of metal sutures have flat surfaces on the inner aspects of the two jaws. It is, therefore, very difficult to engage the middle of the bent suture between the two blades, which is quite necessary in order to spread the two extremities of the suture so that the sharp points may be released from the flesh. I have, therefore, modified these forceps (Fig. 24), making the upper jaw convex and the lower jaw concave, and roughening both inner aspects, which engages the suture and releases it much more readily. The dressings should be repeated every two days until the mastoid wound is firmly united, when the bandage may be discarded and the dressings, treatment, etc., carried on each day through the meatus. As soon as possible, or, in other words, as soon as the reasonably dry appearance of the parts will permit, the dressings should be made under dry conditions, and mopping the tissues with cotton or gauze should replace the process of irrigation, after which insufflations of xeroform or some other antiseptic dusting powder should be made before the gauze packing is carefully and firmly replaced. Nevertheless, from time to time, mixed accretions will accumulate in the ear and necessitate thorough irrigation, followed by the use of some antiseptic solution, xeroform, etc., always, however, keeping the meatus firmly packed to the very end of the canal in order to maintain a capacious opening and prevent strictures. It is rarely necessary to keep such patients in the hospital for more than two weeks, after which they may present themselves at the office for daily treatment. In my experience these cases may be dismissed as cured in from ten to twelve weeks, some cases being cured in shorter time and some, of course, taking much longer. They should, however, all visit the surgeon four or five times a year to have the enlarged and irregular meatus thoroughly cleansed of cerumen, desquamated epithelium, etc., which, if allowed to remain, would ultimately produce an unhealthy condition of the parts. The remarks made by Dr. Dench of New York[2] on this phase of the results of the radical operation are so true and so comforting to both surgeon and patient that I take the liberty of quoting Dr. Dench's own words.

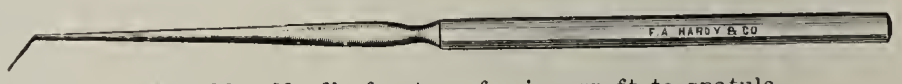

Fig. 33.—Needle for transferring graft to spatula.

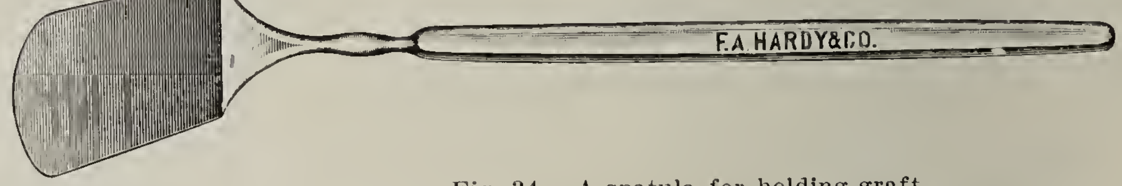

Fig. 34.—A spatula for holding graft.

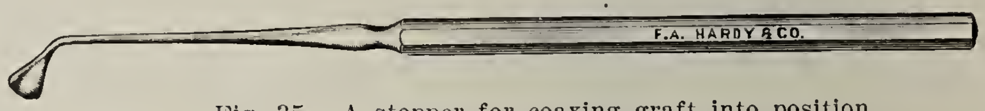

Fig. 35.—A stopper for coaxing graft into position.

> Even in those cases where the cure has been considered perfect, it is not uncommon to have the patients return, at intervals of from three to four months to one or two years, complaining of some discharge from the external auditory canal. An examination will show the entire cavity filled with a mass of desquamated epithelium, on the removal of which a small amount of pus may be found. If this accumulation has remained in the canal for a considerable period of time, desquamation of the epithelial lining of the cavity may have taken place, either completely or over certain areas. On removing the epithelial mass the cavity certainly looks far from healthy, and one unaccustomed to this condition would say that the radical operation had been a failure. If the cavity is simply sterilized with an alcoholic solution of bichlorid of mercury, and then dusted with some bland non-irritating powder, such as boric acid, xeroform, zinc oxid, or, in fact, any sterile powder, the cavity immediately becomes dry. In other words, the apparent relapse in so many cases is due simply to the fact that the integument lining the middle ear cavity and the mastoid cells, is improperly nourished. This integument forms the lining of a blind pouch where it is subjected to increased temperature, increased moisture, the absence of light, and no circulation of air, these latter conditions being essential to the proper nutrition of the normal skin. Moreover, it must be remembered that this tegumentary lining is applied closely to the bony walls of the cavity, with very little connective tissue substance intervening. It is not strange, therefore, that desquamation should take place from time to time, in such a cavity, and that the desquamated epithelium, if allowed to remain in position, should gradually accumulate until the cavity becomes completely filled with these epithelial cells.. The pressure of these cast-off cells causes superficial ulceration of the underlying

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[2] The Laryngoscope, October, 1906.

tissue, so that complete desquamation of a cavity of this kind frequently takes place. These attacks of desquamation of the cavity occur less and less frequently as time goes on, because the integument gradually adapts itself to its new habitat, and in the course of time is able to conform itself to its anomalous position. These attacks of desquamation should not be looked on as a recurrence of the otitis. As before stated, they are easily relieved by the removal of the epithelial detritis, and the sterilization of the walls of the cavity.

It should not be forgotten that in case of genuine cholesteatomatous masses having been discovered and removed it usually will be best to maintain, at least for a year or so, a permanent post-auricular opening by packing instead of suturing the mastoid wound. When thought desirable such openings may ultimately be closed by a simple plastic operation.

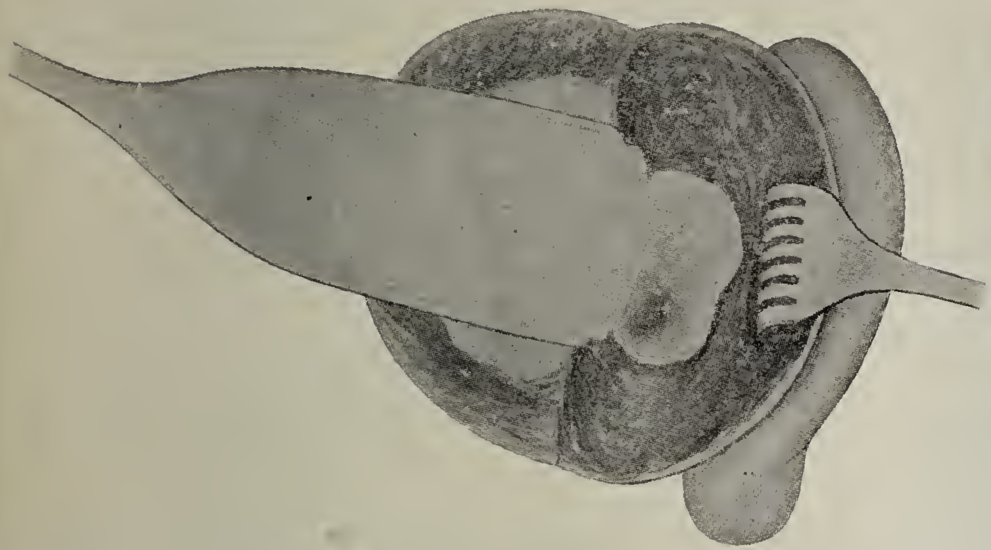
Fig. 36.—The spatula placing the graft in position. (After Ballance.)

The surgeon is usually asked what will be the effect on hearing if a patient submits to the performance of the radical mastoid operation? In my experience, while a very few cases have suffered a diminution of the function of hearing, yet a great majority of my cases have either had their hearing improved or at least not impaired. It must be remembered that before the operation is performed serious pathologic changes in the tympanum have occurred, such as retracted ossicles, cicatrical bands, etc., all of which must surely impede the passage of sound waves to the labyrinth, and it is quite possible, and, indeed, in the light of experience, exceedingly probable, that a complete clearing away of these obstructive pathologic elements will be likely not only to not interfere with hearing, but to actually improve it.

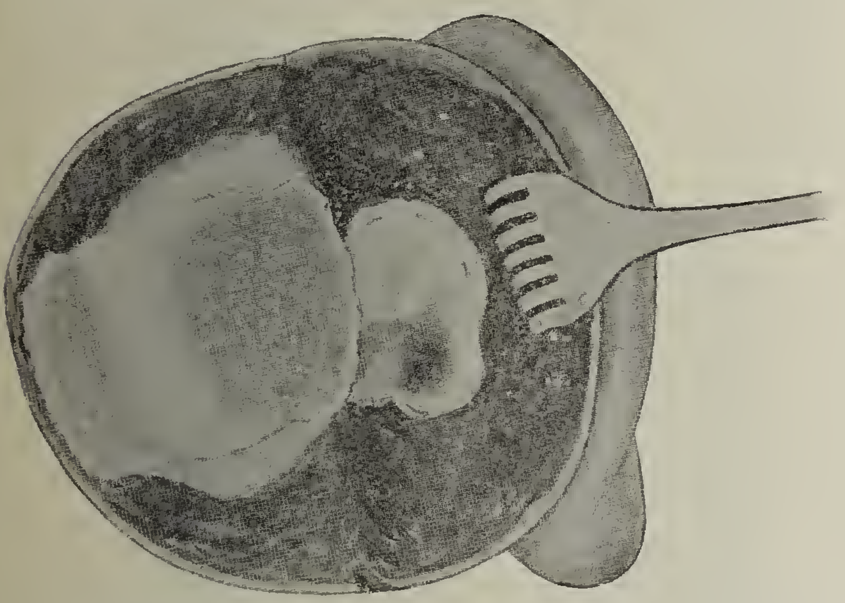
Fig. 37.—The spatula has just been withdrawn. (After Ballance.)

For some time past I have derived much satisfaction from the use of rotary burs (Fig. 45) driven by the Victor electric engine (Fig. 43). This engine is simple, strong, easily controlled and always ready, and I find myself using the engine more and other instruments less. While I never expect to depend on the engine alone, I believe it to be a most useful addition to our armamentarium.

I am aware of the fact that the radical mastoid operation is not popular with some surgeons, who regard such procedures as almost unwarrantable unless distinct and menacing operative indications are present. In other words, they do not advocate this operation for the relief of intractable purulent otorrhea, or at least apparently are never willing to admit the intractability of an aural discharge. For the benefit of such conservative surgeons I wish to close this article by a quotation from no less a man than Ballance[3] of London, who makes use of the following language, which, I am confident, will be substantially endorsed by most of the world's best otologists:

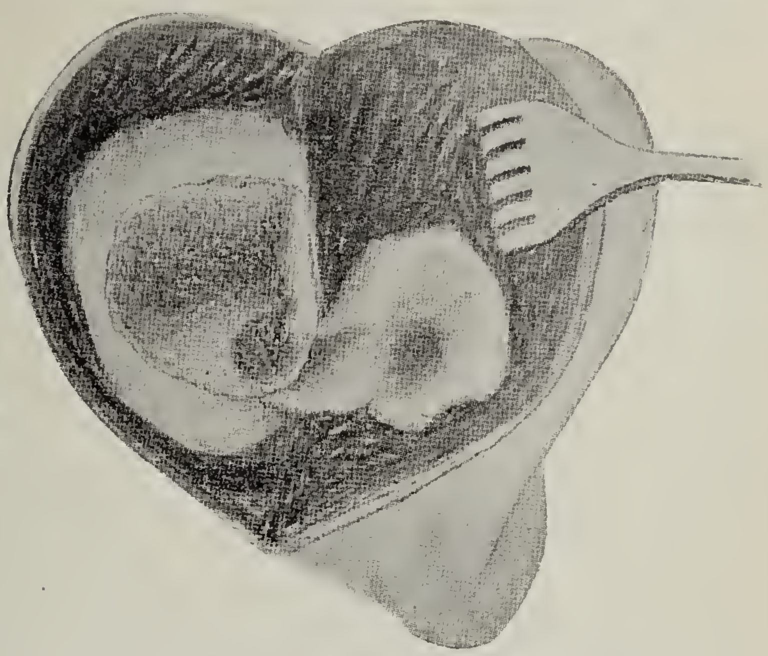
Fig. 38.—Commencing to coax the graft into the cavity. (After Ballance.)

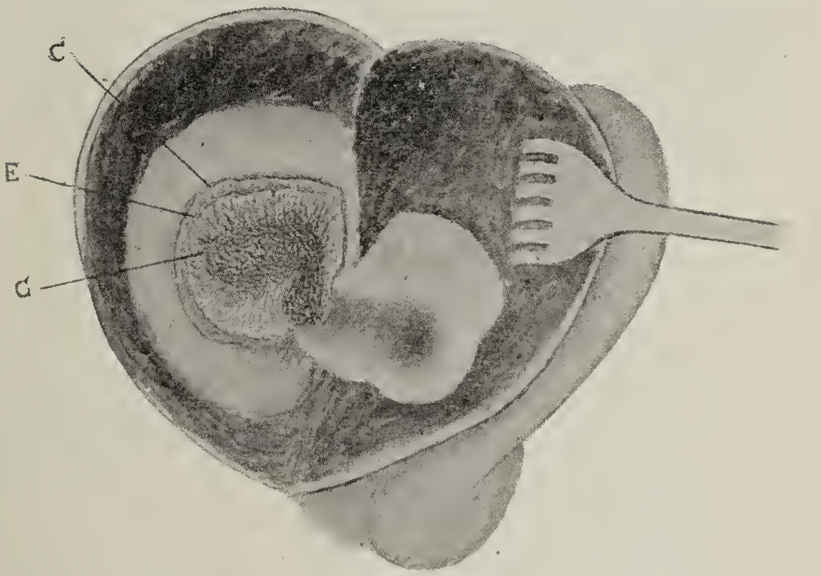

Fig. 39.—The graft in position, covered with gold leaf. C, bone; E, Graft; G, Gold leaf. (After Ballance.)

> I have no longer any doubt that all cases of chronic purulent discharge from the ear should be treated by the complete operation, though I am aware that in some cases the disease has been rendered latent by the removal of ossicles alone or even by prolonged systematic dressing through the meatus. No one potters with a chronic empyema because some few acute cases recover with a single aspiration. It must be either war or peace. The lethal complications that we meet with are not

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3. Lancet, Sept. 30, 1905.

seldom the outcome of the stammering mind of Mr. Ready-to-halt. The armed neutrality which promises operation if the need arises was, and is, the orthodox plan and has much to say for itself; but as Carlyle remarks, "The two internecine plans collapsing into one, that is the clearly fatal method." The great majority, if not all, of the chronic cases have commenced as an acute disease and it is an imporant practical question, how long may they be regarded as remaining so? That is, after what interval should the complete operation and not the so-called operation for acute disease be performed? Many cases in which the operation for acute disease has been performed subsequently require the complete operation and I am now of opinion that in any case requiring operation after six weeks discharge the surer treatment is the complete operation. The operation for acute disease is an incomplete procedure and therefore uncertain in its results; the bridge is not divided, the abscess is incised only at its two extremities, the narrow neck of the antrum provides only imperfect drainage, and is liable to become blocked by granulations. In cases of ingravescent appendicitis no surgeon would dare to call himself a late operator, but no one who has attended meetings at which the treatment of temporal bone disease has been debated can fail to be struck with the fact that the orators seem to plume themselves on avoiding operation. Is this a logical position to take up in treating a disease which is also ingravescent and which has perhaps a history of twenty years' standing, which may be tuberculous, and which in any case is liable to infect other parts of the body? The best results both to the hearing and to the health of the patient in suppurative temporal bone disease are obtained by early and complete operation. No surgeon would leave a sinus leading to diseased bone in the tibia for twenty years, or even for one, however cleverly he might be able to irrigate it or tickle it with antiseptic powders and cotton-wool. In mastoid disease, as in Bunyan's allegory, the Messrs. "Hopeful," who are persuaded to stray along the easiest going of By-path Meadow, will not escape the crab-tree cudgel in the dungeons of Giant Despair."

72 Madison Street.

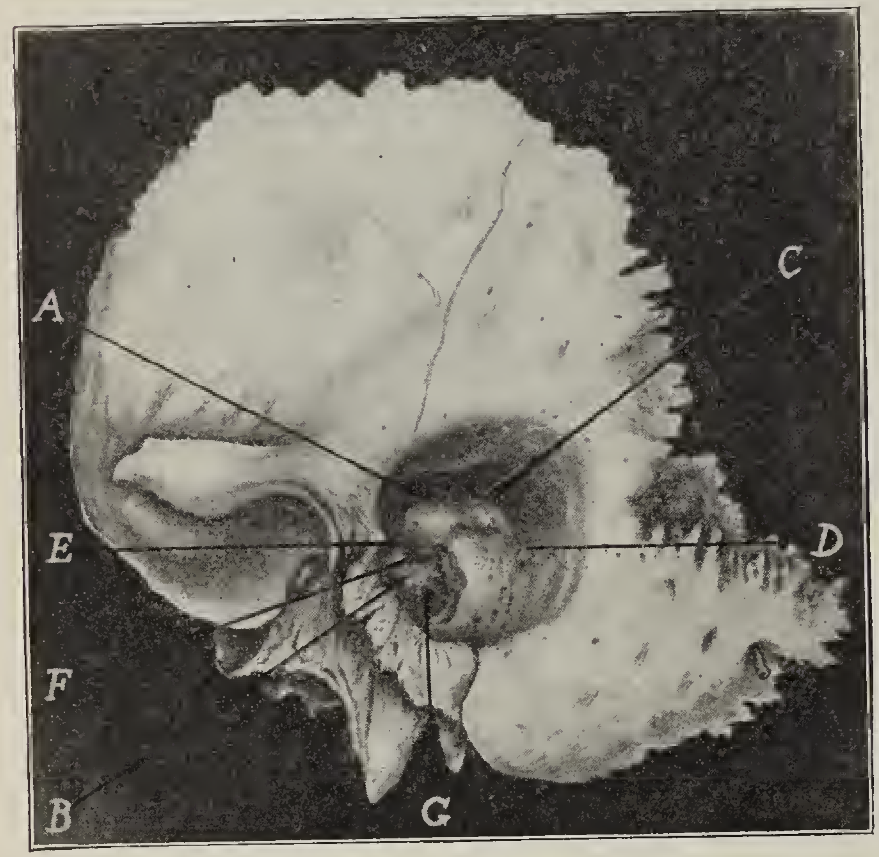

Fig. 40.—Showing the completed mastoid operation and the cavities for packing. A, gutter-like concavity connecting the attic and antrum, representing the partially obliterated aditus ad antrum; B, promontory; C, antrum space; D, mastoid space; E, location of the facial nerve; F, fenestra ovalis; G, fenestra rotundum.

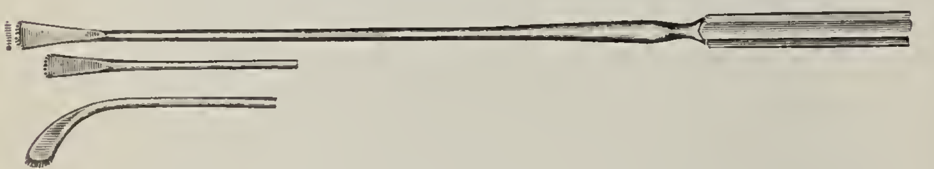

Fig. 41.—Showing the narrow edged packer; different sizes and shapes.

PULSUS PARADOXUS IN PERICARDITIS WITH EFFUSION.

W. J. CALVERT, M.D.
COLUMBIA, MO.

Pulsus paradoxus is one in which, during inspiration, the pulse becomes feeble or imperceptible. Since the time of Griesenger and Kussmaul pulsus paradoxus has been observed in a variety of pathologic conditions. F. Rigel[1] classifies these conditions as follows:

1. Mechanical interference with the large veins and aorta, as in Kussmaul's case. Here the heart is unaffected.
2. Obstructions in the air passage, causing an increased negative intra-thoracic pressure, which inhibits the heart's action.
3. Lowered activity of the heart.

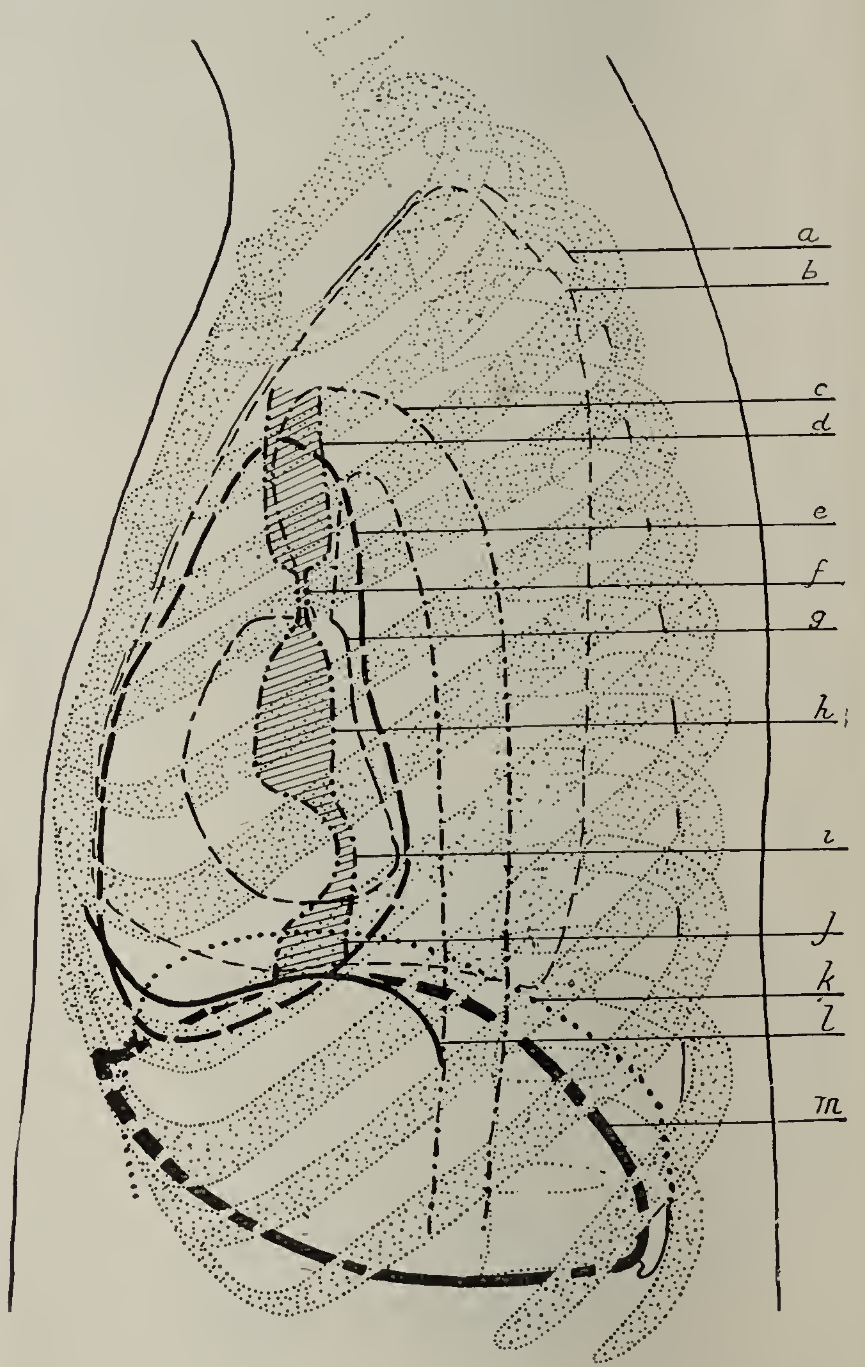

Fig. 1.—View of organs from left side. a, Parietal pleura; b, left lung; c, aorta; d, superior vena cava; e, pericardium; f, collapsed superior cava; g, heart; the heart is curved as shown in Figure 2, so that this projection is much thicker than the heart really is; h, right auricle; i, collapsed inferior cava; j, inferior vena cava; k, right cupola of diaphragm; l, central tendon of diaphragm; m, left cupola of diaphragm.

Pulsus paradoxus is a distinct variation from the normal, consequently it is pathologic and must have a cause. As pulsus paradoxus has been observed in a variety of conditions, its causes must vary, but in each condition this cause should be constant. From a clinical point of view pulsus paradoxus should be a sign of the existence of its cause, and the importance of this sign must depend on the nature of the pathologic condition. From a diagnostic point of view pulsus paradoxus is not of especial differential importance, but as it does not exist throughout the entire course of a given clinical picture, pulsus paradoxus heralds the development of a stage in the clinical course of a disease.

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[1] Deutsch. med. Wochschr. xix, 1903, 345.

Recently I have had an opportunity to study the cadavers of two individuals who had pericardial effusion at the time of death, and in this paper I shall attempt to show the physical explanation of pulsus paradoxus and its significance in cases of pericarditis with effusion. The material for this paper was obtained from Dr. C. M. Jackson, to whom I wish to express my thanks.

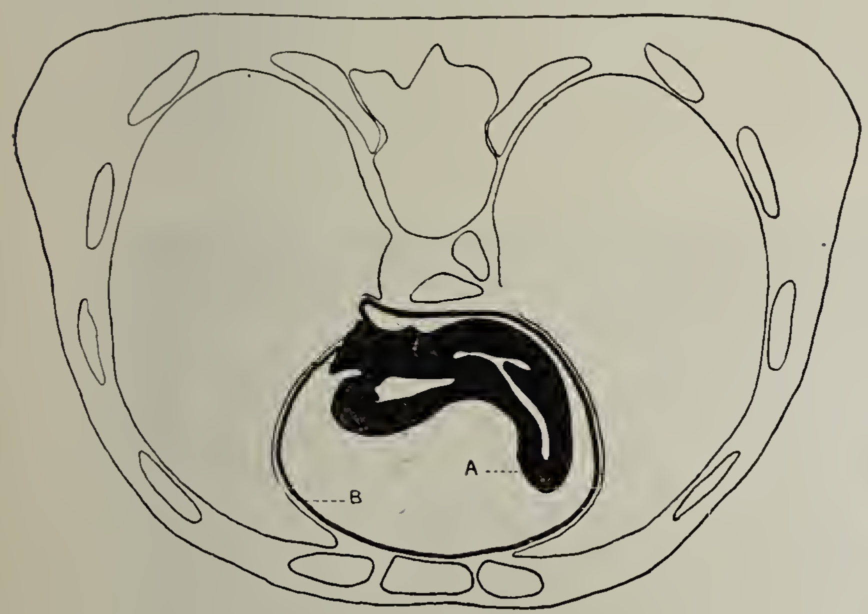

Fig. 2.—Transverse section of body showing flattened condition of the heart (A) and its relation to the pericardial wall (B).

The cadavers were injected with formalin and allowed to harden, after which they were transversely sectioned. Drawings and measurements of the sections were made while.the material was fresh. From these data the several organs were projected as shown in the figures. By this method the position of the organs at the time of death was preserved and have been faithfully projected.

Case 1.—The cadaver is that of a fairly well-built male negro, aged 30. On examination, left-sided pleurisy with a very small effusion, adherent right pleurisy and pericarditis with effusion were observed. In Figure 1 the general relationship of the organs is very well shown. Only those points of immediate interest will be described.

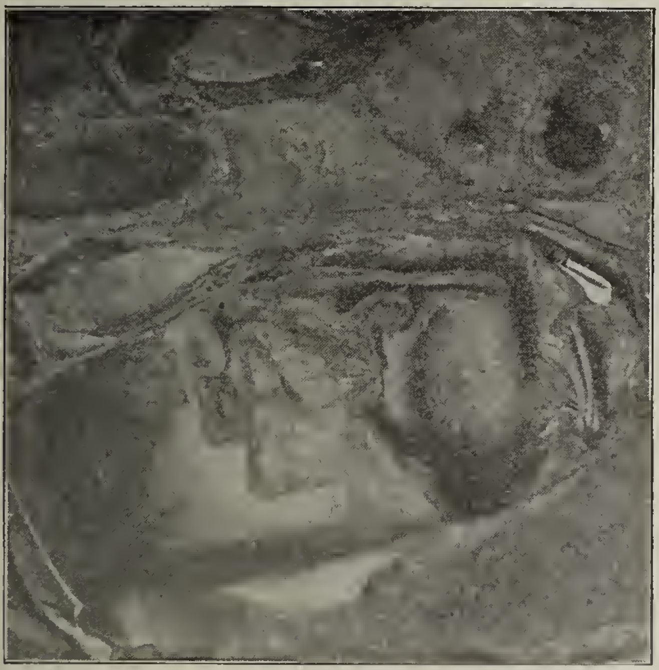

Fig. 3.—Section showing the superior portion of the pericardial sac and the collapsed superior vena cava through which has been passed a piece of paper.

The heart (Figs. 1 and 2) and the superior cava (Fig. 1, d) are both collapsed, and the lumen of the superior cava is Y-shaped (Fig. 1, f) from the point where it enters the pericardium to the right auricle. In Figure 3 is seen a piece of paper that has been passed through the vein from above. The superior cava above this constriction was distended with blood.

The inferior cava is collapsed (Fig. 1, i). In Figure 4 a piece of paper has been passed through the vein from below. Below the collapsed portion the vein was distended with blood.

Case 2.—Cadaver is that of a male negro, aged 29, well formed and fairly well nourished. Examination revealed tuberculous consolidation, with a small cavity formation in the left lung, and pericarditis with effusion. In amount the effusion was about the same as in Case 1. The relative displacement of organs is also similar to Case 1. The heart, however, and venæ cavæ are greatly distended (Fig. 5).

In the first case the venæ cavæ within the pericardial sac are collapsed; in the second case, distended. The conditions here are flexible walled tubes (venæ cavæ) passing into and partially through a distended sac, the walls of which are flexible and elastic (pericardium); consequently the degree of distension of the veins must depend on the relationship between the intravenous and intrapericardial pressures. If the venous pressure is greater the veins must be distended; if less, collapsed. But if the pericardial pressure is sufficient to collapse the veins no blood can enter the heart and death must follow. During life, then, the pericardial pressure must remain below that in the veins. If the venous pressure is sufficient to distend the veins a relatively normal amount of blood will flow to the heart.

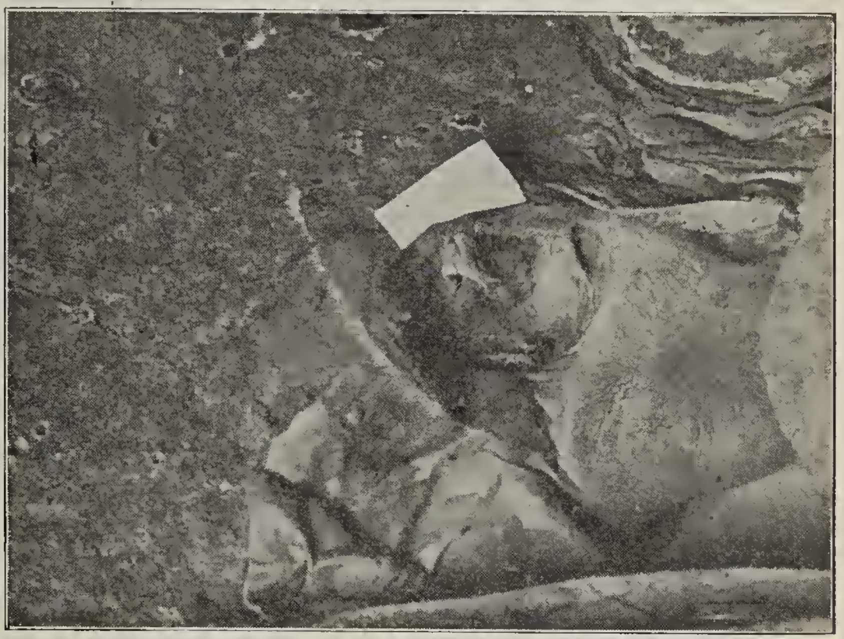

Fig. 4.—Section just above the entrance of the inferior cava into the pericardial sac. A piece of paper has been passed through the collapsed lumen. In front of the paper the depression of the pericardial wall into the distended vein is well shown.

The pericardial sac is larger than the heart contained therein; consequently a small quantity of fluid may collect in the sac without materially changing the pericardial pressure. But if the fluid continues to collect, the pericardium must be more or less distended and the pericardial pressure positively increased. Owing to the negative, or slightly positive, pressure within the veins a relatively great effect is produced on them by a small increase in the pericardial pressure. This increase in pericardial pressure must, in a proportionate degree, constrict the venæ cavæ (stenosis of venæ cavæ). This constriction must obstruct the flow of blood through the veins, producing a congestion and rise in venous pressure. This rise in venous pressure causes the blood to either dilate the venæ cavæ to the normal or to flow faster through the constricted portion. With each increase in the pericardial pressure the veins must be further compressed or obstructed, producing additional congestion and rise of venous pressure. This process must continue until the limit of venous congestion and pressure is reached.

As the venous pressure changes during inspiration and expiration, there is at all times a maximum and minimum venous pressure. The pericardial pressure must be lower than the minimum pressure or the veins must be closed during the period of lowest pressure. This procedure would cause additional congestion and a rise of venous pressure above that in the pericardium.

The thick, strong pericardial wall, when distended by a pressure almost as great as that within the veins, can not be influenced as easily as the thin walls of the veins by the respiratory change in intra-thoracic pressure. Consequently the pericardial pressure remains during inspiration and expiration more constant than the venous pressure.

The venous congestion and rise in pressure become a compensatory congestion and a rise in pressure to compensate the pericardial pressure in exactly the same sense as the left auricle dilates and creates additional pressure to compensate a stenosis in the mitral opening, and as such must be subject, in a measure, to the same laws of reserve forces and broken compensation to which the heart chambers are subjected.

When the limit of venous congestion and pressure has been reached each rise in pericardial pressure is not followed by a rise in venous pressure; the veins begin to fail to compensate the pericardial pressure, and there develops a broken compensation in a compensatory venous congestion. The pericardial pressure may now approach the venous pressure. As it rises it must pass the minimum venous pressure to remain for a time at various points between the maximum and minimum venous pressure.

Whenever the pericardial pressure is greater than that in the veins the latter must be constricted or collapsed. The degree of constriction must be determined by the difference in pressure. The flow of blood to the right heart must decrease proportionately to the constriction of the veins, as further rise in venous pressure is impossible. The lower venous pressure is during inspiration. Consequently, the greatest constriction of the veins occurs, and the minimum quantity of blood flows to the heart, during inspiration. During expiration the venous pressure rises above that in the pericardium; the veins are dilated and the maximum quantity of blood flows to the heart. This maximum (expiratory) and minimum (inspiratory) flow of blood to the heart must continue while the pericardial pressure remains between the maximum and minimum venous pressures, or during the stage of broken compensation in the venous congestion.

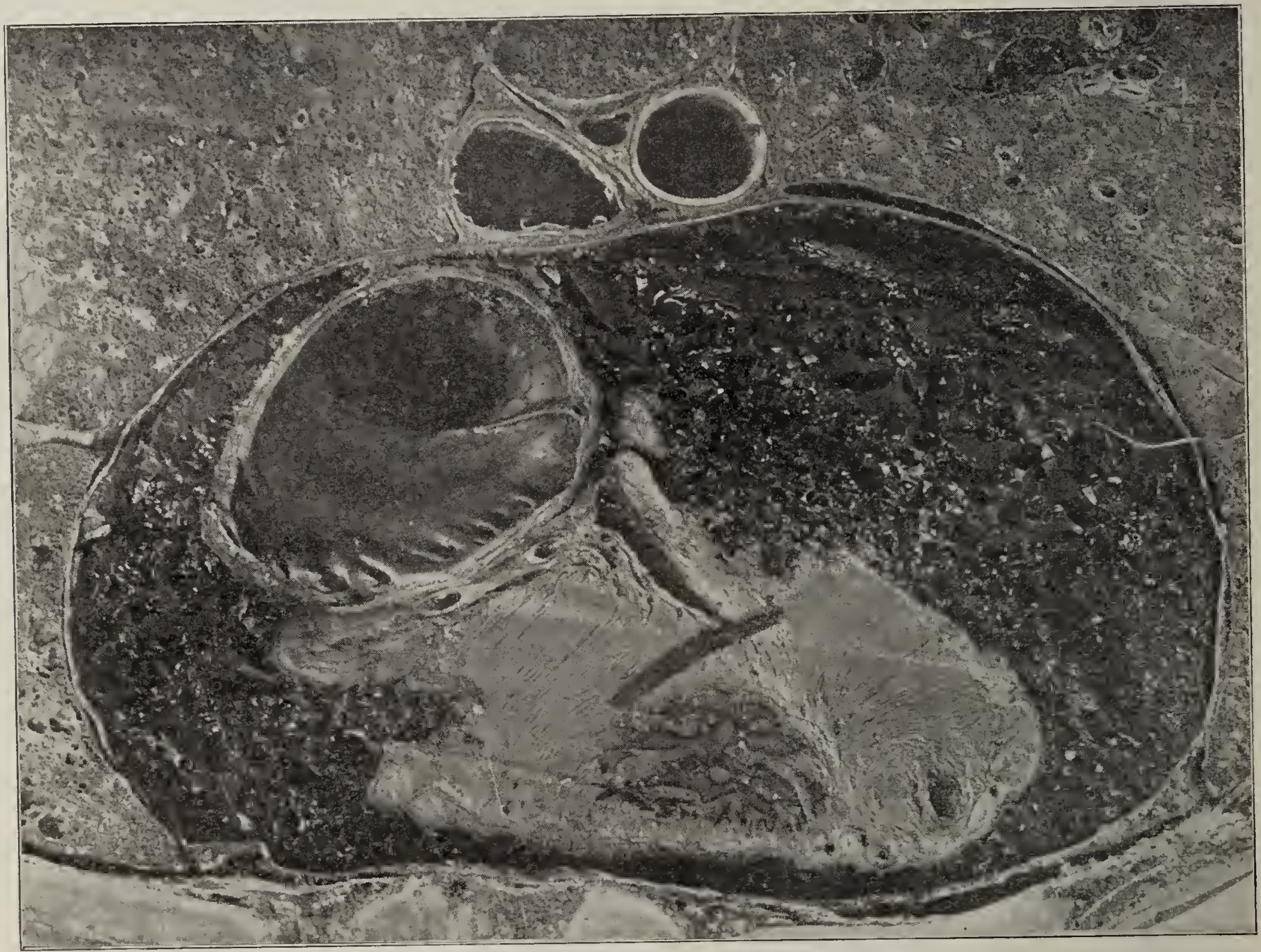

Fig. 5.—Section through lower portion of pericardial sac. The coagulated fluid surrounds the lower portion of the heart. To the subject's right is seen the lower portion of the distended right auricle and inferior vena cava.

The amount of blood entering the right heart must determine the condition of the pulmonary circulation, and this in turn determines the condition of the general circulation. The diminished amount of blood during inspiration gives lowered arterial tension—rapid and small pulse. The increased expiratory amount of blood gives a rise in arterial tension—decrease in pulse rate and increase in volume. This is the pulsus paradoxus. As the pericardial pressure approaches the maximum venous pressure the degree of pulsus paradoxus increases.

Pulsus paradoxus in pericarditis with effusion is caused by broken compensation in a compensatory venous congestion. If this is so pulsus paradoxus is a sign of broken compensation in the venous congestion, and denotes the time when the pericardial pressure must be reduced or death may at any time follow—due to constriction of the venæ cavæ beyond the point when sufficient blood to maintain life can enter the right heart.

Pulsus paradoxus should appear relatively early in cases with thick, strong pericardial walls, and relatively late in thin, elastic pericardial walls.

SUMMARY.

1. Pericardial effusion produces stenosis of the venæ cavæ.
2. This stenosis is relatively compensated by a rise in venous pressure.
3. This compensation fails when the pericardial pressure is greater than the venous pressure.
4. Owing to respiratory change in venous pressure the degree of broken compensation varies in inspiration and expiration—greatest in inspiration, least in expiration.
5. The variation in compensation carries varying quantities of blood to right heart (and to general circulation)—least in inspiration, greatest in expiration.
6. The respiratory variation in quantity of blood passing to general circulation is sufficient to explain pulsus paradoxus.

Note.—Since writing the above article Franke[2] calls attention to venous and hepatic compensation in cases of tricuspid insufficiency, and likens their action to that of the right ventricle in mitral lesions.—W. J. C.

DRAINAGE OF THE HEPATIC DUCT,

CONSIDERED ESPECIALLY IN SERIOUS INFECTIOUS PROCESSES OF THE LIVER.

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In a recent paper[1] relative to the advantages of surgical treatment of biliary infection resulting in hepatic cirrhosis, I pointed out that the large number of cirrhoses represented the last stage of an irritative process in the liver and were in reality chronic hepatites originating from infection. Biliary cirrhosis is at the present time considered as infectious radicular angiocholitis, either subacute or chronic, and consequently it is quite logical to treat the pathologic condition like any infectious angiocholitis; in other words, by drainage of the gall bladder in order to give exit to the septic bile. In order to obtain a successful outcome, however, the drainage should be instituted at a time when the hepatic cell has not been destroyed by a sclerous process resulting from the infection. On the other hand, a new conception has come to light which accords to infection a part in the pathogenesis of vascular cirrhosis; consequently it is logical to foresee that drainage of the gall bladder will be the method of choice, because it seems to very favorably act on the intrahepatic venous circulation. As the title of this paper indicates, the question of drainage of the hepatic duct will be considered particularly from the standpoint of serious infectious processes of the liver, either arising from calculi or other sources. This form of drainage is indicated when there is possibility of biliary retention, because it has been amply proven that when there is an obstruction of the principal biliary tracts, retention of bile follows with an increase in size of the liver and dilatation of the hepatic duct, which renders drainage from this canal fairly easy to realize. Drainage of the hepatic duct does not appear any more complicated than other surgical interferences on the biliary tract, and, although in some instances it may be difficult, the excellent results that it has given should encourage surgeons to continue in this direction and to employ it systematically in every case where it is indicated.

As to the technic of drainage of the hepatic duct, there are three principal methods along with a few others which may be considered as possessing special applications. In the first place, we have drainage of the cystic duct and gall bladder. The latter having been opened, a drainage tube is introduced through the dilated cystic duct down to the hepatic duct; in other words, this being complementary to cholecystostomy in general. Secondly, we have drainage by the choledochus after incision of this duct, the drainage tube being pushed down to the hepatic duct. Both of these procedures may be classified under the head of indirect drainage of the hepatic duct as distinguished from the third procedure, which I would call direct drainage of the hepatic duct because the canal is directly incised and a drain introduced into its lumen. As to exceptional methods we have two, namely, transhepatic hepaticostomy, the incision being made directly through the hepatic parenchyma, followed by opening the dilated hepatic duct. The second technic may be termed infrahepatic hepaticostomy. Here the incision of the dilated hepatic duct is made directly into the latter as it projects under the anterior border of the liver. The first three procedures are employed currently according to the given case, while the last two so far have been employed in a restricted number of cases only. Direct drainage of the hepatic duct was, I believe, undertaken the first time by Cabot in 1892 during hepaticostomy for calculi, and I will now endeavor to demonstrate how this duct may be reached, explored and directly drained.

The hepatic duct is deeply seated and hidden by the anterior border of the liver and transverse colon, which usually appear in the abdominal incision. It is not, then, to be wondered at that a number of abdominal incisions have been advised in order to offer the largest operative field so as to facilitate manipulations deep down in the abdominal cavity. One important point must first be considered. I refer to the position given to the patient on the operating table. A reversed Trendelenburg position was advised by Elliot in 1894, so that the patient's head would be raised and the pelvis lowered allowing the intestinal mass to gravitate toward the pelvic cavity and thus recede from the region of the liver. Other operators simply have the patient placed horizontally. Mayo-Robson's idea of inserting a hard cushion under the dorso-lumbar region is, I believe, the best, because it more freely exposes the field of operation and consequently facilitates the surgical maneuvers.

Considering, now, the various incisions which have been proposed, Kehr employs a bayonet-shaped cut (Wellenschnitt), commencing at the xyphoid process and carried vertically down the linea alba and then brought obliquely to the right, parallel to and two fingers' breadth from the costal border, and then, again becoming vertical, is continued nearly to the middle of the rectus; in other words, about on the level with the umbilicus. In this way the fibers of the rectus muscle are cut obliquely through at their internal half by the intermediary line of incision, but the external half of the muscle remains intact. This incision gives an easy access to the entire biliary tract, while at the same time section of the rectus, being only partial, facilitates the repair of the abdominal wall. Oblique incision parallel to the border of the ribs, vertical, median or lateral incisions with perpendicular section of the rectus have also been proposed, but in reality it would appear that these incisions, although fairly good, do not give the same facility as the one devised by Kehr. To my mind, however, the most important point is the use of the pillow as recommended by Mayo-Robson, the nature of the incision being of lesser importance.

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[2] Wien. klin. Wochschr., 1906, xix, 956. Extract in Am. Jour. Med. Sci., 1907, cxxxiii, 153.

[1] Clinical Journal, London, Sept. 19, 1906.

When the abdomen is opened, the hepatic canal is sought for, a broad retractor being placed under the lower border of the liver, which should be pushed up under the ribs as much as possible, while a second retractor pushes the left border of the abdominal incision downward and to the left, including the transverse colon and duodenum. Gauze sponges should be placed under and around the retractors to protect the peritoneal cavity from biliary infection. The gall bladder is first examined and if found distended is easily exposed, but if the organ is retracted it may be quite hidden by adhesions. Following the lower aspect of the gall bladder, when it has been exposed, the cystic duct is felt, and by following this canal the fingers will reach the hiatus of Winslow, which is often very difficult or perhaps even impossible to recognize on account of adhesions uniting the gastrohepatic omentum to the posterior layer of the minor omental cavity. If one can penetrate the hiatus, nothing is easier than to seize the gastrohepatic omentum between the fingers and its upper part and to explore the hepatic duct in order to directly operate on it. Usually, however, in the cases under consideration, with a long history of angiocholecystitis, it is impossible to recognize the hepatic duct in the midst of the adhesions. Under these circumstances one should, so to speak, endeavor to work down on it through the adhesions, although this must be undertaken with great care on account of the close proximity of the portal vein and hepatic artery. If it is then found that it can not be exposed recourse may be had to the endocholecystic route; that is to say, after having opened the gall bladder down to the cystic duct, a catheter is gently inserted downward so that it reaches the desired region of the biliary tract. When the hepatic duct has been exposed it should be incised in order to remove any calculi that may be present in cases of lithiasis, after which a drainage tube is introduced. It should be remembered that one is working deep down nearly at the level of the hilum and if the retractors are properly placed, with the liver well raised, one should endeavor to exteriorize the hepatic duct with the fingers. When a good hold can be made on it, its wall should be freely exposed by prudently breaking down all surrounding structures with a director, and, if a calculus is present, the incision should be carried directly over it. When it has been made certain that there is only one calculus and if infection is absent or slight, the incision may be closed on the condition that drainage of the gall bladder is carried out; on the other hand, if the markedly infected aspect of the patient indicates a decided septic condition of the bile, or if there is any fear that other calculi may be present at the point of origin of the branches of the hepatic duct, direct drainage of the latter should be instituted. As this paper particularly refers to these cases, I will briefly describe the manner in which this drainage should be carried out.

A rubber drain proportionate to the caliber of the duct and which may be easily inserted in its lumen is placed in the upper part of the hepatic duct, being inserted to the extent of one or two centimeters and, for security, united with fine catgut to the borders of the incision in the duct, its other end being brought out through the abdominal incision. By this procedure it is almost certain to drain away all the bile, the tube being surrounded by some strips of iodoform gauze to protect the peritoneum against any possible escape of bile, the gauze being removed at the end of 48 hours. A long tube without any perforations should be brought out through the abdominal dressings and placed in a receptacle containing some antiseptic fluid, thus creating a real siphon action, bringing all the bile outside, and by this means a perfectly absolute drainage results. If one chooses, however, the end of the drain may simply be surrounded in the abdominal dressings, which, when saturated, should be changed. No absolute rule as to the time that the drain should be allowed to remain can be formulated, because everything depends on the patient's general condition, the rapidity with which the secondary elimination of calculi takes place, as well as the degree of infection of the bile. It may be said, however, that when the adhesions have become solid, that is to say, at the end of a week, the tube may be removed and the bile allowed to escape through the fistulous tract thus formed. Should the bile be very thick, thus tending to obstruct the lumen of the tube, irrigation through the latter should be resorted to, which dilutes the secreted liquids and may also wash out small calculi which have remained at the upper part of the hepatic duct. Later on, the tube may be removed each time that it needs to be cleansed and when it has been definitely removed the fistula should be irrigated once daily. The final removal of the tube should be done only when the bile has become perfectly transparent and fluid and the patient's general condition has sufficiently improved with complete absence of any rise in temperature.

Considering now the technic of indirect drainage of the hepatic duct, I would say that I will not insist on that made by way of the ductus choledochus, because it merely represents an easy complementary procedure of choledochotomy, an operation which at the present time has become classical and currently undertaken. Drainage of the choledochus and consequently of the hepatic duct may be accomplished by a drain placed in an incision made in the former, but this is not, properly speaking, drainage of the hepatic duct. After having done away with the obstruction to the flow of bile, which is usually a calculus, and being assured that there are no others located higher up, a tube, introduced through the incision in the choledochus, is pushed as far as possible into the hepatic duct, and this is facilitated from the fact that the caliber of the latter duct is greater below than above and, on the other hand, from the fact that it is always dilated when any obstruction of the choledochus exists. The drain which should be pushed, if possible, up to the hilum, is held in place and surrounded with strips of gauze protecting the peritoneum from the exit of bile around the tube. Concerning drainage of the cystic duct and gall bladder, two cases can be considered. I will not refer here to cholecystostomy, pure and simple, which is a very excellent method of drainage, but I would say that it can not give rise to a real drainage of the hepatic duct. This drainage is done after having either opened the gall bladder and sutured it to the abdominal wall or after having performed cholecystectomy. In both cases the gall bladder is carefully explored, after which the bile ducts are likewise treated and the proper technic carried out according to circumstances. If the gall bladder and cystic duct are dilated on account of the presence of calculi in the latter, the gall bladder is sutured to the abdominal wall and the drainage tube introduced down to the neighborhood of the hilum by way of the dilated cystic duct and, when properly in place, all bile coming from the liver is carried out just as if the tube had been introduced into the hepatic duct itself.

Although this means of drainage is excellent in many respects, it does not prevent the possible flow of bile toward the choledochus and a continuation of the infection when the bile is particularly septic. In point of fact, it is the spur present at the point of intersection of the cystic and hepatic ducts which is the obstruction to the formation of a perfect drainage of the hepatic duct and it is this obstacle that must be done away with. If the cystic duct is patent, a narrow-bladed knife may be introduced into its lumen, passed along the groove of a director and the spur cut through, after which a tube may be pushed down into the hepatic duct. If the gall bladder and cystic duct are shriveled up and permeable with difficulty, cholecystectomy may be done, and, by using the remains of the cystic duct as a guide, one may slowly incise the structures until the hepatic duct is reached, which is, in its turn, opened, the calculi contained within it removed, and the drainage tube introduced. The latter should be always surrounded by strips of gauze to prevent peritoneal infection from the bile. In all these cases of drainage by the choledochus, or the accessory biliary tracts, after cholecystectomy, or by the way of a dilated cystic duct, the after care is the same as that employed in direct drainage of the hepatic duct, so that it is unnecessary to refer to them.

The various means of drainage that I have so far mentioned may be considered as classical, but I should like to refer in a few words to the more or less exceptional procedure that the surgeon may occasionally be obliged to adopt. It may happen that following an obstruction of the choledochus the hepatic duct becomes greatly distended, forming a true cystic tumor projecting through the hepatic parenchyma similar to a hydatid cyst, or in the midst of adhesions which partially conceal it, may simulate a distended gall bladder under the lower border of the liver. Such diagnostic errors occur and are excusable and they are very interesting to study, because, when known, error in treatment may be avoided and the surgeon will at once directly attack the hepatic duct or at least incise the choledochus in order to remove the obstruction and indirectly drain the hepatic duct by this route. Hepaticostomy may be accomplished by two ways, viz.: the transhepatic and the infrahepatic route. In both cases, as the name indicates, the duct is opened and stitched to the cutaneous incision. The first instance of transhepatic hepaticostomy was done in 1888 by Thornton. The case was an enormous dilatation of the hepatic duct by bile and numerous calculi, so that it formed a pocket, causing the anterior aspect of the liver to project forward and communicated with the choledochus. Similar other cases have been met with by Mayo-Robson and others. The difficulty of an exact diagnosis of such lesions is evident, both from the standpoint of its nature as well as site, because very frequently only a slight projection on the surface of the liver is noticed, or even a mere change in color is the only indication. In the first place, the exact point of hepatic parenchyma to be incised should be thoroughly mapped out in order to have all necessary facility for treating the contents of the cyst formed by the distended hepatic duct. The most important point is the condition of the choledochus and the surgeon should give particular attention to this because the technic followed will entirely depend on the patency of this duct, and consequently before making an incision into the liver the biliary tract should be carefully explored.

If one is certain that the duct is patent, after having removed the cause of obstruction, and that the flow of bile is normally accomplished, hepaticostomy may then be undertaken, the liver having been in the first place sutured to the parietal peritoneum. On the other hand, if the duct is not patent, the opening made in the hepatic duct should be sutured to the abdominal incision. With whichever case one is dealing, when the pocket has been incised and fixed to the incision, a careful exploration should be made particularly on the terminal end of the hepatic duct and the origin of the choledochus, at which point the obstruction must necessarily be found, and the exploration should be continued until there is absolute certainty that the obstruction has been removed. If, by chance, the dilatation arises in one of the primary branches of the hepatic duct, there is really no change in technic. A large drainage tube should be inserted in the pocket, and the after-care, consisting of irrigation of the pocket, should be carried out as in any similar operation.

Infrahepaticostomy dates back to 1899, but the first operation was not successful. The hepatic duct was greatly dilated, forming an enormous intrahepatic cyst. At autopsy it was found that the distension involved the choledochus and hepatic duct, but the cause remained undiscovered. These two exceptional technics have certainly very distinct indications in some cases, but as yet instances where these have been done are far too few for one to make any conclusion relative to their value.

Drainage of the hepatic duct has for its end to temporarily give exit to bile directly from the principal biliary passages, especially when there is an infection of the organism resulting from some infectious process of the liver. Such drainage is absolute, because it is established in the hepatic duct at its exit from the liver, and, if it is well carried out, the bile can neither reach the duodenum nor the gall bladder. Now, since all the bile is drained away, the drainage should only be temporary, because the organism can not be continually deprived of the bile, or, more properly speaking, the small intestine is not able to get along without such a necessary organic fluid for the digestion. Although temporary, it is a precious surgical resource to thus be able to remove from the body the poisons secreted by the hepatic cell and which otherwise would be carried to the intestine by the choledochus and thus continue to poison the organism. Like all new methods, this one has been the object of numerous objections, such as suppression of the biliary function, diminution of the caliber of the hepatic duct and irritation of the walls of the duct as well as the possibility of hemorrhage. It is evident that the total elimination of the bile exteriorly is a very important consideration, but when the organism is thoroughly infected from a septic bile it is much better to temporarily deviate its course than to run the risk of general infection of the subject. As to the decrease in the caliber of the hepatic duct there is nothing easier than to remove the drain in order to irrigate. Consequently such an objection is really of little value. There is, however, one of far greater import, viz., whether the lumen of the hepatic duct is always sufficiently large to allow of the introduction of the drainage tube. It has, however, been amply shown by Delageniere that each time an obstruction is seated in the choledochus resulting in biliary retention with an increase in the size of the liver the hepatic duct is always found dilated and consequently presents the best possible condition for drainage. When the choledochus is obstructed by calculi it is practically certain that the gall bladder will be found atrophied and the hepatic duct dilated. It is not, however, only lithiasis that produces this dilatation, because every time that some cause, such as a mechanical obstruction or infection results in biliary retention with increase in size of the liver, the hepatic duct will be found dilated, and this very dilatation is, so to speak, an indication to establish total drainage. If the gall bladder and cystic duct are used to obtain drainage by simply performing cholecystostomy, it is never certain that the cystic duct is patent, as even in the normal state it is not regular in caliber and when pathologically affected is more apt to be reduced in size, deformed and more or less obliterated. On the other hand, choledochotomy with the introduction of a drain in contact with the incision of the duct and packing with gauze is of necessity insufficient and does not prevent quite an amount of septic bile reaching the terminal portion of the choledochus and entering the duodenum, thus keeping up the sepsis. This, however, does not necessarily mean that total drainage should be systematically employed, because in medicine, as in surgery, there should be no fixed rules and everything should be subordinated to circumstances, for each case requires a particular treatment.

Before considering the general indications for total drainage of the hepatic duct it should be mentioned that, according to the observation of most operators, obstruction from calculi in the primary branches of the hepatic duct and which have been impossible to extract are thus given an easy exit, but it is more especially a marked infection of the liver, whether it originates from calculi or some other cause, that total drainage is indicated, because by this means alone all the bile is removed.

Without referring to the exceptional technics it may be said that one may drain by way of the accessory biliary tracts, by the choledochus or the hepatic duct itself, and we would now consider the indications and contraindications of each of these procedures. We will first consider indirect drainage of the hepatic duct by way of the gall bladder and cystic duct. Cholecystostomy can not be properly considered as true drainage of the hepatic duct, because, unless there is an absolute occlusion of the choledochus, nothing prevents the bile from reaching the intestine. The introduction of a drainage tube through a dilated cystic duct and carried deeply down is certainly a step forward, but this method, although assuring an almost absolute derivation of the bile outward, is subject to the same objection already mentioned. It is consequently to drainage by a tube reaching down to the hepatic duct that we should consider, and its indications are practically as follows: A serious non-calculous infection is a certain indication, but it is cholecystitis that especially requires this treatment, because the presence of calculi in the gall bladder and cystic duct requires direct surgical treatment of these organs, and this is what has always been done until recently when one has introduced a tube down to the hepatic duct by way of the accessory biliary tracts after having performed the ordinary operations, such as cholecystostomy, cholecystectomy, and so forth. Serious infection of the liver and biliary artery have rendered necessary this supplement to the surgery of the gall bladder, in spite of its difficulties, because all the bile coming from the liver should be drained away by an introduction of the tube into the hepatic duct itself, and, since the gall bladder has been opened, one should profit by the cystic duct to insert a drain down to the hepatic, and, according to circumstances, the dilated cystic duct can be used for the introduction of the tube after incision of the spur already alluded to, or the remains of the cystic duct may be used as a guide to reach the hepatic duct, incise it and introduce drain. Here the indications are made evident by the pathologic lesions more than by the clinical history of the case. Total drainage may be either temporary or permanent, according to whether one is dealing with a serious infection with patency of the choledochus or with an occlusion of this duct which can not be removed, or when an interference with the deeper tracts is incompatible with the general condition of the patient or contraindicated by the existing lesions.

As to drainage by way of the choledochus, it may be said that in reality this is merely a direct drainage of the hepatic duct. Formerly a drainage tube was simply placed in contact with the incision made in the choledochus, or inserted within its lumen, but at the present time the tube is pushed down to the origin of the hepatic duct, when the following conditions are present: The principal indication is the presence of a calculus at the origin of the choledochus, whose presence has set up a serious infection of the liver, but, when once the calculus has been removed, the duct is found free on account of the dilatation which has taken place in the hepatic duct and all that is necessary is to introduce the drainage tube, pushing it up to the hilum of the liver. Beside infection, which is the principal indication for drainage, the presence of suspected calculi at the origin of the hepatic duct should also be called to mind. Direct drainage of the hepatic duct is of more recent date, its indications being serious infection and the suspected presence of calculi in the region of the hilum of the liver. These indications are the same as those for drainage of the choledochus and consequently it is only done after removal of the calculi lodged in the hepatic duct. I have referred to the objections which have been made to this method, but I may add that it is not an obligatory supplement to hepaticostotomy, because, if no serious infection is present, if the patency of the hepatic duct at the hilum is certain, if, on the other hand, it is impossible to re-establish the course of the bile either by way of the choledochus or the gall bladder, hepaticoenterostomy may be resorted to.

Cancer and Climate.—The *Med. Klinik* for February 24 quotes from a recent publication of the Amsterdam board of health giving the statistics of cancer in various cities and climates. The figures show that climate seems to have no influence on the prevalence of cancer. The report states that during 1905 Copenhagen recorded 154 deaths from cancer to 100,000 inhabitants; Florence, 146; Chicago, 59; Nice and Turin, 72 and 74; Tokio, 57; Naples, 54; Stuttgart, 136; Zurich, 139; Lyons, 171; Cracow, 209; Berlin, 115; Paris, 114; London, 100, and Dresden, 105.

SOME WELL-KNOWN SYNTHETIC CHEMICALS AND THEIR RELATION TO THE PURE FOOD AND DRUGS ACT.*

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The word "synthetic," as used in the chemical world, means a combination of separate substances, elements or radicals, which result in the formation of definite chemicals. The manufacture of acetanilid from benzol, or antipyrin from anilin, affords good illustrations, inasmuch as in the manufacture of both several operations are necessary. The word "synthetic," however, has acquired an entirely different meaning, which has been used to a considerable extent in the past, usually in an honorable manner, but often for the purpose of deceiving not only the public, but physicians as well. This feature has been claiming recognition in no unmistakable terms during the past few months. It is held by some that the mixing together of the various cinchona alkaloidal salts, in proportion as found by analysis of the cinchona barks, the same dissolved in simple elixir and colored with caramel, is a "synthetic elixir of cinchona bark." Other illustrations are the common headache mixtures, which consisted in the past, and at present to a lesser extent, chiefly of acetanilid, sodium bicarbonate or ammonium carbonate and caffein. These mixtures are at times so named as to lead to the belief that they are synthetic chemicals. In some cases a hypothetical chemical name, together with a structural formula, is attached to make the deception even more complete. Since the passage of the act the acetanilid has been replaced in many instances by para-acetphenetidin (commonly known as phenacetin) and antipyrin. This subject will be considered in a subsequent portion of this paper. It is also claimed that a so-called raspberry extract, made by dissolving various esters in alcohol (grain or wood) and coloring the solution with cudbear, is a "synthetic raspberry extract." There are undoubtedly different views as to whether or not the latter claims are justifiable, but in my opinion the first definition, or a similar one, is the only one that should receive any recognition in the chemical world. As a matter of fact, the latter is simply used to attract the attention of the public and has no basis for existence whatever.

The Food and Drugs Act specifies that an article is misbranded if it fails to bear a statement on the label of the package "of the quantity or proportion of any alcohol, morphin, opium, cocain, heroin, alpha or beta eucain, chloroform, cannabias indica, chloral hydrate, or acetanilid, or any derivative or preparation of any such substances contained therein." The act also forbids the use of any poisons or deleterious ingredients in the manufacture of food products, or of any agent which misleads or deceives in any particular. The two phases of the act just considered require, first, that the presence of certain habit-forming drugs shall be declared on the label, and, second, that no injurious agent or agents which deceive in any particular shall be used in the manufacture of food products.

It can readily be seen by chemists familiar with the ingredients enumerated in the act that the phrase "derivative and preparation of same" is very comprehensive, which was undoubtedly the intention of Congress. This clause was undoubtedly introduced for the purpose of preventing or evading prosecutions under the law on pure technicalities. For example, it has been held by the defendant in a number of cases in which a prosecution was brought, on the ground that a product contained the forbidden ingredient morphin, that the ingredient in the product under consideration was not morphin but morphin sulphate. The same position has been taken in other cases; for example, it is contended by some manufacturers that a preparation in which cocain is introduced through the medium of an extract of coca leaves, or by extracting coca leaves directly with the menstruum of the article, can not be considered a cocain preparation any more than could coffee be construed as a caffein product. It is immaterial how cocain is introduced into a product; the fact of its presence renders such a product a cocain preparation. Any other conclusion must be based on a technicality or is a mere quibble.

So far as the word "preparation" is concerned, as used in the act, there does not appear to be any question relative to its meaning, but this is not the case with the word "derivative." The term "derived from," as used in the tariff law of 1897, has not only been subject to decisions at the hands of the appraiser of the United States Customs Service, but has also been defined by the United States Federal Court (1899 Federal Reporter 719) and the United States Court of Appeals (102 Federal Reporter 603). The decisions arrived at are that the words "derive," "derivation," "derivative," must be interpreted as "made of," "prepared from," "produced from," "obtained from," and that the term "derived from" has its ordinary meaning of "produced from" and relates to the physical substance from which such product is obtained and not *to its chemical relationship.* In other words, if the manufacturer starts with alizarin and by partial replacement produces a dye, such dye is derived from alizarin, but not otherwise. The question under consideration in the above decisions was whether or not certain dyes were derived from alizarin. These precedents must undoubtedly be taken into consideration in connection with the recently-enacted pure food and drugs law, but the aims and objects of the latter are entirely different from those of the tariff law.

The meaning of the term "derivative," as used in the act, has been called into question because (para) acetphenetidin is classed as a derivative of acetanilid. There is no question but that (para) acetphenetidin is a derivative of acetanilid, both chemically and physiologically and resembles it in its tendency to habit formation, physiologic action and physical properties. Furthermore, treasury decision 13270 construes this chemical as an alcoholic medicinal preparation. The exact status of this product under the law appears, therefore, to be in a somewhat unsettled condition at present.

In this paper only a few of the synthetic chemicals that are affected by the Federal Law will be considered. For the purpose of ready reference it is deemed desirable to collect them into the following groups:

ALCOHOL GROUP.

Common names.	Synonyms and Chemical Names.
Ether	Sulphuric ether, ethyl ether.
Ethyl acetate	Acetic ether.
Ethyl nitrite	
Ethyl bromid	Monobromethane.

CHLOROFORM AND CHLORAL HYDRATE GROUP.

Chloroform	Trichloromethane.
Chloral hydrate	Trichlorethidene glycol.
Chlorotone	Aneson; Acetone chloroform; Trichlor-pseudobutylalcohol.
Chloral alcoholate	Trichlorethidene ethyl alcoholate.

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* Lecture delivered before the Chemical Section of the Franklin Institute, Jan. 10, 1907.

COCAIN GROUP.	
Alpha-eucain	Benzoyl, methyl-tetra-methyl-gamma-oxy. piperidin-carboxylic-methyl ester.
Beta-eucain	Benzoyl-vinyl-diacetonalkamin hydrochlorid.
OPIUM-MORPHIN GROUP.	
Heroin	Diacetyl morphin.
Dionin	Ethyl morphin hydrochlorid.
Peronin	Benzyl morphin hydrochlorid.
Codein	Methyl morphin.
ACETANILID GROUP.	
Acetanilid	Phenylacetamid; antifebrin.
Phenacetin	Para-acet-phenetidin; Acetphenetidin; Para-acet-amido-phenetol; Para-ovyethyl-acetanilid.
Antipyrin	Analgesin; Anodynin; Parodyn; Phenazon; Phenyl-dimethyl-pyrazolon; Pyrazin.
PRESERVATIVE, SWEETENING AND FLAVORING GROUP.	
Salicylic acid	Ortho-oxy-benzoic acid.
Benzoic acid	
Vanillin	Methyl-protocatechuic aldehyd.
Saccharin	Benzosulphinid.

In these groups it will be noticed that not only are the common names employed, but also the synonyms and structural formula names. The object of giving the latter is simply to call attention to the fact that manufacturers are making frequent requests to be permitted to use some other words than those specifically enumerated in the act; for example, one manufacturer represents that a setting forth on the label of the fact that his product contains opium would be a financial loss, and asks whether it would not be satisfactory to state on the label that this product contains a certain amount of papaver somniferum. Other manufacturers request that they be permitted to use the word phenylacetamid or the phrase "the monacetyl derivative of anilin" or the structural formula in place of the word acetanilid. If it were permitted to use other words than those given in the act for the ingredients specifically covered there would soon be such a confusion of names and structural formula that it would be necessary to consult an expert organic chemist to decipher them.

It is held by some writers that it was absolutely unwarranted to include some of the chemicals and products enumerated in the rules and regulations, because in many cases such articles are never used as habit-producing drugs. In this connection it should be stated that this question was submitted to about twelve of the best pharmaceutical chemists, manufacturing and analytical, and while a few think that the public would be protected just as well without requiring a declaration on the label of the presence of certain drugs, yet on the whole every one heard from thus far suggested that additional products be included. In other words, the suggestions of these men indicate that instead of having included too many drugs, the list should be augmented. Our general correspondence confirms this attitude. It should, furthermore, be noted that it seems necessary to include certain chemicals in order to avoid technicalities; for example, it is held by one chemist that a certain chemical could not be considered a derivative of alcohol because ethyl bromid is not enumerated as a derivative of alcohol in the regulations, and inasmuch as this chemical is employed directly in introducing the ethyl group into the product, it is necessary that this product be included as a derivative of alcohol. The contention that certain ingredients are not used as habit-producing drugs is not well taken. This claim is made for ether, which, as a matter of fact, however, is used to fortify beverages in order to render intoxication more rapid and complete; particularly is this the case with individuals addicted to the alcohol habit and whom the ordinary beverage does not appear to satisfy.

The morphin group presents some interesting features. It is well known that morphin and opium and the disastrous results of their use have been widely exploited during the past few years, not only in the lay journals, but also to some extent in the public press. Many manufacturers deem it expedient to remove these words from their labels if possible because of this unfavorable notoriety. The result is that in many instances these ingredients have been replaced with other products which are not so well known to the public; for example, heroin, codein and dionin have replaced morphin in a considerable number of cases. These chemicals are at present supposed not to produce such deleterious results on the human system as do opium and morphin, even when used over extended periods, but it is difficult at present even to conjecture what their promiscuous and indiscriminate use will bring forth in the future. It is even now reported that where narcotic laws prohibit the indiscriminate sale of morphin and no restrictions whatever are placed on the sale of codein the latter product is being used in place of the former.

What has been said in connection with the opium-morphin group applies equally to the acetanilid group. At the time the Food and Drugs Act was passed there were approximately 500 headache and laxative preparations which contained acetanilid sold through the jobbing trade under various names. It is a significant fact that the acetanilid in many of these preparations has been replaced by acetphenetidin (phenacetin), and we are also informed from various sections of the country that antipyrin is being employed for the same purpose. Exactly why some of these changes have been made is not clearly apparent, because none of the substitutes are as cheap as acetanilid, although the price of each has been materially reduced within the past few years. This is due largely to the fact that the patents covering these chemicals have lapsed, and the price has fallen in the case of acetphenetidin (phenacetin) from $16.00 to $1.00 a pound, and in the case of antipyrin from about $22.00 to $2.40 a pound, both in bulk. The price of acetanilid in quantity at this writing is 25 cents a pound. Another probable reason for replacing acetanilid is because acetphenetidin is supposed to have a less deleterious effect on the human system than the former, but at present this is an open question. No one has thus far ventured to give this as an excuse for using antipyrin, because it is a well-known fact that the latter is the most dangerous of these three medicinal agents. Two other potent factors, however, should be considered in this connection. These are: First, the deleterious effects of neither acetphenetidin nor antipyrin have been given any publicity, and the public, therefore, has little knowledge of the meaning of the words acetphenetidin and antipyrin should their presence be declared on the label; second, it was expected that both of these chemicals could be used indiscriminately in medicines without the necessity of declaring their presence on the label. Acetphenetidin, however, according to the rules and regulations made under the Food and Drugs Act, must be set forth on the label.

The use of harmful preservatives in food products is forbidden. The exact status of the harmful nature of certain preservatives is not definitely settled at present. Among the most conspicuous preservatives used during recent years are the synthetic chemicals known as salicylic acid and benzoic acid and their salts. The experimental results obtained in the Bureau of Chemistry in connection with salicylic acid and salicylates have just been published in Bulletin 84, part 2, from which part of the general conclusions are herewith quoted:

There has been a general consensus of opinion among scientific men, including the medical profession, that salicylic acid and its compounds are very harmful substances, and the prejudice against this particular form of preservative is perhaps greater than against any other material used for preserving foods. This is due not only to the belief in the injurious character of salicylic acid, but perhaps is especially due to the fact that it has in the past been so generally used as an antiseptic. That salicylic acid should be singled out especially for condemnation among preservatives does not seem to be justified by the data which are presented and discussed in this bulletin. That it is a harmful substance, however, seems to be well established by the data taken as a whole, but it appears to be a harmful substance of less virulence than has been generally supposed. The addition of salicylic acid and salicylates to foods is, therefore, a process which is reprehensible in every respect, and leads to injury to the consumer, which, though in many cases not easily measured, must finally be productive of great harm.

Benzoic acid and the benzoates are by many considered less harmful than the salicylates. Whether or not this is correct remains to be established by future experiments and observations. This much, however, is certain, that whenever it is possible, and usually it is, food products should be prepared without the use of any questionable preservative.

Saccharin is generally employed as a sweetening agent and its use is largely of a deceptive character because the consumer usually believes when he is eating a food product sweetened with this chemical that the sweetening is due to some form of sugar. The use of saccharin as a sweetening agent is not only common in food products, but also in medical remedies. Saccharin is a most valuable agent in certain diseased conditions, but this does not justify its indiscriminate use. Inasmuch as deceptions and misrepresentations of all kinds are prohibited under the act, the presence of this chemical should be declared on the label.

The synthetic production of vanillin undoubtedly was one of the greatest scientific achievements and triumphs of chemistry. Vanillin is a very valuable commodity. It is claimed by many that flavoring preparations made with vanillin as a basis possess distinct advantages over extracts made from the vanilla bean. There is no question whatever but that vanillin possesses certain merits not inherent in the vanilla bean, and it seems rather incomprehensible why manufacturers do not take advantage of this fact and sell vanillin preparations on their merits. Let not vanillin in disguise deprive extract of vanilla of its time-honored reputation.

TINCTURE OF STROPHANTHUS.

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Strophanthus has not rivaled digitalis in the extent of its use, except, perhaps, for a short time after the former was brought into prominence by Fraser. This is somewhat remarkable in view of the fact that numerous investigators have found that the action of strophanthus presents certain advantages over that of digitalis; thus, strophanthus, and to a greater extent its active principle, strophanthin, act much more promptly than digitalis or digitoxin. Fraenkel found that the action of a single effective dose of digitoxin was delayed for many hours beyond that of a corresponding dose of strophanthin, and while he was unable to induce slowing of the cat's heart from a single non-toxic dose of digitoxin, a single non-toxic dose of strophanthin promptly proved effective. Strophanthus produces much less vasoconstriction in the splanchnic area than digitoxin does, and while this is a disadvantage in shock, it is often desirable in producing diuresis, since the constriction of the vessels in the kidney by digitoxin may seriously interfere with the diuretic action.

Gottlieb and Magnus, working with the isolated cat's heart, found that strophanthus caused practically no constriction of the coronary vessels, in contrast with the action of digitoxin, with which the constriction was found to be so marked at times as to completely mask the other actions on the heart. This must be of considerable importance when hypertrophy of the heart is the object sought, since these investigators have found that the actions of the two drugs on the heart are otherwise practically alike. According to Fraenkel, cumulative effects are not nearly so readily induced with strophanthin as with digitoxin.

Strophanthin further possesses the following advantages over digitoxin: It is much more soluble in water; it is not irritant, and, therefore may be injected hypodermically; it is much more active and not nearly so expensive as digitoxin.

R. Heinz states that the therapeutic effects of strophanthus are the same as those of digitalis, while strophanthus exhibits much less of the disagreeable side effects.

With these evidences of its advantages it is well to inquire why strophanthus has not come into more general use, at least in suitable cases, for I am not prepared to say that it should be used to the exclusion of the better-known drug.

Heinz states that strophanthus fell into disfavor in Germany soon after its introduction owing to the fact that a number of species of widely varying activity were employed. Some samples of the tincture were found to be but one-sixtieth as active as others. Under the circumstances it was inevitable that the drug should fall into disrepute. While I am not aware that any comparative tests were made of the strength of tinctures found in commerce in this country about the time of the introduction of the drug it is extremely probable that variability existed here to the same extent as that observed in Germany, and naturally with the same inevitable result.

Of late years strophanthus has been used with satisfactory results in Holland, Belgium and France, and that alone proves that a fair degree of uniformity in the preparation now obtains in those countries. In order to determine whether a similar degree of uniformity now prevails here, a number of samples of tincture of strophanthus were bought from as many drug stores on the east side in New York City and compared with tinctures carefully prepared by myself from the best obtainable seed, as well as with specimens prepared from samples of seed which had been on hand for different periods of time.

Owing to the extreme difficulty in making chemic tests of these preparations the physiologic test recently advocated by Fraenkel was employed. This consists in determining the amount necessary to produce systolic standstill of the ventricle per 100 grams of frog in one hour. Tests made on cats were found to be equally accurate and more conveniently carried out than those on frogs, and those animals were used for a number of experiments. The degree of potency is usually shown rather strikingly in mammals by the rapidity of onset and the intensity of vomiting, as well as by the depression seen after varying doses. That this is an index of the therapeutic activity is proved by the fact that pure strophanthin, which has been much used in pharmacologic investigations, presents no preceptible difference in its action.

While the bare figures given in the tables do not convey nearly so accurate an idea of the relative degree of potency of the several samples as one gets by actual observation of the experiment, they afford sufficient proof that we are not dealing with any great variation in strength.

In this connection it should be borne in mind that the tincture of strophanthus, U. S. P., VIII, is of 10 per cent. strength, whereas that of the previous edition was but half as strong, and the physician should assure himself that the patient gets the stronger preparation.

For the purpose of the experiment the several tinctures were diluted so that one c.c. of the dilution represented one milligram of the seed; this was injected into the ventral lymph space in frogs and hypodermically in mammals. While exactly uniform results were not obtained, as might be expected, the experiments showed a fair degree of uniformity not only in the various specimens bought in the open market and those freshly prepared, but a tincture made from seed which had been in this laboratory for at least sixteen years was found to be as potent as the standard. One specimen of tincture bought from a drug store on the west side and kept in this laboratory for eighteen months showed the same degree of potency as the freshly-made preparations.

The various samples of tincture were obtained as follows:

No. I. Made in this laboratory from powdered seed obtained from Gilpin, Langdon & Co., in the spring of 1905.
No. III. Made in this laboratory from seed which had been in the laboratory for more than sixteen years.
No. IV. Made in this laboratory from seed obtained from Gilpin, Langdon & Co., in September, 1906.
No. VI. Bought at retail, labeled "Squibb's."
No. VII. Bought at retail, labeled "Parke, Davis & Co.," U. S. P., 1890
No. VIII. Bought at retail, said to have been made from Gilpin, Langdon & Co.'s ground drug.
No. IX. Bought at retail, labeled "Sharpe & Dohme." Age unknown.
No. X. Made in this laboratory from Gilpin, Langdon & Co.'s ground drug. Obtained in September, 1906.
No. XI. Bought at retail, labeled "Parke, Davis & Co.," U. S. P. 1890.
No. XII. Bought at retail labeled "Squibb's."
Nos. 11 and 5 were not used in this series of experiments.

TABLE 1.—Experiments on Frogs.

Specimen No.	Dose—Equivalent of 10 per cent. tincture per 100 gms. frog.	Result in One Hour.
I.	0.006 c.c.	Ventricular standstill (in 2 out of 3).
III.	0.004 c.c.	Ventricular standstill.
IV.*	0.006 c.c.	Ventricular standstill.
VII.	0.006 c.c.	Inconclusive (only three experiments).
VII.	0.01 c.c.	Ventricular systolic standstill (invariably).
IX.	0.006 c.c.	Ventricular systolic standstill about one-half the experiments.

* This amount was found to be the minimum quantity of this specimen required in a large number of experiments to produce ventricular systolic standstill fairly regularly, then the same amount of other specimens was used for comparison.

To facilitate comparison of toxicity Table 3 is compiled from Table 2 without taking into account cumulative action, which is not very important at this time, except with Specimen VI.

The first five preliminary tests on cats were made to determine whether any degree of uniformity of action might be expected. The results show a much closer agreement than had been anticipated, but it was seen that with such massive doses, killing so quickly, the interval before death would be more dependent on accidents of absorption than would be the case when some hours must elapse.

As vomiting is such a common symptom, not only

TABLE 2.—Experiments on Cats and Dogs.*

Date.	Animal No.	Specimen No.	Dose—equivalent of 10 per cent. tincture in c.c. per Kg.	Result.
		CATS.		
....	1	X.	0.17	Emesis in 20 min.; death in 43 min.
....	2	VI..	0.17	Emesis in 15 min.; death in 29 min.
....	3	VIII.	0.17	Emesis in 18 min.; death in 60 min.
....	4	VII.	0.17	Emesis in 15 min.; death in 44 min.
....	5	IV.	0.1	Emesis in 17 min.; death in 86 min.
Dec. 19.....	7	I.	0.0125	Emesis in 68 min.; many times repeated.
Jan. 23.....	7	I.	0.01	Emesis in 2½ hours, but once.
Jan. 24.....	7	I.	0.0075	Emesis in 10 min.; many times repeated.
Jan. 28.....	7	XI.	0.0125	Emesis in 47 min.; many times.
Dec. 19.....	7a	I.	0.0125	No effect.
Dec. 21.....	7a	I.	0.025	Emesis in 31 min.; many times.
Dec. 22.....	7a	I.	0.05	Emesis in 7 min.; death in 36 min.
Jan. 25.....	9	VI.	0.0125	Emesis in 2 hours.
Jan. 28.....	9	VIII.	0.0125	Emesis in 1 hour, 50 min.
Feb. 1.....	9	VIII.	0.04	Emesis in 33 min.; death in 2 hours.
Jan. 28.....	10	III.	0.0125	No effect.
Jan. 30.....	10	III.	0.0125	No effect.
Feb. 1.....	10	VI.	0.017	Emesis in 56 min.
Feb. 2.....	10	III.	0.017	Emesis in 21 min. (slight cumulative action).
....	10	III.	0.023	
Total in half hour..			0.04	Death in 4 hours.
Jan. 28.....	11	VII.	0.0125	No effect.
Jan. 30.....	11	VII.	0.0125	No effect.
Jan. 31.....	11	VII.	0.017	No effect.
Feb. 2.....	11	VII.	0.017	Emesis in 53 min.
....	11	VII.	0.023	
Total in one hour...			0.04	Emesis with great depression, nearly fatal.
Feb. 4.....	11	VII.	0.04	Death in 83 min. (some cumulative action).
Jan. 30.....	12	IX.	0.125	No effect.
Jan. 31.....	12	IX.	0.017	No effect.
Feb. 1.....	12	XI.	0.017	Emesis in 54 min.; but once.
Feb. 2.....	12	IX.	0.017	Emesis in 12 min.
....	12	IX.	0.023	
Total in half hour..			0.04	Emesis frequently repeated; nearly fatal.
Feb. 4.....	12	IX.	0.04	Emesis in 8 min.; death in 68 min.
Jan. 30.....	13	III.	0.04	Emesis in 37 min.; great depression next day.
Jan. 31.....	13	III.	0.04	Emesis in 17 min.; death in 60 min.
Feb. 8.....	14	VI.	0.04	No effect.
Feb. 9.....	14	VI.	0.04	No emesis; death in 44 min.
Feb. 8.....	15	VII.	0.04	Emesis in 74 min.; death in about 36 hours.
Feb. 8.....	16	XI.	0.04	Emesis in 29 min.; death in 3 hours, 15 min.
Feb. 11.....	17	XII.	0.04	Emesis in 18 min.; death in 62 min.
		DOGS.		
....	1	I.	0.04	Emesis many times repeated; nearly fatal.
....	2	IX.	0.04	Emesis in 70 min.; death in 3 hours, 5 min.

* While the rapidity of action in animals 1 to 5 affords a means of fairly accurate comparison, it was thought preferable to employ amounts just sufficient to produce vomiting and others about the minimum fatal dose.

after the tincture of strophanthus, but also after pure strophanthin, it was thought that this symptom might be used as an index of potency. While this is true to a certain extent, the resistance to the action on the vomiting center is more variable than it is to the action on the heart, and it was, therefore, considered better to determine the amount necessary to produce systolic standstills, which is, of course, promptly followed by death, unlike the case in frogs in which there may be no visible outward symptoms for some hours after the heart ceases to beat.

TABLE 3.

Specimen.	Dose.	Animal.	Result
I.	0.04	Dog.	Emesis and great depression; almost fatal.
III.	0.04	Cat.	Death in 4 hours.
VI.	0.04	Cat.	No effect (tolerance).
VI.	0.04	Cat.	Death in 44 min. (total in 24 hours of 0.08).
VII.	0.04	Cat.	Death in about 36 hours.
VII.	0.04	Cat.	Emesis with great depression.
VII.	0.04	Cat.	Death in 83 min. (second dose in 48 hours).
VIII.	0.04	Cat.	Death in 2 hours.
IX.	0.04	Cat.	Great depression (0.017 given 24 hours previously).
IX.	0.04	Cat.	Death in 68 min. (dose given 48 hours after preceding).
IX.	0.04	Dog.	Death in 3 hours, 5 min.
XI.	0.04	Cat.	Death in 3 hours 15 min.
XII.	0.04	Cat.	Death in 62 min.

One-eightieth of a c.c. per Kg. of the 10 per cent. tincture was the smallest initial dose which was found to produce vomiting, though less than a hundred and twenty-fifth of a c.c. was effective twenty-four hours after a somewhat larger dose. On the other hand, cat 14 did not vomit after ten times this amount given in the course of two days, though death resulted speedily after the second dose.

I wish to reiterate that the object of these experiments was not to show any exact uniformity in the action tincture of strophanthus from various sources, for this is manifestly impossible, but to prove that we have a vastly more uniform product than in the case of the preparation of digitalis.

It may be remarked, wholly parenthetically, that these results do not confirm the charges which it has become the fashion to make in regard to the unreliability of the pharmacists of New York. The various specimens were not obtained from the better class of stores but in most cases from those in the poorer quarters.

In conclusion it may be stated positively that there is no difficulty in obtaining tincture of strophanthus in the open market of quite as nearly uniform potency as obtains in the case of tinctures of other drugs which are not standardized, and that the seeds do not undergo deterioration on being kept for several years, possessing in this respect a great advantage over digitalis leaves, which deteriorate rapidly despite care on the part of the pharmacist. Digitalis continues to be of very variable strength, not only for the reason just stated, but owing to want of uniformity in the time of collection, methods of drying and source even when the official requirements are met. It should be remembered also that the strength of the infusion of digitalis varies greatly with the manner of preparing it, an infusion made from the powdered leaf much more nearly representing the full potency than one made from the leaf which has been merely broken up in the mortar, as is frequently the case.

The Duty of the Hospital.—The medical institution is under obligation to administer its charity wisely, to aid in medical education, and to protect its staff from imposition.—E. B. Young, M.D., in the *Bull. of Am. Acad. of Med.*

Clinical Notes

AN ASEPTIC PUMP FOR TRANSFERRING MEASURED QUANTITIES OF STERILE FLUIDS.

PRELIMINARY COMMUNICATION.

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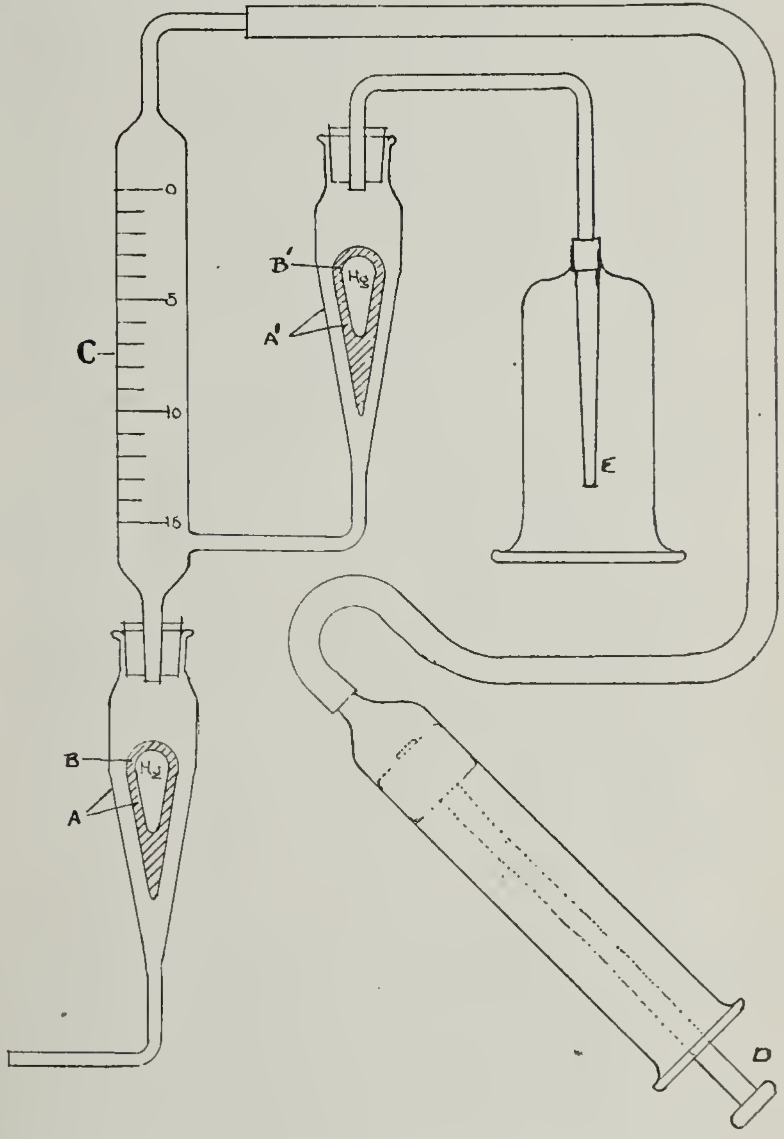
Almost all the devices in use at the present time for filling tubes or bottles with definite quantities of fluid depend for the *vis a tergo* on the gravity of the fluid column. When wishing to depart from this simple method, as is sometimes desirable or necessary, one is confronted with several difficulties. To overcome these, rather expensive and complicated appliances are necessary, the manipulation of which requires considerable time. The pump I have devised was suggested by the respirator sometimes used by chemists when working with dangerous gases.



Aseptic pump for transferring measured quantities of sterile fluids.

The apparatus consists of two glass valves, a graduated burette, and a piston syringe. Each valve, A A′, consists of a capsule into which is fitted a very carefully ground stopper, B B′. These stoppers are weighted with mercury so that they will sink into place quickly and accurately. These valves are connected with the graduated burette as shown in the diagram. When traction is made on the piston D, the valve B is lifted and the fluid passes into the burette C. When the suction ceases the valve settles and prevents the least regurgitation. The piston D is now pushed into the syringe; pressure in this direction closes the valve B more tightly and opens the valve B′ which allows the fluid to pass out at the shielded delivery tube, E.

The pump is easily sterilized by allowing an antiseptic to stand in it for the proper length of time. This antiseptic may be washed out with either sterile water or salt solution. By the use of a spring or weight and stop one may easily arrange so that the burette will be filled automatically.

SARCOMA OF THE TESTICLE.

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Tumors of the testicle are fairly often seen in genito-urinary practice, but their diagnosis is not always a simple matter. Especially is this true of malignant growths, because of their close clinical resemblance to tuberculous and syphilitic deposits. Hence the interest in the unusual case herein reported.

When a man presents himself with an abnormally large testicle or a large mass in the scrotum, we have to think of numerous conditions that might be causative factors, and as a matter of clinical interest I have enumerated the following formidable list of possible conditions that must be thought of: Tuberculosis, syphilis, malignant and benign growths, inflammatory and non-inflammatory orchitis and epididymitis, hydrocele, varicocele, hematocele, spermatocele, cystic growths, torsion of the testicle, intestinal hernia, contusions and wounds of the testicle, hemorrhagic infarcts of the testis, fungus, and general hypertrophy of the testicle.

Most of these conditions are easily diagnosed. Thus, varicocele is easily distinguished by the knotted and tortuous veins of the spermatic or pampiniform plexus which surround the spermatic cord. In the average case this condition can not be mistaken for anything else. In extreme cases, however, the loose mass of veins and their surrounding tissues constitute a well-defined tumor which must be differentiated from other tumors; it is soft and mushy to the touch and gives to the finger a characteristic sensation that has been described as resembling a bundle of worms in a bag. The scrotum on the affected side is dragged down and elongated to a greater or less degree by this mass of veins and often assumes a purplish color.

Hydrocele is often difficult to diagnose, especially as against the presence of hernia. Unless tension be extreme, hydrocele is usually painless, and is thus distinguishable at once from inflammatory conditions. There are no constitutional symptoms. Its smooth, pear-shaped surface, absence of glandular involvement, and the normal testicle and epididymis when they can be felt, differentiate it from tuberculosis, cancer and cystic disease. Fluctuation, irreducibility and in most cases translucency, as determined by the "light test," differentiate it from hernia, and, as a final measure, aspiration of its clear serous fluid removes all doubt as to the diagnosis. Bloody fluid removed by the aspirating needle indicates the presence of an hematocele, unless, perchance, the testicle has been wounded in the act of aspiration. It should be remembered, however, that neither hydrocele nor hematocele precludes the presence of a malignant growth; on the contrary, the latter is often thus accompanied.

Acute inflammation of the epididymis and testis proper is easily distinguished from malignant growths. The acute onset, pain, tenderness, rise of temperature and other evidences of acute inflammation make the diagnosis simple enough, especially as these symptoms are usually associated with a history of gonorrhea or trauma. In old men with prostatic hypertrophy, the possibility of the development of acute orchitis or epididymitis without apparent cause should always be borne in mind. At the same time we should not forget the comparative frequency of recurrent attacks of epididymitis and orchitis months and even years after the predisposing gonorrhea has been forgotten by the patient. In obscure cases of inflammatory swelling of the testicle the presence of parotitis and other infectious diseases should be determined.

Wounds, contusions and torsion of the testicle should not be mistaken for anything else, and similarly with that non-pathologic form of testicular hypertrophy which is often found as a compensatory physiologic condition, after one organ has been removed by disease or operation. Sometimes a condition is met with in which one gland is abnormally large while the other is correspondingly small; neither condition is necessarily pathologic.

Another fairly common tumor of the testicle is a collection of fluid either in the tunica vaginalis testis, or, as is more often the case, in a cyst in and about the epididymis. This condition is known as spermatocele, or encysted hydrocele of the testicle. The fluid is a milky serum containing the spermatic elements, principally spermatozoa. These cysts may be small or large, they are usually found separating the epididymis from the testicle, and form a more or less irregular, pear-shaped, fluctuating tumor. Sometimes more than one of these tumors will be noted. When these cysts rupture into the tunica vaginalis, as they often do, they constitute the so-called spermatic hydrocele, which, in essence, is similar to the common form of hydrocele, except that the fluid contains spermatozoa.

These spermatic cysts should not be confused with the less frequent cystic growths of the testicle proper—teratoma, benign and malignant cystic disease. Clinically it is well-nigh impossible to differentiate one type from another.

Patient.—J. S., aged 36, Russian, married, tailor by occupation, presented himself on Jan. 13, 1906, with a large mass in the left side of the scrotum.

History.—Family and personal history negative as to gonorrhea, cancer, tuberculosis and syphilis. Patient is the father of five healthy children, the youngest an infant a few days old, and of good health. The testicular swelling, though considerably smaller than at the time of examination, had been present for about ten or eleven years, but only during the past ten months had it grown to the present great size. There was little or no pain, except for the dragging sensation caused by the weight of the mass, pulling continuously on the cord and scrotum.

Examination.—From apex to base the mass was 7 inches long, 4½ inches in width and 13 inches in circumference at its widest part. To the touch it was hard and tense, and in the upper portion fluctuation could be determined. The testicle proper and the epididymis could not be distinguished. There was no elevation of temperature, pulse was normal, appetite and general health good. Heart, lungs and abdominal viscera were likewise normal. There was no glandular enlargement anywhere in the body. The patient believed that during the last few months he might have lost a few pounds in weight. The urine was clear and normal in all respects; the prostate was normal in shape, size and consistency. The seminal vesicles could not be felt. Bacteriologic examination of the urine for tubercle bacilli was negative; the secretion from the massaged prostate revealed no gonococci nor tubercle bacilli.

Subsequent History.—Three days after the first visit I inserted a trocar and withdrew about three ounces of clear serum, which was also examined bacteriologically for tubercle bacilli with negative result. After the fluid was withdrawn the testicle and epididymis were easily distinguished. The former was about three times its normal size, hard and stony to the touch, but not tender, except on excessive pressure. The epididymis was at least four times its usual thickness, hard, nodular and of serpentine outline. It was separated from the testicle proper by a distinct deep groove, but it did not present the so-called "clam-shape" of Keyes.

Diagnosis.—Other conditions having been eliminated, there remained to consider tuberculosis, syphilis and malignant disease. The absence of tubercle bacilli in the hydrocele fluid and in the prostatic secretion, the absence of tubercular involvement of the prostate and seminal vesicles as well as the thoracic and visceral organs was considered strong enough evidence to eliminate tuberculosis. For various reasons the tuberculin test could not at that time be made.

Treatment.—The patient was put on fairly large increasing doses of iodid of potassium (up to 100 grains three times daily), in addition to which he received two injections of salicylate of mercury (each containing 15 drops of a 10 per cent. solution); the iodid was continued for about three weeks, but the injections were stopped because of the pain which followed. As a substitute for the salicylate he was given half a dozen injections of a 1 per cent. solution of mercuric iodid in oil, which were found to be quite painless and well tolerated. After four weeks of this treatment it was seen that the mass had diminished slightly in size, but not sufficiently so to justify the belief that it would respond further. Within a few days after the first aspiration the fluid returned and was again withdrawn. This time it came out dark and bloody in contradistinction to the clear fluid withdrawn at the first tapping. This operation was repeated at intervals of several weeks, and each time the same bloody fluid was withdrawn.

Operation.—On May 18 I removed the testicle and epididymis *en masse* and the patient made an uneventful and quick recovery. Dr. Jeffries, at the Polyclinic Hospital, made an examination of the tumor and reported it to have been a round-celled sarcoma, showing cystic degeneration. On September 10, three months after the operation, the patient, who had been under observation all this time, complained of a dull, heavy feeling in the upper gastric region. On examination it was found that the left lobe of the liver was considerably enlarged and was exerting pressure on the pyloric end of the stomach. The liver grew at an enormously rapid rate, the gastric symptoms increased and the man lost flesh and strength rapidly. He was again put on antisyphilitic treatment, with the hope of effecting some relief, but it was of no avail. He was unable to continue at his work and returned to his birthplace in Russia. I have not heard from him since.

Apart from the difficulty in making a diagnosis without operation, this case presents these interesting features:

1. The growth was present in a dormant stage for about ten years.
2. For some unknown reason, the tumor took on a sudden growth, very rapid in its nature, and reached its maximum size in the comparatively short period of ten months.
3. Careful search revealed the absence of metastatic deposits where such deposits might have been expected.
4. The patient's general health did not apparently suffer at any time before removal of the tumor.
5. The antisyphilitic treatment did have a slight, ephemeral effect on the mass.
6. Within three months after operation the liver showed metastatic deposits of an extremely malignant type, accompanied by great deterioration in general health for the first time.

Addenda: In a communication received March 24, 1907, from Dr. Herman Lorber, just returned from Vienna, the doctor writes: "Perhaps you will be interested in a patient of yours whom I saw in the Krankenhaus in Vienna. It was the patient with sarcoma of the testicle whom you showed at the medical meeting last year. Professor von Noorden showed the patient. He has lost considerable flesh and strength, the liver is enlarged considerably but the spleen even more so, and very hard. The diagnosis of sarcoma was of course confirmed."

24 East One Hundred and Nineteenth Street.

Naming of Carbon Compounds.—Hydroxyl is the monovalent group (OH)′, considered as derived from water (hydrogen oxid).—*Pharm. Rev.*, August, 1906.

COMPLETE RESTORATION OF FUNCTION OF TORN SPHINCTER ANI MUSCLE AFTER 23 YEARS OF ATROPHY AND DISUSE.

ROBERT H. M. DAWBARN, M.D.
NEW YORK CITY.

The accusation is sometimes made that surgeons who have had the good luck to score an exceptional success are apt to rush into print and report it to the profession without waiting a reasonable time in which to ascertain whether or not the cure can properly be classed as a permanent one. However, I think we may consider the following patient definitely and permanently cured, whose case—possibly unique in point of time between her sphincteric loss and its restoration—I now publish for the first time six years after the operation. My library search has not been thorough, and reports from those who have completely cured patients longer afflicted would be of interest.

The patient, a lady in the family of a physician in this city, states that she can now control, even during an occasional diarrhea, her bowel movements as perfectly as ever before the tear. If this muscle, during such a great period of absolute disuse and atrophy, can so retain the capability of restoration of function after the necessary operation it would seem that never in a lifetime is this power hopelessly lost and that it would never be unreasonable to hope that the power of any or all of the sphincters lost through injury might be regained.

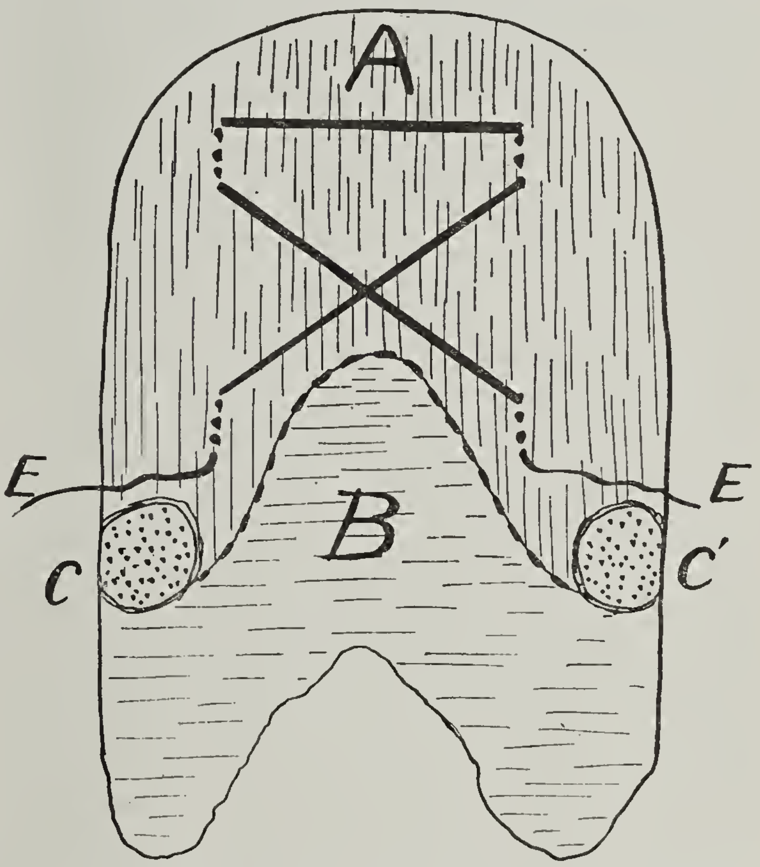

Fig. 1.—A, the upper shaded part, represents the raw surface of rear wall and sides of vagina from which the flap B, the lower shaded part, hangs down. The arched broken line between A and B indicates the upper limit of the rectal and vaginal tear. One must not dissect closely enough to this to threaten the blood supply of the flap. C and C′ are the exposed ends of the sphincter ani. These are brought together. The apposition of the raw surfaces above will be helped by using as a first step the suture, the ends of which, E and E′ are to be tied together.

The following are briefly the essential facts of the case: Twenty-three years and nine days before the operation the patient was torn so badly during an instrumental birth that the tear, as I found on examination, extended half way up the rear wall of the vagina and to the same level of the front wall of the rectum. In consequence one opening common to both resulted, and during all these years she had absolutely no control of her bowel movements. Almost wholly disbarred from going into society, her misery during this period can readily be imagined.

On November 27, 1900, I operated, assisted by Drs. Charlton Wallace and J. W. D. Maury, her family physician, Dr. Stuart Close being present. The technic employed was one which in its simplicity and application seems hard to improve on. It was devised by Dr. Ristine of Knoxville, Tenn., more than twelve years ago and its technic was published by him some years afterward in the *American Journal of Obstetrics and Diseases of Women.* The details, accompanied by a rough sketch, which may serve better than words to make clear one or two steps, are as follows: The rectum being empty and cleansed, is packed with gauze. A horseshoe-shaped flap of mucous membrane, with its toe upward, is next outlined. The incision for this begins on either side of the vagina at the ends of the torn and retracted sphincter ani. The cut ascends on either side and meets at the toe, placed, in a case as bad as this, just as high as possible behind the cervix uteri—almost touching the cervix—so as to waste no length of flap that it is possible to secure. With a tear only dividing the sphincter, and not the rectum, obviously the horseshoe cut need not ascend so high.

The apron of the flap thus turned down will have its sound, i. e., its mucous membrane surface toward the feces and its raw surface forward. It will be dissected down as far as the upper end of the tear permits. If of proper length its lower or free ends should now hang as low as the anal level behind it. Any excess of length of this apron is a protection, for the time, to the dissected flesh in front against accidental infection, and if it should not finally shrivel, it can be snipped away.

Search is next made for the torn sphincter, the ends of which must be freshened and then brought into mutual apposition by means of tanned or chromicised catgut. The sphincter muscle, even in this case, could still be plainly recognized. By dissecting down and lengthening the horseshoe ends as needed, tissue is at length reached which when seized and pulled on by the forceps can be felt to draw the sphincter on either end. Before apposing these ends we should insert and tighten the continuous suture shown as E and E′ in the accompanying sketch. This helps to prevent any "dead space." The curved needle is inserted and brought out but four times in passing this stitch. Following the union of the sphincter the surgeon will probably perform the customary operation for torn perineum.

Before concluding, a moderate section of the sphincter at the rear anal margin should be made (in a case recently torn) to weaken it temporarily—for protection against the tearing out of the important stitches uniting its ends. Perhaps I need not say that in the case under discussion, after twenty-three years of disuse, it was thought unnecessary to weaken the sphincter further in this way. When this is done no stitch is taken; a clot fills the tiny opening made by the slender blade. The bowels are moved the second day and each day thereafter. Electricity and strychnin are of value in aiding the sphincter to recover its function.

I would refer those especially interested to the article by Dr. Charles G. Child, Jr., of this city, in the *Journal of Obstetrics and Gynecology of the British Empire,* July to December, 1905. It will be found that in a few particulars my operation differs from that of Dr. Ristine —the principle, however, is his, as also should be the entire credit of this, one of the very few operations which seem to me perfect in technic.

APPENDECTOMY DURING HERNIOTOMY.

JOHN A. HAWKINS, M.D.
Professor of Rectal Diseases in the Medical Department of the Western University of Pennsylvania; Rectal Surgeon to St. Francis Hospital.
PITTSBURG, PA.

The article by Dr. John A. Wyeth, in THE JOURNAL, Nov. 24, 1906, reminded me of two patients on whom I recently operated.

The first patient, a man of 67, had suffered with a large inguinal hernia for many years. On opening the sac I found that it contained the cecum, the adherent appendix and part of the ileum. The appendix, though not inflamed, was removed, and the abdomen closed by the imbrication method of Fowler. Recovery was uneventful.

The second case was that of a woman of 62, who suffered from an inflamed bubonocele. The sac contained a structure of whose identity I was not altogether certain until I had examined it closely, but which proved to be the appendix. The constricted ring was incised and the hernia repaired by the Bassini method, the appendix being removed in the usual way. There was nothing unusual about the recovery. The appendix was 10 cm. in length, 12 mm. in diameter at the distal end and 4 mm. at its attachment, being club-shaped.

219 Sixth Street.

A CASE OF INFECTION BY STRONGYLOIDES INTESTINALIS.*

J. N. HALL, M.D.
Visiting Physician to the Denver City and County Hospital.
DENVER.

This parasite, associated with Cochin-China diarrhea, has been reported so rarely in the United States that the following case should be recorded. The exact relationship to tropical diarrheas seems not definitely established:

Patient.—A Japanese ship's cook, aged 40, was admitted to my service in the Denver City and County Hospital, Oct. 18, 1906.

History.—We learned that he had visited many ports in Asia and other parts of the world, had been in America seven years, in Colorado three years. He had been sick for ten weeks, although below par for three or four months. He had a slight cough, had probably lost 20 or 30 pounds in weight, and was moderately anemic. He had five to eight stools in the twenty-four hours, mushy in consistence, foul smelling and of clay, slate or dark green color. No blood nor mucus. He complained of constant pain in the abdomen, and in the rectum on defecation. He vomited a few times, especially after eating sweet food.

Examination.—Physical examination of the chest and abdomen was negative. The urine was acid, sp. gr. 1030, a trace of albumin, no sugar, no bile, indican increased. A few small and narrow hyaline and granular casts, occasional blood cells and leucocytes. The examination of the sputum was negative. The blood, two weeks before death, showed: Hemoglobin (Tallquist), 65 per cent.; red cells, 3,200,000; white cells, 4,400. Moderate poikilocytosis and no megaloblasts nor normoblasts were found. A differential count of white cells showed polynuclear neutrophiles, 51.5 per cent.; lymphocytes, large and small, 47 per cent.; eosinophiles, .05 per cent. The absence of eosinophilia is to be noted.

Suspecting amebic dysentery, I asked Dr. B. B. Blotz, in charge of the laboratory, to examine the stools. His report is as follows:

"Larvæ of the *Strongyloides intestinalis* were found in great numbers. At least fifteen examinations were made and the parasite was present in each. An attempt was made to obtain the adult by incubating the larvæ for seventy-two hours at

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* Reported, with exhibition of specimens, to the Denver City and County Medical Society, No. 6, 1906.

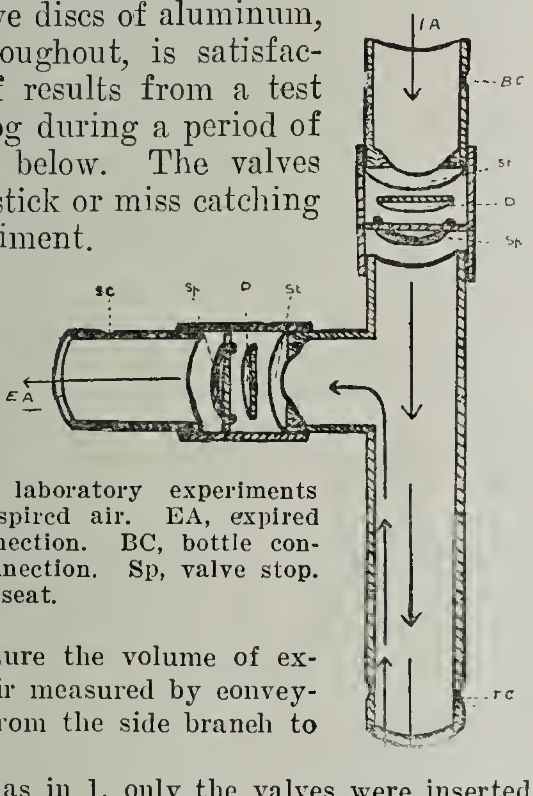
37-38 C. This was unsuccessful. At one examination a parasite was found having the same characteristics as the larvæ, but three times as long. The ova of the parasite were not discovered. Red blood cells and Charcot-Leyden crystals were found at various times. In the last two or three stools examined there were numerous black crystals, rhombic, quadrangular and needle shaped, probably of hematogenetic origin. These crystals were also found in the vomitus. A search was made for the ova of the ankylostoma duodenale, said to be often found in association with this parasite, but they were not discovered, nor could other ova be found. During the last few days the patient vomited several times in each twenty-four hours, and the parasites were abundant in the vomitus."

In every specimen of the fresh stools, mounted with water, under a power of 50 diameters, could be seen from five to thirty of the larvæ in active motion. After an hour or two, most of them became immobile, but could be resuscitated by adding more water and warming the slide slightly. The patient was fed on a liquid diet and given thymol in a dose of 15 grains three times a day. At the suggestion of Dr. Ralph Taylor, who had seen the parasite in his Philippine experience, 3 grains of santonin were added later. Although the parasites lost their activity, so that but one or two sluggish ones could be found in a field, with perhaps a dozen dead ones, the patient steadily lost ground, and died on Nov. 17, 1906. No autopsy could be obtained.

RESPIRATION VALVES.

C. C. GUTHRIE, M.D.
Professor of Physiology and Pharmacology, Washington University Medical School.
ST. LOUIS.

The valves shown in the accompanying drawing were designed primarily for use in preventing the waste of volatile anesthetics that commonly occurs in mammalian experiments when a Wolff's bottle is used in connection with a trachea tube and for simplifying the measurement of expired air in such experiments. Construction of plated brass with valve discs of aluminum, or of aluminum throughout, is satisfactory. An average of results from a test made on an 8 Kg. dog during a period of four hours is given below. The valves were not observed to stick or miss catching throughout the experiment.



Valve mechanism for laboratory experiments with respiration: IA, inspired air. EA, expired air. SC, spirometer connection. BC, bottle connection. TC, trachea connection. Sp, valve stop. D, valve disc. St, valve seat.

1. Animal with tube in trachea breathing through a Wolff's bottle arrangement. Valves connected on the far side of the bottle in order to measure the volume of expired air. Volume of air measured by conveying it through a tube from the side branch to a spirometer.

2. Same arrangement as in 1, only the valves were inserted between the dog and bottle so that the *expired* air did not pass back through the bottle as in the first case.

RESULTS.

1. Amount of ether used per L. of air, 0.83 c.c.
2. Amount of ether used per L. of air, 0.42 c.c.

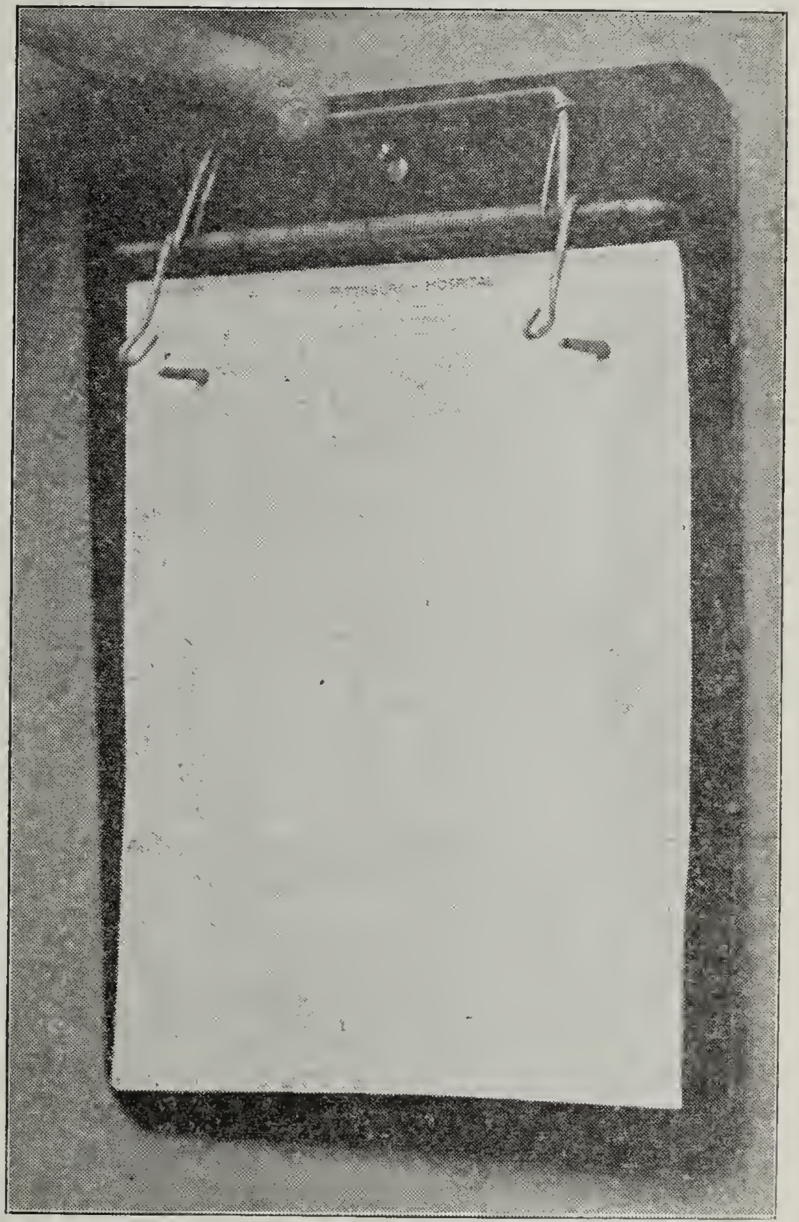
The average volume of expired air per minute was 3866 c.c. For simplicity calling it 4 L., the amount of ether used per hour in 1 was 199.2 c.c., and in 2, 100.8 c.c.

The use of the valves also prevents contamination of the anesthetic contained in the bottle by condensation of moisture from the animal's breath.

AN IMPROVED BEDSIDE CHARTHOLDER FOR HOSPITAL USE.

J. D. SINGLEY, A.M., M.D.
Surgeon to the Pittsburg Hospital.
PITTSBURG, PA.

In this chartholder the back is a rigid light enameled metal plate. The clamp or clip is of heavy wire and has two contact points, but instead of relying on metal or small rubber tips at the contact points, as in those on the market, two rings come in contact with the back. Two upright pins about one inch high are set into the back over which the rings drop when the spring of the clamp is released. The record sheets, after padding, are perforated, at a very slight cost, by the printer at the proper place for the pins.



With such a holder the record sheets can only be released by exerting sufficient pressure to raise the ring of the clamp clear of the pin and lifting the sheets off the pin. No adjustment is required to keep the various sheets in alignment while the proper sequence of the sheets remains as originally placed.

812 North Highland Avenue.

Malaria and Tuberculosis.—P. Gracieux has been investigating conditions in tropical Africa and Mexico; he found malarial antecedents in 70 per cent. of the natives affected with tuberculosis. He believes that this malarial infection paves the way for tuberculosis later, and that it is absurd to claim that the native races are "peculiarly predisposed to tuberculosis." They have only unusual opportunities for malarial infection, and this is the cause for the prevalence of tuberculosis. His article opens the *Cronica Med. Mexicana*, for 1907.

"RUBBER TUBE PERCUSSION."

ARNOLD C. KLEBS, M.D.
CHICAGO.

Dr. F. M. Pottenger has recently recommended[1] immediate percussion with a rubber tube, which, he believes, is a "method of greater precision" and possessing "superior advantages over methods in common use."

The usefulness of all methods of percussion depends, of course, largely on the individual who uses them; good as well as bad results can be obtained with almost any method. But a new clinical method must have both intrinsic as well as heuristic value, otherwise it constitutes merely an encumbrance to an already confusingly large diagnostic armamentarium.

If we analyze Pottenger's announcement we find that he really does not describe a method, but merely advocates the use of a rubber tube instead of the hammer. One naturally surmises, since nothing to the contrary is stated clearly, that the tube is to be used as one ordinarily uses the hammer or the finger, i. e., with a rebounding blow. We find some intimation, however, that here, unlike ordinary percussion, in which the percussor is retired as rapidly as possible so as not to deaden the vibration, the instrument is left where it struck. It would have helped toward the understanding of the "new method" if this and other points had been made clearer. The author also does not enlighten us on his contention that "with the use of the rubber tubing there is no noticeable thoracic resonance." Since the whole value of the "old method" is based primarily on the acoustic appreciation of modified thoracic resonance, it would be rather interesting to know the author's scientific evidence which induces him to believe that with his tube he is able to produce isolated sounds emanating from the underlying organs. He can not well imagine that the mere contact of a flexible, resilient tube can prevent this to a noticeable extent, and so give him "the simple tone of the underlying tissue." Contrary to his assumption, which also is in contradiction to all accepted theories of percussion and acoustics, I should think that he must get this "tone," plus that of the thoracic wall and plus that of the tubing itself. Thus far we have tried to minimize the disturbing by-sounds by firmly adapting our finger or plessimeter to the chest wall.

But the author is evidently out for results, not for theories, and so I have tried the "new method," adhering faithfully to his directions so far as they go. I found that the tube when struck, indeed, emits a sound, but that the strength and quality of this sound is chiefly influenced by the length of the portion of the tube striking the chest (the length varying between 1½ and 2½ inches), by the length of tubing held in the hand and also by the pressure exerted on the tubing by the hand. To a certain extent, of course, this sound inherent to the swinging tube is modified by the vibrations of the percussed object, but it needs a very discriminating ear to isolate it from the other by-sounds. As to the sensation of resistance to which the author particularly directs attention as being "transmitted to the hand," I had none sufficiently perceptible to direct my judgment. With some dexterity and after frequent application I was able to outline, though only very coarsely, the organs of the chest. An exact direction of the stroke with a tube vibrating so easily in one's hand is an impossibility, and this becomes painfully evident when one tries to percuss with it the dependent parts of the thorax in a patient lying in bed, or the axilla, or the apices. Over the latter, the determination of their height, the outlining of the acoustic fields of Krönig, all important in the examination of tuberculous subjects, and the discovery of smaller foci of infiltration, easily determined by the common method, could in no way be facilitated by the use of the tube. These negative results were corroborated by several able clinicians.

It does not seem to me, therefore, that this *inventum novum* is destined to supplant the old methods, which in the proper hands reach a high degree of perfection and are based on scientific facts. Percussion is and will remain an art. An instrument, as such, I believe does not hinder perfection in it, though I do not make use of any, but a percussion tube that emits a sound of its own seems *a priori* unprofitable, to say the least.

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[1] The Journal, March 23, 1907, 1027.

PROBABLE PLACENTAL TRANSMISSION OF TUBERCULOSIS.

JOHN R. WILLIAMS, M.D.
ROCHESTER, N. Y.

Because of the scarcity of data on the subject of placental transmission of tuberculosis, the following is deemed worthy of report:

Patient.—Mrs. K., aged 30, American housewife, eight months pregnant.

History.—Patient complained of cough, night sweats, failing appetite and loss of weight; she gave a family history of tuberculosis, one sister who had lived and slept with her having died of the disease a short time previously.

Examination.—The chest anteriorly and posteriorly revealed typical signs of tuberculosis in apices of both lungs. There was a loss of weight of 20 pounds in ten weeks in spite of pregnancy. The sputum contained both elastic tissue and tubercle bacilli.

Subsequent History.—One month later, patient in normal labor, gave birth to a full-term, apparently healthy, 7-pound boy. The placenta and cord were immediately placed in 4 per cent. formalin solution and sent to Dr. A. S. Warthin, Ann Arbor, Mich., for examination. The child was taken at once to another house, and was never afterward handled, nursed or brought in contact with the mother. He was fed on modified milk, and for about six weeks made fair progress, gaining slightly in weight. Then, in spite of the most studious care in feedings, he began to decline. He was taken to the Infants' Summer Hospital at Ontario Beach and kept there for some weeks, but to no avail. The child, like the mother, now presented the typical signs of general tubercular involvement, which need not be detailed. At this stage both mother and child were taken to the same house, although they were isolated from each other and had different nurses. The mother declined rapidly after the termination of pregnancy, dying six months later. The child outlived the mother by only one month. Both patients were seen by several other physicians, all of whom concurred in the diagnoses.

Dr. Warthin, after a number of careful examinations, was unable to find any evidence of tuberculosis in the placenta. The child died and was taken to a distant point for burial at a time when I was absent from the city, hence a postmortem study was not made, which is unfortunate, inasmuch as it robs the case of the confirmatory evidence necessary for a positive demonstration.

The School Girl.—Dr. James Fraunfelter, Canton, Ohio, states (*Ohio State Jour of Med.*) that the development of the mind is largely dependent on the efficiency of the body, and that the expansion of the moral element so well expressed by the word "character" is similarly intertwined in such close relationship that neglect of a part is derangement of the whole.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.)

(Continued from page 1109.)

DIACETYL-MORPHINE HYDROCHLORIDE.

Diacetyl-morphine hydrochloride, $C_{17}H_{17}(C_2H_3O_2)_2NO.HCl$, is prepared by dissolving diacetyl-morphine in dilute hydrochloric acid, concentrating the neutral solution by evaporation and crystallizing.

It is a white, crystalline, odorless powder, having a bitter taste, showing a neutral reaction with congo and melting at 230° to 231° C. (446° to 447.8° F.).

It is soluble in 2 parts of water and soluble also in alcohol, but insoluble in ether.

Its aqueous solutions are precipitated by alkaline hydroxides, the precipitate being soluble in excess of the reagent, and by alkaline carbonates. In other respects the reactions are the same as those given under diacetyl-morphine (which see).

It is incompatible with alkalies and their carbonates, tannic acid and other precipitants of alkaloids. It is decomposed by mineral acids, particularly when heated.

Actions and Uses.—When given in small doses Diacetyl-morphine Hydrochloride has apparently no effect on any of the vital functions except respiration, which it renders slower, the volume of the individual respirations being increased, but usually not sufficient to compensate the slowing, the result being a diminution in the total amount of air respired. In large doses it may produce dizziness, nausea and occasionally constipation, and, in poisonous amounts, twitching of the extremities, great exhaustion, and dimness of vision may be added. The temperature becomes subnormal and the pulse rapid and thready. The habit is readily formed and leads to the most deplorable results. It is said not to produce costiveness. (This is not true, according to some observers.) It is readily absorbed from mucous membranes. It lessens irritability of the respiratory center, thus allaying cough, but does not depress the respiration as much as morphine.

On withdrawing the drug from habitués there is said to be a tendency to respiratory failure which may be dangerous.

Diacetyl-morphine and its hydrochloride are recommended chiefly for the treatment of diseases of the air passages attended with cough, difficult breathing and spasm, such as the different forms of bronchitis, pneumonia, consumption, asthma, whooping cough, laryngitis, and certain forms of hay fever. It has also been recommended as an analgesic, in the place of morphine in various painful affections.

Toxic symptoms should be treated by the administration of caffeine hypodermically and of hot coffee by the stomach. To avoid respiratory failure in the treatment of diacetyl-morphine addiction, it has been suggested to substitute morphine for the diacetyl-morphine and then treat the patient for morphine addiction.

Dosage.—0.0025 to 0.005 Gm. (1/24 to 1/12 grain) to adults 3 to 4 times a day, the maximum dose being 0.01 Gm. 1/6 grain. To children it may be given in doses varying from 0.0002 to 0.001 Gm. (1/300 to 1/60 grain), according to the age. Hypodermically it may be administered in the form of a 2 per cent. solution in the same doses. It has been applied locally to the throat, to the uterus on tampons, and by suppository for painful pelvic affections generally, but there is no evidence that it produces any local anesthetic action.

HEROIN.

A name applied to Diacetyl-morphine, which see.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). U. S. trademark.

HEROIN HYDROCHLORIDE.

A name applied to Diacetyl-morphine Hydrochloride, which see.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). U. S. trademark.

LECITHIN.

The esters of oleic, stearic, palmitic or other fatty acid with glycerophosphoric acid combined with cholin; occurring in combination with proteids in many animal and vegetable tissues, especially in nervous matter and egg-yolk.

Lecithin is best prepared from egg-yolk (in which it exists as vitellin) by dissolving out the lecithin by strong alcohol.

It is a yellowish-brown, waxy solid, of peculiar odor, soluble in an equal volume of cold absolute alcohol, readily soluble in chloroform, petroleum, benzin, and fats, less readily in ether. It is insoluble in water, but swells, giving the peculiar "myeline forms," and decomposes on prolonged contact. It is hygroscopic on exposure to air.

The alcoholic solution is precipitated by platinum or cadmium chloride. It is decomposed by alkalies with the formation of choline and trimethylamine. The ash contains phosphoric acid. The different lecithins contain from 3.84 to 4.12 per cent. of phosphorus and 1.73 to 1.86 per cent. of nitrogen. The ratio of nitrogen to phosphorus should be as 1 to 2.21.

Lecithin is incompatible with alkalies; it should be kept in well-stoppered bottles and should be protected from the light.

Actions and Uses.—Lecithin acts as a stimulant to nutrition and not as a direct nutrient. The number of the red blood corpuscles and the amount of hemoglobin are increased. There is also a slight increase in the proportion of large mononuclear leucocytes. The appetite is improved and there is a retention of nitrogen and a diminution in the excretion of phosphoric and sulphuric acids, indicating a storage of proteids. The uric acid is perhaps slightly diminished. Lecithin, even in large doses, is not toxic.

The ordinary diet contains from 5 to 15 Gm. (75 to 225 grains), and some observers claim that the benefits of the administration of lecithin can be obtained by an increased use of lecithin-containing food (eggs, etc.), but others claim that the raw or combined lecithin is ineffective.

Lecithin is held to be useful wherever there is faulty nutrition or growth, and is especially recommended as an addition to cow's milk for artificially fed infants. If no improvement results after ten days' treatment it is stated that it is useless to continue the drug.

Dosage.—It may be given by mouth in doses of 0.1 to 0.5 Gm. (1.5 to 8 grains) per day, in pill form, before meals, or, hypodermically 1 Cc. (15 minims) of a 5 per cent. solution in oil, daily. Infants, one-third of these doses.

(To be continued.)

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SATURDAY, APRIL 6, 1907.

EXPERIMENTAL GASTRIC ULCER.

The importance of discovering a definite method by which can be produced experimentally ulcers in the stomach that in every way are analogous to genuine human gastric ulcer needs no emphasis. The prevention and the healing of human ulcers would thereby unquestionably be promoted in various ways. Recently reports have been made of results in this field of experimentation which indicate that noteworthy progress is being achieved. Thus Turck[1] has shown that by feeding dogs for variable periods with large quantities of cultures of colon bacilli ulcers not unlike round or peptic ulcer in man may be produced in the stomach and duodenum. The exact mechanism whereby ulcers are produced under these conditions has not been worked out, but the indications point to a combination of local and general disturbances. It would seem that the method, if found by other investigators to give reliable and constant results, will prove of considerable value for the study of experimental gastric pathology.

By careful study of guinea-pigs used in testing diphtheria antitoxin, Rosenau and Anderson of the Hygienic Laboratory found that in more than one-half of these animals dying before the tenth day after injection of diphtheria toxin there is present a sharply defined area of congestion, hemorrhage, or ulceration near or at the pyloric extremity of the stomach. In no case was perforation observed. Animals that recover from sub-lethal doses of toxin may show evidences of having had this lesion and it would seem as if we have in diphtheria toxin a definite means for the experimental production of gastric ulcers, at least in the guinea-pig, and it is to be hoped that the possibilities of this method will be thoroughly investigated.

Probably the results obtained by Fütterer[2] in rabbits have the greatest immediate bearing on the clinical and therapeutic phases of human gastric ulcer. So far as can be made out, Fütterer's present method of procedure is to excise a small piece of the mucous membrane of the stomach and then to maintain the animals in a state of chronic anemia by administration of blood-destroying chemical substances. Macroscopically and microscopically the ulcers so obtained resemble the human ulcer markedly; like the human ulcer they appear to prefer, so to speak, the pyloric region in the vicinity of the smaller curvature; and their chronic course is held by Fütterer to be in large measure if not wholly dependent on continuation of general anemia. From the fact that anemia is so essential for the initiation and the continuance of experimental gastric ulcer, Fütterer draws the conclusion that much may be accomplished by way of therapy, both preventive and curative, if the physician pay due regard to the condition of the blood. The apparent ease with which ulcers may be produced by Fütterer's method indicates that it too may prove of service in the further experimental study of gastric ulcer, which naturally will concern itself with the finer mechanisms of causation, and with the effect of various means and conditions on established ulcers.

An interesting question arises in connection with these various methods and that is whether or not the ulcers produced by their means are alike in their essential features. In order to determine this point careful comparative morphologic studies must be made of the ulcers at the various stages of their development. In his ulcers Turck describes a remarkable hyperplasia of acid cells, the analogue of which does not seem to have been observed so far in the case of human ulcers. Now it would be interesting to learn if ulcers produced by other and different means are associated with this hyperplasia. Human material, especially such as would illustrate the earlier stages of the formation of ulcer, should be collected for careful study and comparison with experimental ulcers.

THE RELATION OF THE STREPTOCOCCUS TO SCARLET FEVER.

Notwithstanding the immense amount of investigation devoted to it, the etiology of the acute exanthemata still remains more or less of a mystery. It is true that in certain diseases, variola and scarlet fever for example, supposed protozoan parasites have been described which are thought to bear an etiologic relationship to these diseases. It can not be said, however, that these parasites have been generally accepted as the true causes of the diseases in question, for they have not yet been shown to be constantly associated with the lesions, and some observers even question their parasitic nature and regard them, like the so-called cancer parasites, as peculiar cell inclusions. In the case of scarlet fever the *Cyclaster scarlatinalis* of Mallory has not been generally accepted, for while some have conceded its parasitic nature others have denied this. The question of the etiology of this disease is still under discussion, and Dr. Hektoen's paper in this issue of The Journal[1] gives in a terse and critical manner the views of those who are opposed to the view that scarlet fever is caused by a protozoon and believe that it is a form of streptococcus infection, and at the same time the objections to the streptococcus theory are impartially set forth.

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1. The Journal A. M. A., 1906, xlvi, 1753.
2. Festschrift für Rindfleisch, 1907, p. 81.

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1. Page 1158.

As Hektoen's paper shows, there is much evidence which suggests a possible relationship between scarlet fever and some variety of the streptococcus. On the one hand we have proof that in the vast majority of fatal cases of scarlet fever the streptococcus is present; on the other hand we have the knowledge that streptococcus infections apart from scarlet fever may be associated with throat and skin symptoms almost indistinguishable from true scarlatinal infection. Not only are so-called surgical and puerperal scarlet fever of streptococcal origin, though not true scarlet fever, but in certain streptococcal throat infections skin lesions almost impossible to differentiate from the true disease may occur.

All this, however, is not evidence that the streptococcus is the actual cause of scarlet fever. It does show that this organism is very frequently associated with the disease and is probably responsible for the great mass of fatalities, but there is evidence that fatal cases of scarlet fever can occur, especially the fulminating ones, in which streptococci are not present. The lack of streptococci in the infectious skin scales, their relatively poor resistance as compared with the known resistance of scarlet fever virus, and their occasional complete absence in some fatal cases, make it seem likely that the streptococcus is not the cause of scarlet fever, but merely a secondary invader. It is well known that this micro-organism plays a similar rôle in smallpox, a type of disease analogous to scarlet fever. Even if we assume that the rôle played by the streptococcus is a secondary one, we must not forget that it causes most of the fatalities, and one of our constant cares in the disease should be to protect the patient from the first against possible infection from other patients who harbor streptococci.

GOVERNMENT SUPERVISION OF VACCINE VIRUS.

The efforts recently made in Pennsylvania and Connecticut to secure the repeal of statutes making the vaccination of children a condition of their right to attend public schools recalls the unreasonable prejudice that still exists against this beneficent prophylactic.

The opposition to vaccination appears to rest on the fundamental declarations that it is useless and dangerous, and that its compulsory enforcement is an invasion of individual rights. With the evidence now available it would seem that its utility must be conceded, for if there is one measure in preventive medicine that has been demonstrated beyond question it is that vaccination, properly performed, affords protection against smallpox. Individual license to do as one pleases is not an inalienable right, and community life denies the individual that privilege, especially if in so doing he becomes a menace to the public health. By a uniform course of decisions the courts have upheld the legality of laws requiring vaccination as a condition precedent to the right to attend school.[1] The right of the community for the public welfare to enforce vaccination has also been affirmed. The dangers of vaccination, greatly exaggerated at all times, have now been reduced to a minimum. Practically the only danger remaining is accidental infection such as may occur in any open wound. This, in vaccination wounds, may be eliminated in a great measure by observing careful technic in performing the operation.

Reference has previously been made[2] to the beneficial results following the government control of vaccine virus, and it is now understood that, in accordance with an additional regulation issued March 13, 1906, by the Secretary of the Treasury, at the instance of the Public Health and Marine-Hospital Service, each lot of vaccine virus must be examined bacteriologically by the manufacturer to determine its freedom from pathogenic micro-organisms, and a special examination is required of every lot to determine the absence of tetanus. This supervision is no doubt largely responsible for the improved character of the vaccine virus now offered on the market in this country.

The Annual Report of the Public Health and Marine-Hospital Service, just issued, contains a list of establishments manufacturing this product under government license. Samples of the products of these firms are purchased from time to time on the open market and examined in the Hygienic Laboratory for purity and potency. These laboratory examinations indicated great improvement in the quality of vaccine virus following the administration of the law approved July 1, 1902, regulating the manufacture, barter and sale of viruses, serums, toxins and analogous products. With the view of obtaining information as to whether or not the practical results coincided with the laboratory data, the Surgeon-General addressed a circular letter to local health officers throughout the country for facts concerning the relative incidence of sore arms accompanying vaccinations during the winter 1904-1905 as compared with previous seasons. Nine hundred and fifty-one replies were received to this inquiry, of which 237 gave no data; 8 of the replies stated that there were more sore arms reported, one of these, however, attributing the complication to other causes than the character of the virus; 52 stated that they had not observed any difference in the number of sore arms during the year, while 554 reported that there had been fewer sore arms.[3] It is known that the operation of this law has prevented the sale in interstate traffic of "green" virus, and from this report it is evident that marked improvement in the character of vaccine virus has taken place.

Evidence of this character should be carefully considered by legislative bodies before action is taken looking to the repeal of vaccination laws now on the statutes, as such a step can but be regarded as a retrogressive step in preventive medicine.

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[1] Dock: Amer. Jour. Med. Sciences, February, 1907.

[2] The Journal A. M. A., Dec. 24, 1904.

[3] Annual Report, Public Health and Marine-Hospital Service, 1906.

THE HOUSING PROBLEM.

The relation of the dwelling to health constitutes a problem, the seriousness of which the medical profession in this country has not yet fully appreciated. To the physician in Europe it appeals with force, since the defects of housing, especially of the lower classes, are much more apparent there than here. In Berlin, according to E. Roth,[1] 43 per cent. of all householders live in apartments of one room, and that often unheated, and more than 70 per cent. must be content with one or two rooms as the most comfortable dwelling which they can afford. These miserable conditions are made worse by the fact that the rent of such rooms is so high that it must be reduced by taking lodgers or roomers. The number of people to a house tends to increase as time goes on, having risen in Berlin from 71 to 77 in the decade from 1890 to 1900. In addition to the danger to health from overcrowding, problems are presented in consequence of dampness, insufficient light and poor ventilation, which are of vital interest to the physician. Roth attributes rheumatism, catarrh, colds and an increased susceptibility to infection to the dampness of the apartments, especially of those used for sleeping. This defect may be due to the improper use of the house, especially for washing, drying clothes, etc., but much of the dampness is due to faults in the location or construction of the building. Another important matter in relation to health resulting from the location of the dwelling is the noise occasioned by factories, railroads, and street traffic. Some of this noise is unavoidable in a large city, while part of it may be lessened by judicious police regulations, but the power of the police is limited to suppressing such noises as can be shown to be detrimental to the health of the citizens. The exact effect of such noise is undetermined, but it is probable that it is a factor in the causation of that product of modern civilization, neurasthenia.

In this country the increasing popularity of flat life is creating a problem that sooner or later must be met and solved. Such a life is essentially an unnatural one. A majority of flats, although provided with modern conveniences in the way of heat, water supply and artificial light, are so constructed that one or more of the rooms can never be exposed, either directly or indirectly, to the sun's rays, in many cases requiring artificial light for their illumination. That such rooms furnish ideal conditions for the development of germ life is evident. Too often it is the case that bedrooms or water closets are ventilated and lighted only by an air shaft—and this, too, in the apartment buildings of the better grade. Such conditions are inimical to the health of those living in such a building. To the health of the housewife in particular is flat life prejudicial. Add to the unnatural excitement of city life the lack of facilities, in the way of gardening, etc., for her to get near to Nature, and the psychical effect of being more or less closely confined within the narrow limits of her apartment, and we have conditions that predispose to the development of any latent neurotic tendencies which may exist.

The regulation of building and the provision of sanitary dwellings is emphatically a medico-social function, in the performance of which the physician must take a leading part by virtue of his special knowledge. He can be of assistance in framing suitable laws and in advising proper police regulations. The German physician comes in touch with this problem also through his services to the societies for industrial insurance against illness. The American physician, although less likely to find such a sphere of influence, will have abundant opportunity to advise his private patients regarding their choice of a residence. While the housing problem is not as acute in America as in Europe, we should not allow the opportunity to pass for the establishment of laws and regulations which will prevent the development of a situation so favorable to disease and immorality. By acting with a wise foresight, we shall be fulfilling our highest duty as guardians of the public health.

THE NUMERICAL RELATION OF THE SEXES.

Statistics of births are now complete enough to afford a fairly reliable basis for some interesting conclusions. These are made the subject of an elaborate study by J. B. Nichols,[1] who has obtained data aggregating 693,785,722 living births and 13,635,986 still-births, or 707,421,708 births in all. These data are chiefly supplied by the exhaustive compilation of birth statistics published in *Statistique générale de la France*[2] supplemented by some data from original and other sources. The statistics regarding illegitimate births are of questionable value in consequence of the incomplete report and registration of these births, and, therefore, the estimate of total births is subject to some doubt. Some problems relating to the proportion of sexes have either received insufficient investigation or the data are imperfect so that a definite conclusion can not be given. This is true of the relations to war, climate, race, country and city, age, vigor, and social and financial condition of the parents, etc. Leaving these out of consideration, the principal conclusions established by this study are: The proportion of males to females at the age of differentiation of the sexes is higher than at any subsequent period and closely approaches the ratio of 1,063 sons to 1,000 daughters; more male fetuses die during pregnancy than female, and more males are still-born than females, so that the proportion of males to females among children born living averages, among peoples of the white race, 1,057 to 1,000. Among illegitimate children the proportion of males to females is lower, both of those born living and of those who perish during pregnancy, than in the case of legitimate births. The greater relative mortality of the male sex extends in a marked degree through the first year of life and in a diminishing ratio thereafter. These statistics seem to indicate a slight relative weakness of the male sex which, after all allowances have been made for accidents at birth in consequence of larger size, seems to exhibit less power of resistance to the causes of disease than the female. The proportion of sons is greater in large families than in small ones, Nichols asserts, but progressively decreases as the number at a birth increases. After all, however, while these studies and deductions are interesting and suggestive, they can not be regarded as safe bases for forming conclusions that may be accepted as satisfactory.

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[1] Zeitsch. f. aerzt. Fortbildung, March 15, 1907.

[1] Mem. American Anthropological Assn., February, 1907, i, part 4.

[2] Statistique annuelle du mouvement de la population, 1903, xxxiii.

THE AGE LIMIT.

Railroad managers, who are generally understood to know their own interests and those of the corporations under their charge, are undergoing apparently a change of views, at least in some cases, as to the expediency of excluding men of full majority or middle age from employment. If this is as we must suppose the result of experience, it means that the man of over 35 has been found to have still a reasonably long period of usefulness before him, even in the trying duties of a railroad employé. Heretofore it has been the theory that it is not profitable for roads to employ men over this age, and this. it seems, has been found too narrow a limit. While there is no doubt that many men are at their best efficiency before the fourth decade has passed, it does not necessarily follow that this is always the case or that there are not frequently greater possibilities for usefulness after that period than before. General rules are not capable of too universal application, and there are many occupations in which a rigid rule regarding age limit would be unprofitable. The fact that the railroad companies are apparently beginning to recognize this truth is significant. Young men will always be to the fore in many lines, but much of the best work will always be done by men somewhat more advanced in years. It is probable that of late years we have placed the age limit unreasonably low.

SANITATION AND ETHICS.

In a recent issue of THE JOURNAL[1] editorial notice was given to the statements of Dr. Solis-Cohen regarding the sanitary effects of some of the Jewish ritual observances. The Jewish religion is not altogether peculiar in this respect and Christianity has inherited from the Jews some valuable sanitary practices, one of the most important of which, the seventh day rest, was not specially emphasized by Dr. Solis-Cohen. That it is not universally observed in Christian populations is admitted, but that it would be better if it were probably no physician would deny. The institution of Lent was undoubtedly a saving ordinance from a sanitary point of view during a considerable period of the world's history, and in many countries it probably still has a beneficial effect on the public health. The change from a salt meat diet, which was for many centuries largely the rule during the winter months in Europe, to a more or less exclusively vegetable one was a salutary measure that would hardly have been thought of, much less adopted, save for the injunctions of religion. In some respects, however, religious practices have been directly insanitary, and this was particularly the case during the Middle Ages under the influence of the asceticism of that time. Taking into account other religions than Christianity one would not have to look far for plenty of evidence of the conflict between religious observances and enlightened sanitation. Christianity and Judaism stand almost alone among religions in that regard for human life and welfare which is the basis of all sanitary regulations. Even in the most enlightened of heathen nations sanitary science is practically non-existent, save where it has been introduced through the influence of Christian nations. Whatever is conducive to the moral well-being of a people also raises its physical standards. and so far as religions conform to moral concepts so far are they favorable to physical as well as to moral welfare. The sanitarian in his practical teachings, if not in his theories, is also a moralist. This is a truism that does not always appear as self-evident as it should.

THE "MEDICAL INSTITUTE" FRAUDS.

Advertising quacks, having as a rule a certain definite line of treatment (?) for all patients, have long been known to fabricate the diagnoses of their victims' ailments to suit such treatment. The knocking down of these men of straw, in fact, constitutes the theatrical side of their business. Most of these concerns at least have been consistent enough to have some slight degree of relationship between their diagnoses and their treatments. In the suit instituted against the "Wisconsin Medical Institute" recently mentioned in these columns it appears that even the element of consistency is sometimes lacking. According to the testimony of the "doctor" employed by the institute not only were false diagnoses given, but the treatment (?) instituted would not have helped the patients even had the diagnosis been correct. The testimony was fortified by the fact that the physician in question was an unwilling witness and that his statements had to be drawn out by sharp questioning on the part of the state's attorney. Medical and surgical institutes of the advertising type have been profitable concerns in the past and such testimony indicates the reason. A few more prosecutions actively carried out and the details thoroughly ventilated in the public press, ought not only to put some of these concerns out of commission but give the business generally a sort of advertisement that would make it less profitable in the future. Unfortunately, the worst of these establishments are the most invulnerable on account of the difficulty of obtaining the testimony of those who have put their reputations in their power.

Farming for the Insane.—I am fully convinced that a thoroughly equipped farm properly conducted will contribute more to the cure of the insane than any other one thing we may resort to.—W. E. Taylor, M.D., in *Charities and the Commons.*

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[1] Ritualistic Sanitation of the Jews, THE JOURNAL, March 2, 1907, 801.

Medical News

ALABAMA.

Sputum Cups.—Dr. Gaston J. Greil, health officer of Montgomery, will distribute gratis 500 sputum cups to consumptives who apply.

Hospital Notes.—Dr. J. C. Moore, Anniston, has converted his residence into a private sanitarium, with accommodation for eight patients. The hospital will be open for the use of the practitioners of the city.

Personal.—Dr. Richard F. Michels, Montgomery, celebrated on March 9 the sixtieth anniversary of his entering the practice of medicine.——Dr. Shirley Bragg, Montgomery, was recently appointed state inspector of jails, almshouses and cotton factories.——Dr. John W. Watts, Birmingham, has been selected as physician for the Birmingham convict camp, and Dr. John C. McLeod, Bay Minette, for the Dolive camp.

Society Meeting.—The De Kalb County Medical Society, at its annual election, held at Fort Payne, elected Dr. Sidney J. Vann, Collinsville, president; Dr. William S. Duff, Fort Payne, vice-president, and Dr. Wiliam E. Quinn, Fort Payne, secretary-treasurer.——At a meeting of the Medical Society of Colbert County, held in Tuscumbia, March 21, the following officers were elected: President, Dr. Taylor H. Henry; vice-president, Dr. Julius T. Haney, and Drs. H. W. Blair and Morriss Henry, censors.

Government Takes Over Quarantine.—On April 1 the United States Public Health and Marine-Hospital Service has directed Dr. Edward Francis, in charge of the Mobile Marine Hospital, to assume control of quarantine at Mobile and to begin the inspection at Fort Morgan of all tropical vessels. Dr. Rhett Goode, president of the quarantine board of Mobile Bay, has been advised that the government has approved the sale of the local quarantine station and has received a check for $18,000, covering the purchase.

Medical College Transfer.—At a meeting of the faculty of the Medical Department of the University of Alabama the building and contents formerly known as the Mobile Medical College was turned over to the medical department of the university. The present members of the faculty were reappointed. The first payment on the appropriation made by the state for the improvement of the institution will, it is understood, be made April 1. Commencement exercises of the Medical Department of the University of Alabama will be held April 15.

ARKANSAS.

Physician in Trouble.—Dr. Oscar S. Burrow, Hot Springs, charged with violating the drumming ordinance, was found guilty and his license to practice was revoked and a fine of $100 assessed.

Personal.—Dr. W. B. Welch, Fayetteville, was seriously hurt by a fall at Fort Smith, March 20.——Dr. A. L. Carmichael, Little Rock, has been elected by the State Board of Charities to fill the unexpired term of Dr. A. J. Harrison as physician for the charitable institutions.

Society Meetings.—The Saline County Medical Society, at its recent meeting, held at Benton, elected Dr. John W. Melton, Alum, president; Dr. Charles Prickett, Traskwood, vice-president, and Dr. Charles J. Steed, Hurricane, secretary-treasurer.——At the annual meeting of the Lincoln County Medical Association, held at Star City, the following officers were elected: President, Dr. J. K. McClain, Star City; vice-president, Dr. John T. Palmer, Varner; secretary-treasurer, Dr. Benjamin F. Tarver, Star City; censors, Drs. W. C. Kimbro, Tyro, and Charles W. Dixon; delegate to the state medical association, Dr. John T. Palmer, Varner, and alternate, Dr. J. F. Johns.——At the annual meeting of the Tenth Councilor District, or Northwest Arkansas Medical Association, held at Fort Smith, March 20, about fifty members were present. Dr. J. N. McCormack delivered an address to the public at the high school auditorium and the following officers were elected: President, Dr. W. N. Yates, Fayetteville; vice-president, Dr. James J. Smith, Paris; secretary, Dr. James A. Foltz, Fort Smith; treasurer, Dr. O. M. Bourland, Van Buren. Fayetteville was selected as the place for the next meeting.

CALIFORNIA.

Building for Physicians.—The Sawyer building, eight stories high, of steel construction, at present being erected at Sutter and Jones streets, San Francisco, is built to meet the special requirements of physicians and dentists. The building will cost $300,000 and is expected to be ready for occupancy April 1, 1908.

Personal.—Dr. Percy Sumner has resigned as resident physician of the California State Prison and Dr. W. M. Thorn has been appointed to fill the vacancy. Dr. Sumner is going to take graduate work on the eye, ear, nose and throat in the East.——Dr. Charles B. Pinkham has been appointed chief surgeon of the Western Pacific Railway, with headquarters at San Francisco.——Dr. Charles Freedman, Los Angeles, chief police surgeon at the Receiving Hospital, has resigned.——Dr. Chauncey Wilder, Oakland, formerly of Elgin, Ill., shot and killed a burglar who was trying to enter his house March 15.——Dr. A. A. Stafford, San Francisco, is expected to return from New York early next month.——Dr. F. M. Pottenger, Monrovia, will leave for a four months' trip to Europe about April 1.

Society Elections.—At the annual meeting of the Solano County Medical Society, at Vallejo, March 14, these officers were elected: President, Dr. C. E. Turner; vice-president, Dr. J. W. Huckins; secretary, Dr. J. J. Hogan, and treasurer, Dr. Fred T. Bond.——The twenty-third semi-annual meeting and banquet of the San Joaquin Valley Medical Society was held at Hanford, March 12. Dr. W. T. Barr was elected president; Dr. Fowler, vice-president; Dr. D. H. Trowbridge, secretary, and Dr. T. M. Hayden, treasurer.——The Central California Health Officers' Association, at its meeting in Hanford, March 11, elected Dr. R. W. Musgrave, Hanford, president; Dr. S. W. R. Langdon, Stockton, vice-president; Dr. John R. Butin, Madera, secretary, and Dr. G. L. Long, Fresno, treasurer.

COLORADO.

Personal.—Dr. Francis B. Rothrock, Colorado Springs, was run over after a breakdown of his buggy and was painfully injured.——Dr. and Mrs. Horace G. Wetherill, Denver, are taking a tour in Europe.——Dr. Michael Bashoar, Trinidad, has been elected vice-president of the American Tuberculosis League.

Society Meetings.—At the annual meeting of the Fremont County Medical Society, held in Florence, Dr. Royal C. Adkinson, Florence, was elected president; Dr. Pitt A. Wade, Canon City, vice-president; Dr. Raynor E. Holmes, Canon City, secretary-treasurer, and Dr. Wilbur T. Little, Canon City, delegate to the state association.——The Teller County Medical Society, at its annual meeting held in Cripple Creek, elected the following officers: President, Dr. Will F. Hassenplug, Cripple Creek; vice-presidents, Drs. Benjamin F. Jones, Goldfield; Walter W. King, Cripple Creek, and Albert C. McClanahan, Victor; secretary, Dr. Thomas A. McIntyre, Cripple Creek; treasurer, Dr. Alfred J. Campbell, Victor, and delegate to the state association, Dr. Albert C. McClanahan, Victor.

ILLINOIS.

Health Bill Progresses.—House bill No. 468, amending the State Board of Health Act of 1877, passed the House of Representatives March 28 by a vote of 99 to 1. There has been no further change in the status of the other bills previously noted in The Journal.

State Board Orders Prosecution.—Acting under directions from the secretary of the State Board of Health, the state's attorney at Peoria is reported to have instituted proceedings against C. M. Tharp, Kingston Mines, for practicing medicine without a license. A judgment was, it is reported, found against Dr. Tharp in 1902 for the same offense, and Dr. Egan has instructed the state's attorney immediately to collect the penalty of $200 prescribed in this case.

Chicago.

In Aid of Hospitals.—The concert at Orchestra Hall, April 1, netted $3,000 for St. Mary of Nazareth Hospital.——The Fresh Air Fund for the Jackson Park Sanitarium for Babies was increased by $2,000 as the result of a benefit performance, March 28, at the Garrick Theater.

Cocain Seller Fined.—Albert Dahlberg, against whom the police have been waging a crusade for selling cocain, pleaded guilty March 28, and was fined $150 and costs by Municipal Judge Newcomer. He was also put on probation and ordered to report to the court every two weeks.

A High Death Rate.—The death rate in Chicago is unprecedented in the history of the health department. During the week ended March 30, 744 deaths were reported, equivalent to an annual death rate per 1,000 of 18.40. The death rate for the corresponding week of 1906 was 14.80 per 1,000. Pneumonia caused 172 deaths; consumption, 85; heart disease, 55; nephritis, 45; violence, including suicide, 40; cancer, 34, and acute intestinal diseases, 30.

Communicable Diseases.—During the week ended March 30, 169 new cases of scarlet fever were reported, with 16 deaths; 88 cases of diphtheria, with 8 deaths, a decrease in new cases of 33 in the case of scarlet fever and 35 of diphtheria, as compared with the preceding week. An increase of 18 cases of measles was noted, 126 cases being reported for the week. No cases of smallpox have been found during the week, and the Isolation Hospital still contains 17 patients.

IOWA.

Tuberculosis Hospital Site.—Two pieces of property west of the Iowa River, near Iowa City, have been deeded to the state as a site for the new tuberculosis hospital, to be built at a cost of $70,000. The actual building of the hospital is expected to begin during the summer.

Smallpox.—The prevalence of smallpox at State Center has necessitated the closing of churches and schools and the interdicting of public gatherings.——Four cases of smallpox are reported from Davenport.——The public schools of Anita have been closed on account of smallpox, three cases of the disease having been reported.——Clemons is reported to have two cases of smallpox.

College Officers and Faculty Elected.—Dr. Frederick E. Franchere was elected president of the board of trustees of the Sioux City College of Medicine at its annual meeting; Dr. R. H. Munger was elected vice-president; Dr. Edwin D. Frear, secretary; Dr. Robert M. Gallen, professor of materia medica; Dr. Howard N. Brothers, professor of therapeutics; Dr. William Gillaume, professor of diseases of children; Dr. Frank S. Johnson, professor of diseases of the nervous system, and Dr. Frederick A. Franchere, professor of diseases of the eye, ear, nose and throat. Drs. William S. Tharp and Edwin D. Frear were elected members of the board of trustees, and Dr. John A. Dales was re-elected a member of the board.

Personal.—Dr. Charles E. Ruth, Keokuk, on the eve of his leaving for his new home in Colorado, was the guest of honor at a banquet March 15, given by his professional brethren of Burlington.——Dr. Ira D. Kauffman has been appointed health officer of State Center, vice Dr. Pliner W. Coe, resigned.——Dr. William O. Parish, Osceola, on the occasion of his sixty-eighth birthday, was presented with a Morris chair by the Clark County Medical Society, of which he is president.——Dr. Alden H. Wight, New Hampton, was stricken with cerebral hemorrhage, March 16.——Dr. Schroeder, Traer, has returned from Germany.——Dr. and Mrs. Isaac E. Nervig, Sioux City, were injured in an ice avalanche at Niagara Gorge, March 12.——Dr. Russell J. Hemphill, Plymouth, was thrown from his carriage in a runaway accident recently, suffering severe cuts and bruises.

KANSAS.

Epidemic Diseases.—More than 60 cases of measles were reported in Fort Scott.——Measles is reported to be epidemic in Leavenworth.——More than 1,000 high school students of Topeka were recently exposed to smallpox and ordered vaccinated. Topeka has at present 9 smallpox patients in the Isolation Hospital.——During the first 18 days of March more than 100 cases of contagious diseases were reported and placed under quarantine at Topeka.——The health officer of Wichita reports 42 cases of smallpox in that city.——It is reported that there are more than 40 cases of smallpox in Hutchinson.

Hospital Notes.—Evergreen Hospital, a private sanitarium at Leavenworth, was destroyed by fire March 18, with a loss of $50,000. The inmates escaped uninjured. The Planters' House, Leavenworth, is to be used as a sanitarium until the management of the hospital secures permanent quarters.——The Commercial Club of Topeka has taken on itself the responsibility of securing a site for the proposed Sisters of Charity Hospital in that city. The sisters will build a hospital to cost between $25,000 and $50,000, on the condition that the city furnishes a site.——The governor has authorized an addition to the Post Hospital, Fort Riley, to cost $35,000. The hospital was built last year at a cost of $40,000.

KENTUCKY.

Epidemic Diseases.—Sharpsburg and its vicinity are said to be suffering from an epidemic of influenza.——Measles is reported to be epidemic at Paducah.——On account of the prevalence of scarlet fever at Borden the public schools have been closed.

Academy Officers.—At the annual meeting of the Louisville Academy of Medicine Dr. J. Rowan Morrison was elected president; Dr. Hugh R. C. Manning, vice-president; Dr. Oscar E. Bloch, secretary, and Dr. Gavin Fulton, treasurer. Dr. Daniel M. Griffith, Owensboro, president of the state medical society, was the guest of honor.

Tuberculosis Clinic.—The Kentucky Anti-Tuberculosis Association has decided to purchase 53 acres, between Taylor Boulevard and the Eighteenth Street road, Louisville, for $13,300, on which a hospital will be erected. The association has arranged to hold two clinics a week at the City Hospital and to furnish a visiting nurse free to the poor, the city to provide quarters and medicine.

Incorporated Milk Commission Inadvisable.—At the last meeting of the Jefferson County Medical Society the milk commission deemed it not advisable to incorporate the commission, as had been suggested at the last meeting, as the state pure food authorities had in charge all legal matters which might arise. The commission reported that of three supplies of certified milk all had a bacterial count of less than 5,000 and one of these a count of only 1,000, the standard being 10,000 per c.c.

Personal.—Dr. and Mrs. Joseph M. Mathews, Louisville, have returned after three months in Florida.——Dr. William A. Keller, city physician for the west end, Louisville, is reported to be critically ill.——Dr. William T. Willis, Mount Sterling, recently pushed his right arm through a glass window, cutting an artery and nearly bleeding to death.——Dr. Joseph W. Hill, formerly of Bardstown, and for the last four years superintendent of the Kentucky Institute for the Education and Training of the Feeble-Minded Children, Frankfort, has resigned to enter private practice, and will probably settle at Versailles.

Eradication of Bovine Tuberculosis.—A special meeting of the Kentucky Veterinary Association was held at the Galt House, Louisville, March 28, in the interest of a measure to be introduced in the next legislature for the eradication of tuberculosis among dairy cattle. During the discussion two of the local veterinarians made the statement that the inspection of dairies as now practiced by them is a farce; that it is easy to make money by driving to a fence along side a dairy, asking the number of cows in the herd, writing a certificate that they are healthy and receiving 50 cents a head therefor, It was stated that 25 to 35 per cent. of the cattle supplying milk to Louisville are tubercular; and a still larger percentage, around Covington.

Faculty Officers of Merged Colleges Elected.—At a meeting of the combined medical faculties of the University of Louisville and Kentucky University, to be known in the future as the Faculty of the University of Louisville, Medical Department, held March 27, in Louisville, the following officers were elected: President, Dr. James M. Bodine; dean, Dr. Thomas C. Evans, and secretary, Dr. Richard B. Gilbert. Dr. Bodine in accepting the office stated that with the present session he was rounding out his fortieth year as dean of the university, and that it was with regret he relinquished it for the more responsible position of president of the faculty. An advisory committee was appointed, composed of the chancellor, Drs. John C. Willis, Joseph B. Marvin, Thomas L. Butler, Adolph O. Pfingst and John G. Cecil. This committee, with the faculty, will have in charge the details of the college work.

MARYLAND.

Fight Against Consumption.—Nearly $8,000 of the $10,000 fund required for the work of the Maryland Association for the Prevention and Relief of Tuberculosis has been subscribed. A branch of the society has been organized at Hagerstown, with Dr. James W. Humrichouse as vice-president, and Dr. Christian R. Scheller as treasurer.

Personal.—At a meeting of the Society of Colonial Wars, held March 28, the anniversary of the settlement of Maryland, Dr. Bennett B. Browne was elected librarian, and Dr. H. Barton Jacobs, surgeon.——Dr. Brice W. Goldsborough, Cambridge, is ill at Johns Hopkins Hospital, Baltimore.——Dr. Charles G. W. MacGill is ill at his home in Catonsville.

Bequests.—By a decision of the Circuit Court, March 18, the Union Protestant Infirmary, Baltimore, received a legacy of $5,000 devised to it in 1901, with interest from that date.——The late Martin Kelly, Baltimore, after some small bequests, devises one-half the residue of his estate to St. Agnes' Sanitarium.——Moses Pels, a wealthy shoe dealer of Baltimore, has empowered his executors to make certain charitable bequests, no stipulation as to the amount or the institution being made.

Insanity on the Increase.—According to the twenty-first annual report of the lunacy commission, prepared by the secretary, Dr. George J. Preston, Baltimore, insanity is on the increase in Maryland. Additional accommodation must be provided for the indigent insane, and the coming legislature will be called on for an increased appropriation to this end. Of the causes of insanity named in the report heredity leads, alcohol coming next. Employment is considered the best medicine for the chronic insane, when the condition of the patient will permit its use.

MASSACHUSETTS.

Mueller in Boston.—Dr Friedrich Mueller, Munich, spoke March 27 before the Boston Medical Society on "Social Legislation in Germany and Its Influence in the Care of the Sick."

Alumni Association Meets.—The Western Massachusetts Alumni Association of the Medical Department of the University of Vermont, Burlington, held its third annual banquet at Springfield, March 21. The guest of honor was Dr. Henry C. Tinkham, Burlington, dean of the medical school, and Dr. Charles J. Downey, Springfield, officiated as toastmaster. The following officers were elected: President, Dr. Charles J. Downey, Springfield; vice-president, Dr. James M. Fay, Northampton, and secretary-treasurer, Dr. Mortimer J. Stoddard, Springfield.

Epidemic Diseases.—The White Star Liner *Cymric* was held at quarantine, March 25, on account of a case of smallpox on board. The thousand steerage passengers were vaccinated before the steamer was released.——Because of the number of cases of scarlet fever in Boston, the Board of Health has asked an increase in its appropriation from $210,000 to $240,000.——At the annual town meeting of Brookline, $238,178 was appropriated for the public safety and health account. ——A sophomore at Harvard is reported to have died at the college hospital, March 20, from spinal meningitis.——Fourteen cases of variola were reported in Lawrence, March 24, and seven more developed during last week. The disease is in mild form, and the patients have all been removed to the Isolation Hospital.

NEW YORK.

More Typhoid at Katonah.—Three new cases of typhoid fever have been reported at the village of Katonah. Dr. Darlington has gone over the entire territory and found everything in a hygienic way apparently as it should be, and contamination of the city water supply seems impossible.

Sanitarium Gabriels.—This institution, which is located in the Adirondacks and cares for those in the first stages of tuberculosis, is seriously handicapped by lack of funds and asks $65,000, of which $8,461 must be raised before May 24. About $135,000 has already been spent on buildings and equipments.

New State Hospital.—The State Lunacy Commission wants the state to buy a site for the building of a hospital on the cottage plan, and has drafted a bill for passage by the legislature providing for this. The state's lease of Ward's Island expires in five years; therefore, future disposition of the many patients there now necessarily occupies the commission's attention.

New York City.

Personal.—Dr. Mary Crawford has been appointed to the surgical staff of the Williamsburg Hospital.——Dr. and Mrs. John J. Nutt sailed on the *Pennsylvania* for Hamburg, March 30.

Tablet to Dr. Fowler.—The Society of Ex-Internes of Seney Hospital, Brooklyn, will unveil a bronze tablet to the memory of Dr. George Ryerson Fowler. The tablet will be placed in the main hall of the hospital.

Pneumonia on the Increase.—According to the winter report of the Board of Health during the period from Dec. 8, 1906, to March 9, the deaths from pneumonia in Greater New York were 4,105, while those from tuberculosis numbered only 2,496.

Talk on Charity.—Attorney General Bonaparte delivered a lecture at Carnegie Hall, from which the Society of St. Vincent de Paul realized $2,000, which will be devoted to its charitable works in this city and its fresh air farm at Spring Valley.

Appeal for Samaritan Hospital.—A movement is on foot to raise $200,000 for the erection and equipment of Samaritan Hospital. This hospital is the outgrowth of a dispensary established six years ago because of the rapid growth of the section in which it is located. The hospital was incorporated in 1904.

Milk Hearing Ends.—The last public hearing before the committee of aldermen, on the subject of pasteurization of the city milk supply, was held March 29. In view of the stand taken by the Board of Health and endorsed by the Academy of Medicine, the scheme for wholesale pasteurization was given up, though the crusade for better conditions in the dairies will be prosecuted with diligence.

Glasses for School Children.—At the last meeting of the Board of Education there was a spirited discussion over the question of furnishing glasses for school children with defective vision. It was stated that 36,000 children in the schools are suffering from defective vision, and that the majority of the parents of these children are unable to furnish them with glasses. A resolution was appended to this report asking for $30,000 to fit up rooms for testing eyes and for the provision of glasses, etc. The resolution was laid over until the next meeting.

Better Hospital for Immigrants.—The plans for the improvement of the immigrant station at Ellis Island and for the completion of the huge contagious diseases hospital which is being built on a small artificial island adjoining Ellis Island, will be completed by July 1, when the appropriation will be available, and the work will be rapidly pushed to completion. The recent Congress appropriated $850,000 to be expended on these improvements. Of this sum $400,000 is for remodeling the main building, and $250,000 was added to a former appropriation for the hospital.

City Hospitals Full.—The Commissioner of the Charities Department has presented a report to the State Board of Charities telling of the overcrowded condition of the various hospitals and institutions under his care. During the coming month he will act on bids for the construction of city buildings to cost $2,000,000. The Sea View Hospital for tuberculosis patients on Staten Island had been halted by an injunction obtained by real estate dealers and owners who claim that the institution is for contagious disease and should be under the management of the Health Department. The city has over 10,000 helpless persons to care for and, owing to the growth of population and the influx of immigrants, is confronted with a difficult problem. Even at present all the institutions for the care of this class are overcrowded and the improvements now under way should have been completed years ago.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended March 16, 435 cases of tuberculosis, with 209 deaths; 429 cases of measles, with 13 deaths; 365 cases of scarlet fever, with 25 deaths; 256 cases of diphtheria, with 37 deaths; 55 cases of typhoid fever, with 4 deaths; 45 cases of whooping cough, with 9 deaths; 21 cases of cerebrospinal meningitis, with 16 deaths; and 106 cases of varicella; a total of 1,712 cases and 313 deaths. There were reported to the sanitary bureau for the week ended March 23, 410 cases of tuberculosis, with 169 deaths; 44 cases of measles, with 13 deaths; 375 cases of scarlet fever, with 19 deaths; 318 cases of diphtheria, with 34 deaths; 101 cases of typhoid fever, with 17 deaths; 61 cases of whooping cough, with 12 deaths; 21 cases of cerebrospinal meningitis, with 18 deaths; 99 cases of varicella and 3 cases of smallpox; a total of 1,832 cases and 282 deaths.

PENNSYLVANIA.

Diphtheria Epidemic.—Diphtheria has become so prevalent at Intercourse, near Lancaster, that the school board has closed the public schools and will not have them reopened this spring.

Must be State or Private Hospitals.—Governor Stuart has vetoed a bill for mixing state and private management of hospitals, a practice well established in the state. There are hospitals that will not accept state aid, but there are others that accept it under the present system, but would refuse it rather than submit to partial state control. The bill directed the governor to appoint two directors or trustees of all institutions, hospitals, etc., which receive state aid for maintenance or other purposes. The state would not obtain control of the institutions, but only the means of interfering with private control.

Care of Insane Inadequate.—The commission appointed by the last General Assembly to investigate the management of Pennsylvania institutions for the insane, submitted its report to the governor March 24. The commission finds that the housing or custodial care of the insane in the institutions supported by the state is totally inadequate and inefficient, because of the age and crowded condition of the buildings; that those responsible for the treatment and care of nearly 15,000 inmates of these institutions have not kept apace with the highest medical skill and science; that the laws and decisions fixing the responsibility of relatives and others for the support of the inmates have not been enforced, in consequence of which the counties have not been reimbursed in many thousands of cases and the state has not been reimbursed for money amounting to hundreds of thousands of dollars paid for the maintenance of such inmates, which should have been repaid by the estates of inmates or relatives responsible under the law.

Health Officers for Rural Districts Advocated.—The cities and boroughs throughout the state are strongly advocating Health Commissioner Dixon's appointment of health officers for the unprotected rural districts. There are about 2,500,000 people in the state who live in districts where there are no local boards of health. The 700 health officers appointed by Dr. Dixon for the rural districts will see that the regulations of the State Department of Health for the control of communicable disease are obeyed. The enforcement of such regulations in the case of scarlet fever and diphtheria, for instance, will be particularly beneficial. Not only will every case like this be placarded by the health officer, but on the termination of the case he will disinfect the premises properly. Following the placarding of such contagious diseases as require the exclusion from school of the children in the household, the township health officer will serve a written notice on the school in regard to such exclusion. He will also notify the libraries in the district, so that books may not be granted to those residing in infected houses.

Personal.—Dr. Herman A. Brav, Philadelphia, has been elected surgeon in charge of the department of rectal diseases in the American Hospital for Diseases of the Stomach.——Dr. B. Harry Warren, West Chester, has resigned as dairy and food commissioner of Pennsylvania. The salary of the office is $2,500 a year.——Dr. Charles H. Saul, Steelton, who has been seriously ill for several weeks, is convalescent.—Dr. William E. Kunkle, Williamsport, is reported to be seriously ill at his home.——Dr. James S. Koontz, Johnstown, who has been ill for several weeks, has recovered.——Dr. Alfred J. Yost and family, Allentown, have returned from Denver.——Dr. Isaiah F. Everhart, Scranton, was recently stricken with cerebral hemorrhage, and is reported to be critically ill.——Dr. Austin M. Grove, York, has been appointed coroner of York County, to fill the unexpired term of Dr. Herbert F. Gross.——Dr. Sidney Davis, Milton, was thrown from his buggy in a runaway accident recently and severely cut and bruised.——Dr. Franklin F. Arndt, Scranton, has resigned as city bacteriologist, and Dr. Jonathan M. Wainwright has been appointed his successor.——Dr. Jesse G. Kistler, Germansville, who was recently injured about the head in a runaway accident, is reported to be critically ill with erysipelas.

Philadelphia.

Protest Against Veterinary Hospital.—Dr. Henry W. Cattell writes that there was an error in an item in The Journal, March 30. He states that the act entitled "An act for the protection of the public health, prohibiting hereafter the establishment or maintenance of additional hospitals, pest-houses and burial grounds in the built-up portions of cities," and reading, "that for the purpose of protecting the public health, it shall be unlawful hereafter to establish or maintain any additional hospital, pest-house or burial ground in the built-up portions; provided, however, that nothing herein contained shall be construed as to prevent the maintenance of any hospital, pest-house or burial ground now lawfully established and maintained in such portions of the cities," which was approved by Governor Stone, April 20, 1899, was repealed four years ago, ostensibly for the purpose of permitting the Phipps Institute to establish its hospital for consumptives, but really with the object of allowing the University of Pennsylvania to erect its Veterinary Hospital at Thirty-ninth and Woodland Avenue. Dr. Cattell condemns the health authorities of Philadelphia for the erection of the hospital, at which the most loathsome contagious diseases of the lower animals. transmissible to man, are to be treated.

Hospital for Insane Open.—Improvements began under contract last November involving the expenditure of $126.000 having been completed, the Philadelphia Hospital and addition for the insane was opened to the public March 27. As the male indigent were removed in September, 1906, to quarters in the Philadelphia Museums, the building formerly occupied by that class of inmates has been renovated and its new inmates were installed March 28. This renovation includes renewal of practically all floors, the cleaning and painting of walls, the displacement of all antiquated plumbing and the installation of the most modern appliances, the equipment of wards with new furniture, medicine closets, rolling chairs. stretchers and new linen. Other equally important improvements are the provision of new quarters in the old attic for 75 orderlies and attendants, new steam-heating appliances with guards for protecting the sick and insane, metal screens for windows and doors, fire escapes with additional stairways, all of which, on the insane side, are properly enclosed and a new tunnel through which the insane may go to and from meals in inclement weather without exposure. It is hoped that the fresh-air treatment for tuberculosis will soon be adopted on a large scale at the hospitals. At present there are 286 tubercular patients, 223 males and 63 females.

TEXAS.

Change in Hospital Plan.—The new hospital building to be erected at Temple for the use and benefit of the employés of the Santa Fe system at a cost of $100,000, is to be made fireproof, at an additional outlay of $20,000.

Epidemic Diseases.—Several well-developed cases of smallpox with one death are reported from Courtney.——Vaccination of all children in the public schools of Dallas was ordered March 8. Two physicians have been appointed for each ward school and the work is to be completed in one day.——The white and colored schools at Stafford and the colored school at Hockley have been closed on account of the prevalence of smallpox.

UTAH.

Personal.—Dr. William R. Tyndale, Salt Lake City, has been appointed assistant surgeon in the National Guard of Utah, vice Dr. Hiram A. Anderson, Salt Lake City, resigned.——Dr. William R. Calderwood, Salt Lake City, has been appointed county physician.——Dr. Alfred J. Ridges, Salt Lake City, has been appointed assistant in anatomy at the Johns Hopkins Medical School, Baltimore.

Medical Board Named.—The governor has made the following nominations for members of the State Board of Medical Examiners: Drs. David C. Budge, Logan, Cache County; Amasa S. Condon, Ogden, Weber County; Charles L. Olsen, Murray; Alexander C. Ewing, Salt Lake City; Elias S. Wright, Salt Lake City; Frederick E. Straup, Bingham Canyon; Robert W. Fisher, Salt Lake City; Ralph Richards, Salt Lake City, and A. P. Hibbs, Weber County.

Epidemic Diseases.—Several cases of diphtheria have recently developed in Ogden.——The county quarantine physician, Dr. Ferguson, Castledale, states that the cases of smallpox at Orangeville, Ferron and Clawson have recovered and the county is now free from the disease.——It is reported that there have been 24 deaths from cerebrospinal meningitis since January 1.——The inspector of the state board of health reports 14 cases of typhoid at Segirt, Sevier County.

Work of the Legislature.—The State Board of Health rejoices over the fact that its work in the legislature has been successful and that its attempts to raise the hygienic and sanitary standards of the state have been appreciated. The following bills have been passed: A bill compelling manufacturers of nostrums to show on a label whether alcohol or narcotics form a part of the formula; a bill providing for the instruction of children in public and normal schools in the prevention of disease and the causes of disease; a new pure food law, similar to the national pure food law; a bill to prevent expectoration in public places and street cars, and requiring cuspidors to be placed in the day coaches on railroad trains; the marriage restriction bill was also passed.

VIRGINIA.

Medicine Samples Barred.—Health Commissioner Henry R. Dupuy, Norfolk, has refused to issue a permit for the distribution of samples of nostrums in the city.

Correction in List of Officers.—In the election of officers of the Richmond Academy of Medicine and Surgery, published in The Journal, March 16, page 957, the name of the third vice-president should have been Dr. Greer Baughman and that of the treasurer, Dr. William A. Shepherd.

Dispensary Report.—During 1906 the dispensary of the Medical College of Virginia, Richmond, treated 6,017 patients, 1,358 of whom were white and 4,659 colored. The surgical cases numbered 1,253; those of children's diseases 185, and 9,277 prescriptions were compounded at the dispensary.

Personal.—Dr. Oliver C. Brunk has assumed charge of the Eastern State Hospital for the Insane, Williamsburg. The successor to Dr. John M. Henderson will be chosen at the April meeting of the board.——Dr. John W. Williams, Richmond, who has been seriously ill with influenza, is convalescent. ——Dr. Trueman A. Parker, Richmond, has been appointed surgeon of the Seventieth Virginia Infantry, with the rank of major.

Jamestown Exposition.—Dr. Moses Benmosche, Norfolk, is in charge of the medical exhibit at the Jamestown Exposition. A demonstration of the methods for the prevention and cure of tuberculosis will occupy 5,000 square feet of space. Dr. Benmosche expects to go to Europe in the interest of the exhibit. ——Major Charles A. Woodruff, surgeon U. S. Army, has been appointed chief surgeon and chief sanitary officer of the camp of the United States troops and militia, to be established at the Jamestown Ter-centennial Exposition, with headquarters at Norfolk.

WASHINGTON.

Personal.—Dr. B. F. Roller, Seattle, has been dangerously ill with septicemia.——Dr. Sarah J. Dean, Seattle, was thrown from her carriage in a collision with a street car recently, and severely bruised.

Epidemic Diseases.—At Quilcene 52 cases of trachoma are reported, and the public schools of the place have been closed and thoroughly fumigated.——Spinal meningitis is reported to have broken out in the Puget Sound Navy Yard, Bremerton, and on the training ship *Philadelphia* at that place. The yard is under quarantine.——At Toppenish 5 cases of smallpox are reported and 17 individuals are under quarantine.

WISCONSIN.

Epidemic Diseases.—Viroqua reports 20 cases of smallpox.——Eau Claire has four cases of smallpox of a mild type.——Dr. Gerhard A. Bading, health officer of Milwaukee, recently went to Campbellsport to investigate 13 cases supposed to be smallpox.——Several schools in Outagamie County have been closed on account of an epidemic of measles.——Typhoid fever is reported to be prevalent in Manitowoc.

Society Meetings.—At the annual election of the Barron-Polk-Rusk County Medical Society held at Rice Lake, the following officers were elected: President, Dr. William B. Hopkins, Cumberland; vice-presidents—for Barron County, Dr. Grant F. Tanner, Turtle Lake; for Polk County, Dr. Abraham L. Wells, Clear Lake; for Rusk County, Dr. Lambert M. Lundmark, Ladysmith, and secretary, Dr. Olaf M. Sattre, Rice Lake.——At a meeting of the Outagamie County Medical Society, held at Appleton, Dr. William N. Nolan, Kaukauna, was elected president; Dr. Henry W. Abraham, Appleton, vice-president; Dr. Manly J. Sandborn, Appleton, secretary-treasurer; Dr. William A. Shepherd, Seymour, delegate to the state society, and Dr. William E. Zilisch, Hortonville, alternate.

GENERAL.

Measles on Battleship.—It is reported that measles is epidemic on the battleship *Georgia*, and that more than 50 men from that ship have been transferred to the naval hospital, Portsmouth, Va.

Medical Congress.—The second National Medical Congress of Mexico will be held in Mexico City, May 28-31, under the auspices of the Medical Society Pedro Escebodo. The governors of the various stat will send delegates to this congress, the work of which will be divided into eleven sections.

Epidemics.—It is reported that an epidemic exists at Reynosca, Mexico, from which 100 deaths have resulted. The governor of the State of Tamaulipas, however, denies that an epidemic exists.——The milk supply of Havana and surrounding towns is said to be the cause of a reported epidemic of typhoid fever.

Personal.—Passed Assistant Surgeon W. W. King of the Public Health and Marine-Hospital Service has returned to the Bitter Root Valley of Montana to continue his studies of Rocky Mountain spotted fever.——Dr. John N. Thomas, who has been in charge of the Mississippi River Quarantine Station a number of years, is reported to have been offered the position of medical inspector of Central American fruit ports during the quarantine season.——Surgeon-General Robert M. O'Reilly is one of the American delegates to the International Red Cross Congress, which will open in London June 10.

Accident Insurance Examiners Organize.—About 30 physicians and surgeons, connected with the examination work of accident insurance companies and claim departments met in Boston March 22, to discuss the plans for the formation of an organization. A committee was appointed to draw up a constitution and by-laws, to report at the next meeting, to be held April 8. The meeting was called at the instance of Dr. Frank E. Allard, who stated that the object of the association is to protect the public and companies from frauds. The committee appointed includes Dr. Frank E. Allard, chairman, and Drs. Edward M. Greene, Francis D. Donoghue, Harry H. Hartung, Charles T. Cutting and Charles O. Kepler, all of Boston.

Vienna Anglo-American Medical Association.—This organization was founded Feb. 4, 1906, and is similar to the Anglo-American Medical Association of Berlin, which was described in The Journal, Jan. 5, 1907, page 65. The society met at first twice a month, but meetings are now held every Friday evening; addresses are given by prominent physicians. All physicians of good standing, irrespective of nationality, engaged in graduate work, are eligible to membership. The purposes of the society are to promote the social intercourse of its members, to furnish information for the early and rapid orientation of new members in regard to board and lodging, restaurants and the scope and relative value of courses, and, furthermore, to promote the scientific advancement of its members. The membership of the association averages from 80 to 100 the entire year. The control of the personnel of certain popular courses has been placed in the hands of the association in order to enable the society to place the rights of priority to enter these courses on the fairest possible basis, namely, the length of time the applicants for admission have been in Vienna. For this privilege the association assumes, in a measure, the responsibility for keeping the courses full and for conducting them to the advantage also of the men who give them. A study of the register of the association shows an increase in the number of American physicians studying in Vienna. During 1904 210 physicians attended the various special courses and clinics; in 1905, 218, and in 1906, 295. In January and February of this year 55 men registered from various parts of the United States, as follows: New York, 9; Ohio, 7; California, 8; Pennsylvania, 6; Illinois, 6; Washington, 2; Nebraska, 1; Oregon, 2; Texas, 1; Connecticut, 2; Iowa, 1; Tennessee, 1; Montana, 1; Michigan, 2; Maryland, 1; Kentucky, 2; Virginia, 1; New Hampshire, 1; Massachusetts, 1.

CANADA.

University News.—The chair of medicine and clinical medicine in McGill University, Montreal, which was left vacant by the recent death of Dr. James Stewart, has been filled by the appointment of Dr. Frederick G. Finley for the didactic work. and of Dr. Henri A. Lafleur and Charles F. Martin to have joint charge of the clinical work.

Medical Inspection Stopped.—The medical inspection of schools in Montreal has been stopped for the present, owing to lack of sufficient funds to pay the 40 medical inspectors. Since the inspection began, six months ago, there is said to have been 70 per cent. less disease and uncleanliness in the schools of Montreal than formerly.

Militia Medical Officers Appointed.—The following senior medical officers have recently been appointed in the Canadian militia: Eastern Ontario, Drs. William A. Willoughby, Colborne; Richard W. Garrett, Kingston, and J. A. McCammon; Quebec command, Drs. Henri Trudel, St. Gregorie; J. P. Lord, Joseph E. Grondin, Charlesbourg; Ernest R. Brown, Montreal, and P. Ostigny.

Ministry of Health.—Dr. Domingo Orvananos, Mexico City, president of the American Public Health Association, has appointed the following as a special committee to further the establishment of a ministry of health in Canada: Dr. Robert M. Simpson, chairman of the Winnipeg Board of Health; Dr. P. H. Bryce, chief medical officer of the Department of the Interior, Ottawa, and Dr. F. Montizambert, director-general of public health for Canada.

Hospital News.—An addition is to be erected to the Stratford (Ont.) General Hospital at a cost of $20,000. It will provide for children's wards, maternity wards and operating room.——Nurses' homes are to be erected in connection with the Western Hospital, Montreal, and the Royal Victoria Jubilee Hospital, Victoria, B. C.—The Toronto Provincial Hospital for the Insane, following the appointment of a resident pathologist, has commenced the publication of a regular monthly bulletin on psychiatry. This marks a distinct advance in the study of psychiatry in Ontario. The first volume is largely devoted to methods of examination and to paranoia.——The thirty-fifth annual report of the British Columbia Provincial Hospital for the Insane shows that 150 patients were admitted to that institution during 1906, being 27 more than the previous year. Of this number 108 were males and 42 females. During the year 79 patients were discharged, the largest number in a single year.

FOREIGN.

Flowers and Plants for Berlin Hospitals.—A flower show was held at Berlin in March to raise funds to keep the public hospitals constantly supplied with cut flowers and plants.

Metric System Rejected by Great Britain.—The British Parliament has rejected, by a vote of 150 to 118, a proposal to make the metric system standard in the United Kingdom.

German Medical School Founded in China.—Shanghai is to have a German medical school, and Claude du Bois-Reymond of Berlin has been appointed professor. He is the son of the famous physiologist and has devoted himself mostly to ophthalmology.

Recipients of Salomonsohn Prize.—From the endowment for promotion of scientific research, known as the Salomonsohn foundation, sums have been given recently to Madam Rabinowitsch-Kempner of Berlin, Rosenfeld of Breslau and Zoeppritz of Göttingen, about $500 being divided between them.

Free Tuberculosis Dispensary in Constantinople.—An antituberculosis league in Constantinople will open a free dispensary where people, irrespective of creed and nationality, may receive treatment for tuberculosis or any other disease of the respiratory organs. It will be conducted as are similar institutions in western Europe.

Typhoid Fever in Turkey.—The *Lancet* states that there is much typhoid fever in several suburbs of Constantinople. In Haskeuy, on the left bank of the Golden Horn, more than 90 cases have been reported in a comparatively short space of time. The sanitary authorities are alarmed and the prefect of the city has ordered that all the drains and fountains should be examined and necessary repairs made.

Transactions of the International Cancer Conference.—A special number of the *Zeitschrift f. Krebforschung* is devoted to the transactions of the international conference of workers in cancer research which was held at Heidelberg last September. The journal in question is issued by D. v. Hansemann and G. Meyer as the official organ of the German cancer research committee, which has its central office in Berlin, Bendlerstrasse 13.

Extensive Bovine Vaccination in Argentina.—P. Römer of Marburg leaves at once for Buenos Ayres to apply von Behring's method of vaccination of cattle against tuberculosis on an extensive scale on request of the Argentine government. Römer has been at the head of one department of von Behring's Institute for Hygiene and Experimental Therapy, and the German government conferred the honorary title of professor on him as he left for South America.

Ernst Haeckel's Fiftieth Professional Anniversary.—On the occasion of the fiftieth anniversary of his graduation in medicine, Prof. Ernst Haeckel of Jena was made a privy medical councilor with the title of *Excellenz*. He practiced medicine for a time in Berlin, but then turned his attention entirely to the natural sciences and made his name famous with his researches and publications on comparative embryology, anatomy and physiology. He is now in his seventy-third year and said to be in the best of health.

Resignation of Hospital Medical Staff at Cracow.—A Vienna exchange states that the physicians connected with the public hospital at Cracow recently petitioned the authorities for increased remuneration. Their request was denied and they have unanimously decided to resign their positions on April 1, their resignations to take effect in two weeks. Steps are being taken to insure that their action will be sustained by physicians generally throughout Austrian Poland, so that no physician will accept a position in the hospital under present conditions.

Recipients of Tiedemann Prize.—This prize is awarded every fourth year by the Senckenberg Society at Frankfurt a. M. to the German writer who has produced the best work along the lines of comparative anatomy and physiology. It was awarded this year to E. Buchner of Berlin for his research which has demonstrated that the process of fermentation is not due to the action of living organisms, but is a physical contact action. The previous recipients of the prize have been Koch, Ehrlich, Bütschli, E. Fischer, von Behring, A. Kossel and F. Schaudinn.

A New Maternity for Constantinople.—The Italian Hospital of Constantinople, according to the *Lancet*, has opened a maternity section for the poorer classes of the population, under the charge of Dr. Stavridis. Three days a week there are free consultations. If a woman desires to enter the hospital she must write her name in the register kept at the hospital for that purpose and occupy the bed assigned to her. If a woman desires to be delivered in her own home she will be furnished information and assistance. The rooms in the maternity are equipped with every modern appliance, and the institution should prove a boon to indigent mothers.

Death of Berthelot, Founder of Organic Synthesis.—The death is reported from Paris of another great chemist, Prof. M. P. E. Berthelot, at the age of 80, to whom is ascribed the honor of laying the foundations for organic synthesis and for thermo-chemistry. Besides his important pioneer work in these lines, he published many articles on other phases of chemical research, fully 600 works issuing from his pen. The list includes a number of historical treatises on chemistry and alchemy, the results of study of papyri and of Greek, Arabian and Syrian records. He took an active part in public life, serving as minister of foreign affairs and as senator, and his long life was crowned with honors, although he never sought to make a pecuniary profit out of any of his important scientific discoveries from which others are still reaping such harvests.

Blackwater Fever in Bengal and Assam.—Blackwater fever is reported to be more virulent than ever in Jalpaiguri and the tea planters have appealed to the lieutenant-governor of Eastern Bengal and Assam for help. During 1906, 13 young Europeans out of a population of 200 died from this disease, and the survivors are beginning to ask themselves if the worldly prospects are such as to justify them in running so serious a risk to life by remaining there. According to the *British Medical Journal*, the mortality is not confined to Europeans; that of the coolies and of all whose work lies in the Duars is appalling, and it is hoped that the government will appoint a commission to investigate the matter. In spite of all that has been done on the subject, it is felt that the knowledge of blackwater fever is in an unsatisfactory condition and it appears that in Jalpaiguri the conditions for studying the subject are favorable. There are physicians on the spot who have intimate knowledge of the clinical features of the disease and of the local conditions and who will gladly place these valuable assets at the disposal of any commission which the government may appoint. The planters have promised a considerable sum toward the expense of an investigation; and as the existence of an important industry is at stake the government can hardly fail to help in the matter.

Congresses in Europe This Year.—The International Congress for Psychiatry, Neurology, Psychology and the Care of the Insane will be held at Amsterdam, September 2 to 7.——It will be followed a week later by the first congress of German neurologists, which meets at Dresden. At the latter the main addresses are to be on various phases of the surgical treatment of nervous affections, delivered by Krause, Bruns, Neisser and Müller.——The congress of French-speaking neurologists and alienists is to be held in Switzerland in August, Prévost of Geneva to preside. Professor Berdez of Lausanne is the secretary. The subjects to be discussed are hysteria, periodical neuroses, medicolegal testimony and responsibility.——The Seventy-ninth Congress of German Physicians and Scientists—the *Naturforscher* congress—opens at Dresden September 15 and closes the day before the congress of hygiene at Berlin.——The Second International Physiotherapy Congress will convene at Rome in October. The Italian congresses also meet in October, as a rule, and the French surgical congress at Paris.——The Seventh International Physiology Congress will meet at Heidelberg, August 13-16, and the International Antituberculosis Conference at Vienna, September 19-21, followed October 2-5 by the first annual congress of German-speaking urologists.——The Twelfth German Gynecologic Congess will be held at Dresden, May 21-25. Leopold will preside; Weindler of Dresden is the secretary. The principal subjects are pelvis-enlarging operations, and asepsis in gynecologic operations.——Elaborate preparations have been made for the Fourteenth International Congress of Hygiene and Demography at Berlin, September 23-27. The chief of the imperial board of health, Professor Bumm, will preside. Further particulars can be obtained from the secretary, Dr. Nietner, Eichhornstrasse 9, Berlin W. 9.

LONDON LETTER.

(From Our Regular Correspondent.)

London, March 16, 1907.

A Central Emergency Fund for Maintaining the Interests of the Profession.

As the British Medical Association is constituted as a "limited liability company" not formed for profit, no part of its funds can legally be used for the benefit of any individual member except by way of remuneration for services rendered to the association. This has prevented the giving of financial assistance to its members engaged in disputes with organized bodies in the matter of contract practice. The council, therefore, has instituted for this purpose the central emergency fund, which is maintained by voluntary subscriptions. All members of the profession are invited to contribute. Any contribution may be marked for use in specified disputes, or for application to special methods of carrying out the objects of the fund. The fund will be under the control of the medico-political committee of the association.

Lord Lister's Eightieth Birthday.

Lord Lister's eightieth birthday falls on April 4, 1907. A movement has been started to convey to him the admiration which is felt for his work. Dr. C. J. Martin, director of the Lister Institute, has suggested that the best form which this expression could take would be the publication of all his scientific papers prefaced by a biography containing an account of his discovery of the antiseptic system.

London Ambulance Commission.

The first meeting of the London Ambulance Commission was held February 14. An experimental motor car, at a cost of $2,500, has been made and a station will probably be built near St. Bartholomew's Hospital. This ambulance is equipped with every latest portable appliance for surgery, together with a full stock of medicines, lotions and bandages. A surgeon will accompany the ambulance. It seems strange that the largest and richest city of the world should have only just awakened to the fact that her ambulance arrangements are many years behind the times. Hand ambulances and stretchers are still in vogue in London, but a beginning has been made, and this state of affairs will soon be changed.

London, March 22, 1907.

The Royal Commission on Tuberculosis.

An important report on the histologic and bacteriologic investigations carried on by Dr. Eastwood in connection with the Royal Commission on Tuberculosis has just been issued. It emphasizes the findings previously referred to in The Journal—that bovine tuberculosis is transferable to man. But Dr. Eastwood adds the interesting statement that: "The evidence before him confirms the view that some viruses of human origin are relatively innocuous to bovines." Bacilli of bovine origin produce in bovines lesions of a highly acute type. Some virsues of human origin produced similar results, while others produced only a mild type of disease. In the anthropoid ape the human viruses, which were relatively innocuous to bovines, produced typical tuberculous lesions, similar to those produced by bovine bacilli. Even in small doses bovine bacilli produced typical tuberculosis. Dr. Eastwood concludes that his investigations have failed to give the slightest indication that there is any peculiarity about bovine viruses which might suggest that compared with other viruses they are relatively innocuous to man.

Death of a Surgeon from an Accident During an Operation.

While operating for appendicitis, Dr. Lowson of Hull pricked his finger in November, 1906. For several weeks he lay seriously ill with septic cellulitis. After a few weeks' vacation he returned to work, but in impaired health. Toward the end of January he was taken ill with pleurisy, which terminated in empyema. He came to London, where his chest was opened and drained, but his reserve strength was reduced so low that he lingered for a few weeks and died March 15, at the age of 56. Many years ago he also suffered in the discharge of his duty. He contracted diphtheria from sucking a blocked tracheotomy tube and saved the patient's life, for which he was awarded the Albert medal. The result of that accident was to render him unfit for work for a year. His reputation as an operator was considerable. He appears to have been the first to perform the operation of pneumonectomy. In cases of early phthisis he removed the affected portion of lung with success.

The Society of Tropical Medicine and Hygiene.

A society of this name has been founded. The determination to found it was formed two months ago at a meeting held at the Colonial Office on the suggestion of Mr. James Cantlie. Sir Patrick Manson presided, and a subcommittee was formed to make the necessary arrangements, consisting of the chairman, Col. Melville, Dr. Sandwith, Dr. Carnegie Brown, Prof. Ronald Ross, Dr. G. C. Low and Mr. Cantlie. To these were added the following in order to constitute a general committee: Professor Nuttall (Cambridge), Dr. W. Hartigan, Lieutenant-Colonel Giles, Dr. Sambon. The promoters hope that the society will become universal, and embrace every man and woman interested in tropical medicine. Nine-tenths of the members will probably live abroad, and the object will be to provide mutual instruction and support for all.

The Epidemic of Cerebrospinal Fever.

Cases of cerebrospinal fever continue to be reported from London and various parts of the country, but epidemic prevalence is still confined to Glasgow and Belfast. In Glasgow, on March 15, 112 cases were under observation, as compared with 101 on March 8. On March 19 the health officers issued a statement that during the past two weeks there had been 93 cases and 55 deaths, as compared with 90 cases and 60 deaths in the preceding fortnight. During February, 140 deaths occurred in the eight principal towns of Scotland, being 66 more than in January. In Belfast, 185 cases have been reported up to the present and 104 deaths. In Dublin, 15 cases and 11 deaths have occurred, but no new case has been reported since March 6.

The Eighth International Conference of Red Cross Societies.

The Eighth International Conference of Red Cross Societies will be held in London June 10-15. It is believed that the foreign guests will number 200—from all the European states, America, Japan, etc. They will probably be received by King Edward. Social entertainments are being organized by the Marchioness of Salisbury, Lord Rothschild and others.

"Thickening" in Cream.

Dr. Collingridge, health officer of the city of London, refers in his monthly report to the pernicious practice of adding starch to cream. There is no legal definition of cream, and the fat present in various samples varies from 15 to 55 per cent. The public forms its opinion of the value of cream by the only standard available—its thickness. The addition of starch or gelatin gives a fictitious appearance of thickness. A very small addition of thickening material will compensate for the absence of a large amount of fat and allow an inferior article to be sold as cream. A departmental committee in 1901 reported that the artificial thickening of cream by the addition of gelatin or other substance should raise a presumption that the cream is not genuine. The sale of foods and drugs act of 1875 makes it an offense to sell any article of food to which any matter or ingredient not injurious to health has been added fraudulently to increase the bulk, weight or measure, or to conceal the quality.

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, March 19, 1907.

Professional Secrecy and the Present Law.

In a lecture delivered before the medicolegal society, Dr. Kienböck illustrated the false position in which the practitioner is placed by the law. Thus, the medical attendant is bound not to disclose the nature of the illness of his patient nor to give any particulars in regard to the condition of any one applying to him for professional help, while, on the other hand, the practitioner must inform the officers of an insurance company or of other corporations, who engage his services, of the health of certain individuals, thus violating the law. Furthermore, practitioners are bound to inform the police of every case of injury or suspicious disease, and to inform the magistrates of cases of infectious disease. Each one of these breaches of professional secrecy is, strictly speaking, amenable and involves danger to the doctor. On the other hand, the persons auxiliary to the doctor—nurses, servants, not qualified assistants—are not bound by law to keep the secrets of which they may obtain knowledge during their function in the service of the doctor. In cases of suits for fees, the doctor is not allowed to disclose to the court the nature of the disease of the patient, although such a disclosure might mean for him a very substantial help in the litigation. Kienböck also spoke of the painful position of the practitioner, who by his office learns of dangerous conditions of his patients, as, for instance, in cases of syphilis or tuberculosis of a bride or bridegroom, or of the deafness or blindness of a railroad employé, or of the mental condition of a business man suffering from cerebral paralysis. The lecturer demanded the adoption of a wider view of modern ethics in legislation and the addition of necessary provisions to the law now in force.

Jubilee of the Vienna "Operateur-Institut."

The "surgeon's school," or "Operateur-Institut," of Vienna recently celebrated its centennial anniversary. It was founded by Emperor Francis I, who, acting on the suggestion of the then famous professor of surgery, Dr. V. v. Kern, ordered him to teach several well-qualified surgeons in a special way, and he, the emperor, would defray the expenses. This institution was then incorporated in the University of Vienna, and in 1863 the two surgical clinics were ordered to take the "Operateur-Institut" over. Since then, every surgeon, who desired any special instruction in his branch, had to become a pupil of this school; admission was not easy, as a severe examination in anatomy and surgery had to be passed before obtaining permission to enter the clinic. It may be stated that every living well-qualified surgeon in Austria has been a pupil of this school. All the regular professors of surgery in the Vienna university have been directors or teachers in the institute, so that there is always first-class instruction, while the clinical material to be drawn on numbers upward of 25,000 patients for both clinics. The centennial celebration was described in these columns on page 1043.

Pharmacology

GUDE'S PEPTO-MANGAN.

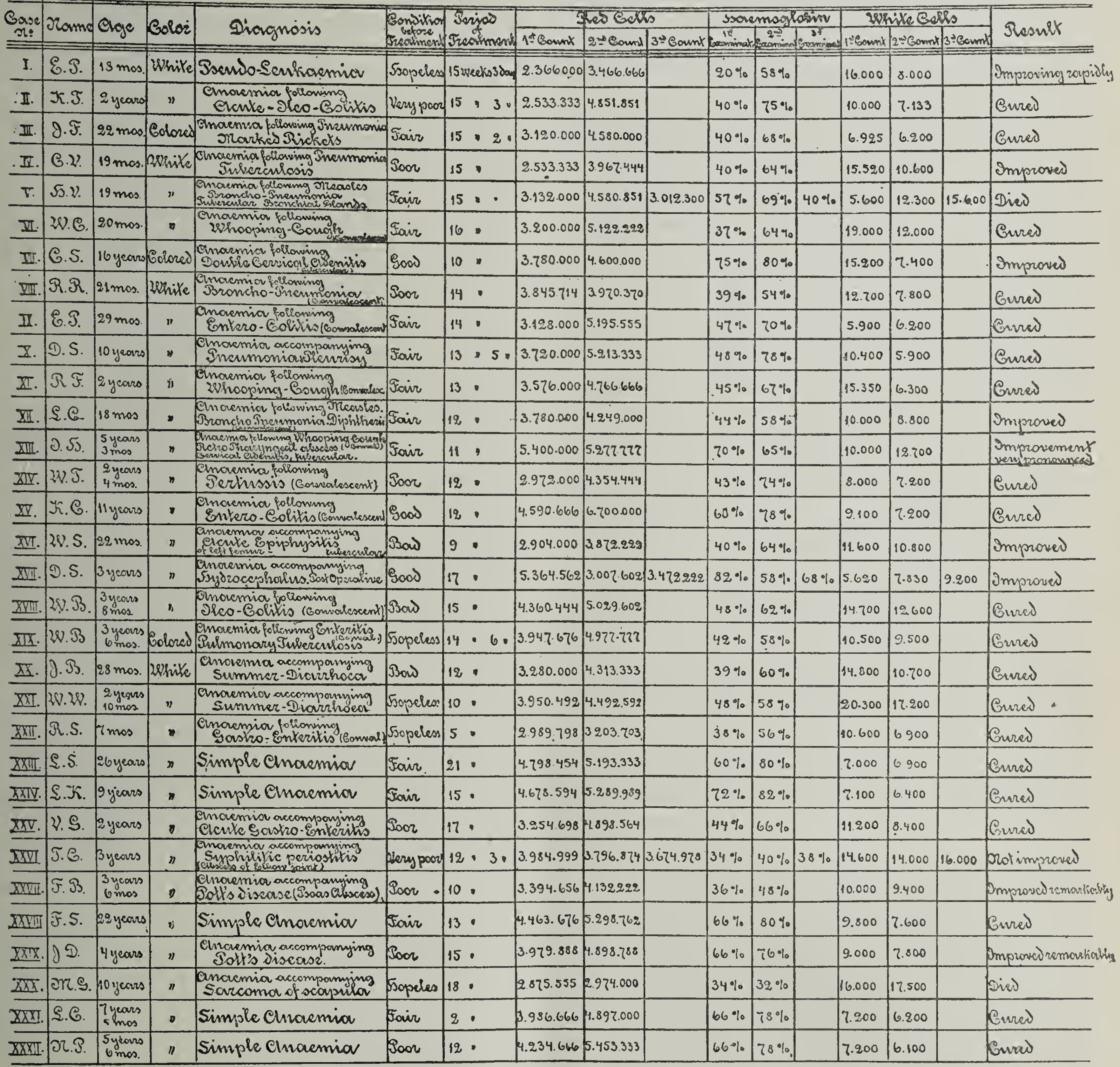
An Investigation Into the Reliability of an Alleged Scientific Report.

In The Journal, Sept, 23, 1905, we exposed the misuse, by the exploiters of Pepto-Mangan, of the government report on anemia in Porto Rico. The conclusion of the Government Commission, which investigated the anemia prevalent in Porto Rico, was that iron was of subsidiary importance in treatment, and that the carbonate, as represented by Blaud's pills, seemed to give the best results. Immediately Messrs. M. J. Breitenbach & Co. used this report to exploit their preparation (Pepto-Mangan)—first in advertisements and reading notices and later in a garbled extract of the report printed in pamphlet form and scattered broadcast among physicians. This pamphlet conveyed the idea that Pepto-Mangan had been endorsed by the government as superior to any other iron preparation, and that it had proved most efficacious in the treatment of anemia; that "this report alone would suffice to establish Pepto-Mangan at once as the foremost hematinic known." The Commission later published a denial, stating that Pepto-Mangan was used by them only for a little while, because it was found to be of even less value than other iron preparations.

Some months ago another pamphlet was sent out by the same company purporting to give the results of the treatment of 32 cases of "infantile anemia" at the Infants' Hospital, Randall's Island, New York City. The report was written by Mateo M. Guillen, designated as house physician and surgeon. A cursory examination of this pamphlet showed that five of the 32 cases cited had an initial blood count of over 4,500,000 erythrocytes, and one over 70 per cent. hemoglobin, with nearly 4,000,000 reds. Thus 18 per cent. of the cases cited could not be classified as anemia. Moreover, in 26 cases the anemia had followed some acute disease or the patients were convalescent from such a disease. In either case, spontaneous improvement was naturally to be expected.

THE UNRELIABLE REPORT.

These facts aroused suspicion and suggested further investigation. Accordingly, we had the books of the hospital inspected by a competent representative, who devoted consid-



Case No.	Name	Age	Color	Diagnosis	Condition before Treatment	Period of Treatment	Red Cells			Haemoglobin			White Cells			Result
							1st Count	2nd Count	3rd Count	1st Examinat.	2nd Examinat.	3rd Examinat.	1st Count	2nd Count	3rd Count	
I.	E. P.	18 mos.	White	Pseudo-Leukaemia	Hopeless	15 weeks 3 days	2.366000	3.466.666		20 %	58 %		16.000	8.000		Improving rapidly
II.	K. T.	2 years	"	Anaemia following Acute-Ileo-Colitis	Very poor	15 " 3 "	2.533.333	4.851.851		40 %	75 %		10.000	7.133		Cured
III.	J. F.	22 mos.	Colored	Anaemia following Pneumonia Marked Rickets	Fair	15 " 2 "	3.120.000	4.580.000		40 %	68 %		6.925	6.200		Cured
IV.	C. V.	19 mos.	White	Anaemia following Pneumonia Tuberculosis	Poor	15 "	2.533.333	3.967.444		40 %	64 %		15.520	10.600		Improved
V.	H. V.	19 mos.	"	Anaemia following Measles Broncho-Pneumonia Tubercular Bronchial Glands	Fair	15 " "	3.132.000	4.580.851	3.012.300	57 %	69 %	40 %	5.600	12.300	15.600	Died
VI.	W. C.	20 mos.	"	Anaemia following Whooping-Cough (Convalescent)	Fair	16 "	3.200.000	5.122.222		37 %	64 %		19.000	12.000		Cured
VII.	C. S.	16 years	Colored	Anaemia following Double Cervical Adenitis (tubercular)	Good	10 "	3.780.000	4.600.000		75 %	80 %		15.200	7.400		Improved
VIII.	R. R.	21 mos.	White	Anaemia following Broncho-Pneumonia (Convalescent)	Poor	14 "	3.845.714	3.970.370		39 %	54 %		12.700	7.800		Cured
IX.	E. P.	29 mos.	"	Anaemia following Entero-Colitis (Convalescent)	Fair	14 "	3.128.000	5.195.555		47 %	70 %		5.900	6.200		Cured
X.	D. S.	10 years	"	Anaemia accompanying Pneumonia & Pleurisy	Fair	13 " 5 "	3.720.000	5.213.333		48 %	78 %		10.400	5.900		Cured
XI.	R. F.	2 years	"	Anaemia following Whooping-Cough (Convalesc.	Fair	13 "	3.576.000	4.766.666		45 %	67 %		15.350	6.300		Cured
XII.	L. C.	18 mos	"	Anaemia following Measles. Broncho Pneumonia. Diphtheria (Convalescent)	Fair	12 "	3.780.000	4.249.000		44 %	58 %		10.000	8.800		Improved
XIII.	D. H.	5 years 3 mos	"	Anaemia following Whooping Cough Retro Pharyngeal abscess (Conval.) Cervical Adenitis, tubercular.	Fair	11 "	5.400.000	5.277.777		70 %	65 %		10.000	12.700		Improvement very pronounced
XIV.	W. T.	2 years 4 mos.	"	Anaemia following Pertussis (Convalescent)	Poor	12 "	2.972.000	4.354.444		43 %	74 %		8.000	7.200		Cured
XV.	K. C.	11 years	"	Anaemia following Entero-Colitis (Convalescent)	Good	12 "	4.590.666	6.700.000		60 %	78 %		9.100	7.200		Cured
XVI.	W. S.	22 mos.	"	Anaemia accompanying Acute Epiphysitis of left femur - tubercular	Bad	9 "	2.904.000	3.872.222		40 %	64 %		11.600	10.800		Improved
XVII.	D. S.	3 years	"	Anaemia accompanying Hydrocephalus. Post Operative	Good	17 "	5.364.562	3.007.602	3.472222	82 %	58 %	68 %	5.620	7.830	9.200	Improved
XVIII.	W. B.	3 years 8 mos.	"	Anaemia following Ileo-Colitis (Convalescent)	Bad	15 "	4.360.444	5.029.602		48 %	62 %		14.700	12.600		Cured
XIX.	W. B	3 years 6 mos.	Colored	Anaemia following Enteritis (Conval.) Pulmonary Tuberculosis	Hopeless	14 " 6 "	3.947.676	4.977.777		42 %	58 %		10.500	9.500		Cured
XX.	J. B.	28 mos.	White	Anaemia accompanying Summer-Diarrhoea	Bad	12 "	3.280.000	4.313.333		39 %	60 %		14.800	10.700		Cured
XXI.	W. W.	2 years 10 mos.	"	Anaemia accompanying Summer-Diarrhoea	Hopeless	10 "	3.950.492	4.492.592		48 %	58 %		20.300	17.200		Cured
XXII.	R. S.	7 mos	"	Anaemia following Gastro-Enteritis (Conval.)	Hopeless	5 "	2.989.798	3.203.703		38 %	56 %		10.600	6.900		Cured
XXIII.	L. S.	26 years	"	Simple Anaemia	Fair	21 "	4.798.454	5.193.333		60 %	80 %		7.000	6.900		Cured
XXIV.	L. K.	9 years	"	Simple Anaemia	Fair	15 "	4.678.594	5.289.989		72 %	82 %		7.100	6.400		Cured
XXV.	V. G.	2 years	"	Anaemia accompanying Acute Gastro-Enteritis	Poor	17 "	3.254.698	4.898.564		44 %	66 %		11.200	8.400		Cured
XXVI.	T. C.	3 years	"	Anaemia accompanying Syphilitic periostitis (abscess of elbow joint)	Very poor	12 " 3 "	3.984.999	3.796.874	3.674.978	34 %	40 %	38 %	14.600	14.000	16.000	Not improved
XXVII.	F. B.	3 years 6 mos	"	Anaemia accompanying Pott's disease (Psoas Abscess).	Poor	10 "	3.394.656	4.132222		36 %	48 %		10.000	9.400		Improved remarkably
XXVIII.	F. S.	22 years	"	Simple Anaemia	Fair	13 "	4.463.676	5.298.762		66 %	80 %		9.800	7.600		Cured
XXIX.	J D.	4 years	"	Anaemia accompanying Pott's disease.	Poor	15 "	3.979.888	4.898.788		66 %	76 %		9.000	7.800		Improved remarkably
XXX.	M. G.	10 years	"	Anaemia accompanying Sarcoma of scapula	Hopeless	18 "	2.875.555	2.974.000		34 %	32 %		16.000	17.500		Died
XXXI.	L. C.	7 years 5 mos	"	Simple Anaemia	Fair	2 "	3.936.666	4.897.000		66 %	78 %		7.200	6.200		Cured
XXXII.	N. P.	5 years 6 mos.	"	Simple Anaemia	Poor	12 "	4.234.666	5.453.333		66 %	78 %		7.200	6.100		Cured

The above table is reproduced from a sheet 11 by 14½ inches, which is a part of the pamphlet. On the top of the sheet is the following in display heading: "Comparative table of 32 cases of Infantile Anemia treated at the City Infants' Hospital, Randall's Island, New York City, during a period of four months with Gude's Pepto-Mangan. By Dr. Mateo M. Guillen, House Physician and Surgeon."

erable time to a careful examination of the original records of the hospital. His report follows:

> "In reply to your request that I examine into the authenticity of the cases advertised as having been treated with Pepto-Mangan at the City Hospital, Randall's Island, I am able to make the following report, after a thorough examination of the records of the hospital in the clerk's office, the daily charts and the physicians' order books.
>
> "Dr. Mateo M. Guillen, house physician in 1902, whose name is attached to the report as having treated the cases with Pepto-Mangan, has been in South America since that time. Through the kindness of Dr. William L. Stowell, visiting physician at the Infants' Hospital, I was furnished with the full names and data of the patients whose cases are reported, so I was able to get the correct histories of them in the hospital records. Dr. Stowell informed me that he was aware that *some* of the patients had received Pepto-Mangan simply as one form of iron, though he believed the simpler forms of iron preferable, and that if I would trace the treatment in the cases I would doubtless find the simpler forms of iron prescribed.
>
> "Examination of the hospital records and daily charts of the cases show remarkable discrepancies from the results and treatment as advertised in the Pepto-Mangan pamphlet. Some of the most striking are the following:
>
> "Three patients, reported in the pamphlet as *cured* through the use of Pepto-Mangan, the hospital records show *died*, viz.:
>
> "Case II, K. T. (Katie Turner).
>
> "Case XIX, W. B. (William Barkdale).
>
> "Case XXII, R. S. (Reuben Schehr).
>
> "The results in all the cases are advertised as being obtained by Pepto-Mangan. On the contrary, the daily charts and the doctor's order books show that some of the patients *never* received Pepto-Mangan. For instance, in Case XII, L. C. (Lillian Codney), instead of Pepto-Mangan, was given *syrupus ferri iodidi*, and at other times maltzyme and liquid peptonoids and various local, external and symptomatic medicines, but at no time was Pepto-Mangan prescribed.
>
> "Similarly, in Case XIII, I. H. (Irene Harowitz) was never given Pepto-Mangan.
>
> "The charts of Case IV, C. V. (Catherine Vaugh) show that Pepto-Mangan was only prescribed once, and at other times she was given *syrupus ferri iodidi.*
>
> "Similarly, the charts of Case V, H. V. (Helen Vaugh) show that Pepto-Mangan was only prescribed once, and at other times was given *syrupus ferri iodidi.*
>
> "In Case XVIII, W. B. (William Born) was given Pepto-Mangan on July 19, but it was discontinued on August 13, although the pamphlet states that he was under treatment fifteen weeks.
>
> "In Case X, D. S. (David Smulewitz) was given syrup of hypophosphites and cod-liver oil along with the Pepto-Mangan.
>
> "I was informed by Dr. Oberdorfer, who was on the hospital staff at the same time, that in Case I, E. P. (Eva Pases), though Pepto-Mangan was given, arsenic was pushed in *very large doses.*
>
> "Of the thirty-two cases reported in the Pepto-Mangan pamphlet, only twenty-two were reported by Dr. Stowell, and among the history charts for that period I was unable to find any cases corresponding to the initials of the additional ten cases.
>
> "I hereby swear that the above statements are correct data taken from the records of the City Infants' Hospital, Randall's Island, and am able at any time to prove them by the mentioned records.
>
> "George M. Gelser."

[Mr. Gelser is a senior student in the medical department of Cornell University.]

SUMMARY.

This throws a somewhat different light on the impressive report of thirty-two cases. Analysing the results obtained, we find that 13 cases, namely, Cases VII, XV, XXI, and all of the cases from XXIII to XXXII were not found on the hospital records. The table in the pamphlet shows that the patient in Case V died. The hospital records show that Patients II, XIX and XXII, which were reported as cured, also died. The records also show that in Cases XII and XIII Pepto-Mangan was never given; that in Cases IV and V but a single dose was given; that in Cases I and X this preparation was given in conjunction with other preparations, such as syrup of hypophosphites and iron, cod-liver oil, etc., which can certainly claim a share in the results. In Case XVIII, in which the report says Pepto-Mangan was given for fifteen weeks, the records show that it was given but three weeks and a half. Cases XIII, XV and XVII are not cases of anemia at all. Striking these from the table, we have left eight cases entered on the hospital records, in which there is evidence that Gude's Pepto-Mangan was administered. But the table itself shows that seven of them, namely, Cases III, VI, VIII, IX, XI, XIV and XX, were entered as convalescent at the time of beginning treatment, the anemia following some acute disease, such as pneumonia, whooping-cough, bronchopneumonia, enterocolitis and summer diarrhea. In all of these cases, anemia is to be expected during the height of the disease, and rapid recovery from the anemia, as soon as convalescence is established. would also be observed in 95 per cent. of all cases which received ordinary care and nourishment, regardless of medication. The imposing and delusive chart which has, on first sight, such an ultra-scientific appearance, melts down under impartial investigation to a single case which is in any sense worthy of consideration. Case XVI is reported as that of a child, 22 months old, suffering from anemia, accompanying acute tubercular epiphysitis. In this case, Pepto-Mangan was given for nine weeks. An increase of red blood corpuscles from 2,904,000 to 3,872,222, and an increase of hemoglobin from 40 to 64 per cent. took place in the same period. Even the sanguine and optimistic author of the pamphlet and the compiler of the chart does not venture to record this case as anything more than improved.

PREVALENT DISREGARD OF TRUTH.

Two things may be learned from this interesting analysis. The first is that so-called scientific reports are only of value in proportion to the veracity and reliability of the writer. Unless the statements of the author are founded on scientifically established facts, they are delusive and as dangerous as the false lights of a shipwrecker or the decoy signals of a train robber. It seems incredible that any physician having the slightest conception of the dignity and honor of the profession would deliberately falsify and distort hospital records for the sake of the pittance offered by proprietary houses, whose preparations he lauds, or for the sake of the cheap notoriety which he obtains while lending his name to such a deception.

The second and equally deplorable fact is that firms composed of men who are personally honorable seek to obtain business by means of such unjustifiable methods. It might be said in defense that the M. J. Breitenbach Company did not investigate the statements set forth in the pamphlet, and that it relied on the truthfulness of the writer. This does not relieve the firm of its responsibility.

There is an apparent tendency on the part of proprietary houses to accept any report, statement or testimonial, no matter how obviously absurd, distorted or highly colored—if only it be favorable to their preparations—and to eliminate and to suppress any unfavorable reports or facts. This tendency has helped to produce the present deplorable conditions in the proprietary medicine business. Such methods are not scientific; they are not even in accord with the ordinary principles of business honesty, which are supposed to obtain among reputable merchants. An honorable and legitimate business should have a better foundation than advertising matter which will not stand investigation.

Lactopeptine Exposed Thirty Years Ago.

South Bend, Ind., March 23, 1907.

To the Editor:—The report on Lactopeptine in The Journal of March 23 is very interesting and it is hoped that it will prove equally instructive to your readers. While it is interesting to us pharmacists, I can not say it is especially instructive, for the facts contained therein have been surmised if not actually known to pharmacists for many years. The surprising thing, however, is that the members of the medical profession should go along blindly prescribing such preparations year after year, often against our protest, as was more especially the case with the acetanilid mixtures. For years the pharmaceutical journals had pointed out the deception concerned in the exploitation of the medical profession (and eventually of the public) by nostrums of this character without avail, until the Council, through The Journal, began some two years ago, to show up the true character of these nostrums. Lactopeptine and especially its elixir have been used in enormous quantities by the medical profession, although in 1876, soon after its introduction, Prof. Emil Scheffer of Louisville, Ky., contributed a paper to the American Pharmaceutical Association, in which he reported some experiments he made on Lactopeptine, and proved that it had no greater digestive value than the saccharated pepsin then in vogue. This paper appeared in the Transactions of the American Pharmaceutical Association for 1876. Although Scheffer was an authority on the subject, he being the author of the first process for obtaining pepsin in a pure state, it is not apparent that any attention was paid to this article by the medical profession; in fact, it was entirely ignored by medical journals, and extensive advertising soon made Lactopeptine the most extensively employed proprietary article. This leads to the observation how helpless we pharmacists have been in the past because of the lack of cooperation of the medical profession. We have had to supply such articles as were in demand, and when such articles as the Compound Powder of Acetanilid and the Compound Powder of Pepsin and its elixir in the Pharmacopeia and National Formulary are criticised, such criticism should be directed against the members of the medical profession because of their lack of interest and cooperation in the preparation of these standard works. Now that their attention has been so forcibly directed to this anomalous condition, it is hoped that physicians will participate actively in the revision of these joint authoritative standards.

Leo Eliel,
President, American Pharmaceutical Association.

Book Notices

A Treatise on the Motor Apparatus of the Eyes, Embracing an Exposition of the Anomalies of the Ocular Adjustments and Their Treatment with the Anatomy and Physiology of the Muscles and Their Accessories. By G. T. Stevens, M.D., Ph.D. Illustrated with 184 engravings, some in colors. Cloth. Pp. 496. Price, $4.50 net. Philadelphia: F. A. Davis & Co., 1906.

This book is offered as a sequel to the author's work on "Functional Nervous Diseases," the preface stating that "difficulties of adjustments of the eyes are a source of nervous trouble, and more frequently than other conditions constitute a neuropathic tendency." The subject is very fully covered, beginning with a short historical sketch dealing with the time when actual strabismus only was recognized, and including our present recognition of heterophoria. The comparative anatomy of the eye-muscles of fishes, birds, reptiles and mammals is considered in the chapter devoted to anatomy. This chapter is particularly exhaustive and is divided into ten sections, which deal with the movements and positions of the eyes, with comparative anatomy, with the orbital measurements, planes, axes, etc., with the eye-muscles themselves, and with the insertions of the tendons, etc., covering the anatomy of the orbital aponeuroses, capsule of Tenon, vessels and nerves. Under physiology is discussed the subject of binocular vision, with the various methods of detecting and encouraging its development. The remainder of the book is devoted to the study of the anomalous conditions of the motor apparatus of the eyes, consistent and inconsistent with the physiologic state. The illustrations are modest in character and number as compared with the average book of to-day. As a whole, it offers a fair résumé of the important advances made by its author in muscle-work during the past ten years, but neglects those ideas advanced by others.

Woman in Girlhood, Wifehood, Motherhood. A Guide in the Maintenance of Her Own Health and that of Her Children. By M. Solis-Cohen, A.B., M.D., Instructor in Physical Diagnosis, University of Pennsylvania. Illustrated with Color Plates, Scientific Drawings and Half-tone Engravings, with Manikin Chart, printed in colors, with an index. Cloth. Pp. 469. Price, $2.00 net. Philadelphia: The John C. Winston Company.

As a book for the wife and mother and a guide to such domestic medicine as is really desirable, this work meets all requirements of clearness, simplicity of language, accuracy of statement, and temperate, judicious treatment of delicate subjects. While it gives helpful suggestions as to the preservation of health and as to action in emergencies, it discourages self-medication and especially the resort to "patent medicines." The work consists of three sections, general hygiene, and the rules for care of the body applying especially to women. The hygiene of the pregnant woman and the care of mother and child during confinement, and the hygienic care of children. The popular aim of the book requires the introduction of many topics which are only indirectly of medical interest, but these parts appear to have been written with judgment and care. Many illustrations are introduced, both of medical and artistic merit. The work appears to be one that the physician can cordially recommend to his patients, and deserves a place in every home.

Prevalent Diseases of the Eye, A Reference Handbook, especially Adapted to the Needs of the General Practitioner and the Medical Student. By S. Theobald, M.D., Clinical Professor of Ophthalmology and Otology in the Johns Hopkins University, etc. Cloth. Pp. 551. Price, $4.50 net. Philadelphia: W. B. Saunders Company, 1906.

This is the most comprehensive work yet written for the special benefit of the general practitioner. The book begins with a very complete synopsis of contents, a distinct advantage to the busy man who, by its aid may read just what he needs with little expenditure of time. The question of diagnosis is given greatest space and prominence, as it should be. The family physician sees the eye cases first, and a knowledge of the more important diseases is essential to him in order that he may treat the simpler cases and send the severe ones to an ophthalmologist without delay. The line is definitely drawn, however, between those cases which can be cared for by the family physician and those requiring the services of a specialist, and the proper warning sounded. The more technical divisions of ophthalmology, such as the use of the ophthalmoscope, muscular anomalies, etc., are merely mentioned, as they require thorough study and preparation to be of definite value. The dominant note of the book is the completeness with which diagnostic methods are set forth in a style very clear and readable.

Modern Surgical Technic in Its Relations and Wound Treatment. By C. Y. Pearson, M.D., M.C., F.R.C.S., Professor of Surgery, Queen's College, Cork. Illustrated, with Two Colored and Other Plates. Cloth. Pp. 392. Price, $3.50 net. New York: William Wood & Co.

The author has compiled in this work the subject-matter of a series of lectures on the technical details of modern surgery. It is designed to meet the requirements of the students and assistants in surgery who are not familiar with the science of bacteriology and the prevention of wound infections. Its chapters are devoted to a clear and concise discussion of surgical bacteriology and infections. The mode of wound infection, the consequence of such infection and the various methods employed in the prevention of infections are treated in a consecutive and exhaustive manner. A chapter devoted to the preparation of ligature and suture material is especially complete and comprehensive. Some attention is given to operative technic, including a discussion of surgical needles and their uses, together with a description of the various kinds of sutures.

Text-book of the Practice of Medicine. For Students and Practitioners. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College, Philadelphia. Second Edition. Revised and Enlarged, with 131 Engravings. Cloth. Pp. 1132. Price, $5.00 net. Philadelphia: Lea Bros. & Co., 1907.

That this work has met the needs of practical medical men as well as students is sufficiently evidenced by the fact that a new edition has been called for in two years since the first appearance of the work. The book has been thoroughly revised, the latest views that have been accepted as scientifically and clinically correct having been embodied, while statements not yet established as facts have been excluded. The treatment of the subject, as in the first edition, is eminently clear, concise and practical. The book is well illustrated.

Genito-Urinary Diseases and Syphilis. By H. H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital, Genito-Urinary Surgeon to the Long Island and Kings County Hospitals and the Polhemus Memorial Clinic. Illustrated with 158 half-tones and photo-engravings, and 7 full-page color-plate. Second edition, revised and enlarged. Cloth. Pp. 500. Price, $4.00 net. Philadelphia: F. A. Davis Company, 1906.

This work is admirably written, well arranged and well printed, and the author's ideas, which are those of the German school, are clearly set forth. The subject of gonorrhea is well covered, and the treatment of acute and chronic urethritis is explicitly dealt with. Recapitulations, which are frequent, could well have been sacrificed to the elaborations of the more important subjects. The author's advice in case one fails to find the urethra in doing an external urethrotomy without a guide, to blindly puncture with Guiteras' trocar in order to reach the limit of the canal behind the stricture, must surely be condemned as unwise, as the results might be unsatisfactory, not to say disastrous, if such procedure were followed by others than the expert operator. Neither can we agree with the statement that it is necessary to produce ptyalism in order to cure syphilis, nor with the advice to curette the floor of a gummatous ulcer. Rather striking is the omission of some of the generally accepted remedies, viz.: Nitrate of silver and chromic acid solutions, often used as applications to mucous patches.

Practice of Obstetrics, Designed for the Use of Students and Practitioners of Medicine. By J. C. Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College, Third edition, revised. Cloth. Pp. 1071. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co., 1906.

The same classification has been followed in this as in the previous editions. The size of the book has been reduced 100 pages, but 140 new illustrations have been added. The following subjects have been rewritten: Development of embryo, fetus, fetal membranes and fetal structures, chorioepithelioma malignum, treatment of placenta prævia, toxemia of pregnancy, etiology of eclampsia, ectopic gestation, treatment of pelvic deformity, morbidity of the puerperium, indications for the induction of abortion and premature labor, use of forceps, Cesarean section, vaginal Cesarean section, Porro operation, and complete and incomplete hysterectomy. New subjects added are: Appendicitis complicating pregnancy, tapeworm in pregnancy, fibroma moluscum gravidarum (illustration), hematoma of the vulva (illustration), lactation atrophy of the uterus and breasts, brachial birth paralysis, vaginal incision and drainage (illustration), new history charts for institution work. The illustrations are good and the schematic drawings which accompany many of them add greatly to their value.

A Manual of Normal Histology and Organography. By Charles Hill, Ph.D., M.D. Illustrated. Flexible Leather. Pp. 463. Price, $2.00 net. Philadelphia: W. B. Saunders Company, 1906.

This manual presents the fundamentals of histology in a clear-cut manner, but the evident intention of the author is that this book should be used as an aid in laboratory work and to prepare the student for more thorough study in the class room rather than as a text-book. The arrangement of subjects is excellent, the central idea being to lead the student up gradually from the simple to the complex. Considerable space is devoted to the mouth, especially the teeth, thus making the book a valuable one for students of dentistry. The illustrations are numerous and well made. The book is to be commended.

Obstetrics. Edited by J. B. De Lee, A.M., M.D., Professor of Obstetrics Northwestern University Medical School, with the Collaboration of D. Roehler, M.D., and H. M. Stowe, M.D. Vol. 5 of the Practical Medicine Series, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery, Under the General Editorial Charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School. Series 1906. Cloth. Pp. 256. Chicago: The Year Book Publishers, 1906.

This book reviews the progress in obstetrics during the past year. Little advance has been made in the scientific fields of obstetric research. Under "Eclampsia" are considered the biologic theories of the origin of this condition, and attention is directed to Zweifel's announcement that lacticaciduria is an important etiologic factor. The work as a whole, however, deals with the practical side of obstetrics.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

Suggestions for Authors.

In the midst of his exile for research on syphilis in monkeys in Java, Neisser has found time to voice his exasperation at certain habits of medical authors and to beg them to refrain. He has written an open letter on the subject which he sent simultaneously to the principal medical journals of Germany, and which appeared in most of them about March 12. It is noteworthy that Neisser does not write from the standpoint of an editor, but merely from that of an earnest seeker for what is really important in current medical literature.

He appeals to medical writers to make the titles of their articles more concrete and thus give readers an idea as to the writer's views on the subject discussed. "For instance," he says, "instead of the title, 'Calomel Salve in Prevention of Syphilis,' write, 'Efficacy' or 'Non-efficacy of Calomel Salve,' etc.; instead of 'Administration of Mercury by the Rectum,' write, 'Inefficacy of Rectal Mercurial Treatment;' instead of 'A New Remedy for Gonorrhea,' why not name the remedy and state at the same time whether the writer's experience with it has been favorable or the reverse." "The worst of all titles," he adds, "are those such as 'Therapeutic Notes,' 'Clinical Experiences,' and the titles in which an affection is called by a new name without reference to the name under which it has previously been recorded." He cites as an example of the latter "Tuberculosis cutis pruriginosa," remarking how much better it would have been to have written, "Tuberculosis cutis pruriginosa, the so-called Urticaria perstans." "One glance at the title would have then informed the reader—and likewise the larger multitude of non-readers—exactly what the author was aiming at. Even those most interested in a subject are unable to read all the periodicals. the archives and journals, weeklies and monthlies, centralblatts and year books, all the time, but when they have occasion to read up on any special subject they are grateful, indeed, to those who make their sifting of the literature as easy as possible for them. The best way to do this is to make the titles of the articles a reflection in condensed form of their actual concrete contents, not a vague generalization." The titles need not be any longer, as a rule. He commends heartily the habit of appending a good summary of the article, adding that if authors omit this they can not complain if their communications fail to attract the attention they deserve.

He also expresses dissatisfaction with the articles printed without paragraphs or headlines. This he finds very often in English works, and he says that it makes the reading of the articles very difficult for him, adding that frequent paragraphs, numbering or lettering the different parts of the article, and the occasional use of black letter type would make it much easier to read the article and to discern the drift of the author's ideas, even when hastily scanning the article. Those works will be read the most eagerly and the most frequently which realize some of the above suggestions.

In conclusion he expresses his abhorrence of the footnotes which say merely *l. c.* (*loco citato*, in the place before cited), requiring long and weary search, perhaps, for the original citation. He continues: "Some authors add a bibliography without citing names or without references to the titles in the text, so that such a tail-piece, parading as an evidence of the literary and collecting industry of the author (or of some one paid for looking up the references) is absolutely useless to any one. A bibliography is valuable only as it saves future readers the trouble of hunting up the references. Consequently, the contents of each work cited should be indicated in some way. This might be done by adding a brief summary of the article to each title or by grouping them according to the phases of the subject. Quoting rare and practically inaccessible periodicals, transactions and the like, has scarcely more than decorative value. At least, they should be accompanied by the indication of some accessible periodical in which an abstract of the article cited can be found."

Physicians and Their Profession.

Under the above title the Trenton (N. J.) *American* comments editorially as follows:

"There are few professional men so habitually misunderstood as physicians. The clergy are expected to practice self-effacement, to work unselfishly for others, to be constant in good works, hoping only for a future reward. But the bodily physician ofttimes vies with the physician of souls in his loving kindnesses and self-sacrifices, yet his acts are usually rewarded with suspicion.

"Popular ignorance is responsible for quackery in religion and in medicine. There are hosts of charlatans pretending to be able to cure souls of sin for a price, and there are quite as many who, for a similar consideration, promise to cure bodily ailments. If people would only take the trouble to learn something of religion and something of medicine, they would escape impostors in both of these professions.

"The health of a community depends largely on its information regarding the laws of Nature. Epidemics are invariably products of ignorance. Disease is the result of natural causes. The medical profession has sought out and is seeking out these causes. It alone can not remove them, but the intelligent action of the people can remove many of them.

"It has long been a practice of the Christian churches to send missionaries abroad to open a way for the establishment of churches and the advancement of religion. The American Medical Association has undertaken a similar missionary work and Dr. J. N. McCormack of Kentucky is touring the country for the enlightenment of many on the subject of medicine and its practitioners. His mission is to inform the ignorant of the possibilities and limitations of medicine and how to avoid calling the doctor. A strange mission for one whose living depends on his patients? Yes, if the practice of medicine is regarded as a mere money-making agency. But not at all strange if one is large enough to believe that all men are not sordid seekers after material gain."

More Societies Agree on Insurance Fees.

Dr. J. Meigs of Lowell, Mass., reports that the Middlesex North District Medical Society voted at its last meeting that a minimum fee of $5 for life insurance examinations be adopted. The Androscoggin County (Maine) Medical Association and the St. Louis County (Minn.) Medical Society have taken similar action.

The Southern District (N. D.) Medical Society and the Van Buren County (Iowa) Medical Society have adopted the Kentucky resolutions.

Legislation Notes.

Dr. J. V. Stevens, secretary of the Wisconsin Board of Medical Examiners, has sent out a circular letter to the 60 county secretaries in his state, emphasizing the importance of cooperation between the state board and the county and state medical societies. Dr. Stevens says:

"Our board greatly appreciates the active and valuable assistance rendered by the county medical societies, in helping us to get rid of the medical quacks and impostors who have infested our state and robbed its citizens so long. We want to enlist every member in the state in an active campaign to aid us in securing the passage of bills now pending in the state legislature, introduced for the purpose of improving the standing of the profession, and in defeating the bills introduced by the quacks themselves in an endeavor to weaken and destroy the effectiveness of the laws we now possess."

One of the most promising features of society activity since reorganization is the effectiveness of cooperation between state boards and the organized profession. Where there is complete cooperation and unanimity between these two forces results otherwise impossible can be obtained.

It is reported that the New York County Medical Society has asked for the passage of a bill to protect reputable physicians who may be called in consultation in cases in which criminal operations have been or may be later performed. The law in New York state provides that any physician known to be present when an illegal operation is performed or who may be found treating a patient after such operation, is liable to arrest, fine and imprisonment. An instance recently occurred in which a physician, a member of the New York County Medical Society, was called in consultation after a criminal operation had been performed. On investigating the law he found that he was equally liable with the physician who had performed the operation. It is reported that steps will be taken to amend the law so as to relieve physicians of responsibility and liability in case they are innocently called in as consultants.

The standing committee on tuberculosis of the Medical Society of the State of Alabama has issued a pamphlet and address to the members of the state legislature, setting forth the position of the profession regarding the control and suppression of tuberculosis in that state. The pamphlet explains the most recent views on the subject and points out the manner in which, through proper legislation, the citizens of the state may be protected from this disease.

The physicians of Shelbyville, Ill., have sent to the legislative committee of the Illinois State Medical Society a resolution protesting against the passage of senate bill No. 21, introduced by Senator Chaffee, whose home is in Shelbyville, regulating the practice of osteopathy in Illinois. A protest is made against the passage of the bill and the legislative committee is urged to use every means in its power to prevent the bill from becoming a law.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

SWEET BREATH IN INFECTIOUS DISEASES.

CHICAGO, March 28, 1907.

To the Editor:—In some cases of scarlet fever I have noticed a sweet chloroform-like odor of the breath which seemed the only sign by which, in the absence or masked condition of the rash and symptoms, a diagnosis could be made. What is the significance of this odor? DR. CHARLES F. STOTZ.

ANSWER.—A sweetish odor of the breath is frequently noticed in diabetes, in which it has been attributed to the presence of acetone. A similar odor has been described as occurring in the breath of women during menstruation. A sweetish odor has also been noticed in septicemia and pyemia. As acetone is present in the blood in various diseases, especially in the infections, like measles, scarlet fever, etc., it is likely that the sweetish odor of the breath will occasionally be noticed in such cases, when not obscured by fetor. No definite significance can be attached to such an odor, as it may occur under such diverse circumstances; if due to acetone, it may not be of great importance. The symptom should suggest examination of the urine, however, and may be reason for guarding against excessive acidosis which is to a greater or less extent a phenomenon of a large number of infections.

DATE OF DESCRIPTION OF BEARD'S TREATMENT OF CANCER.

MUSKOGEE, I. T., March 27, 1907.

To the Editor:—On page 1030, vol. xlviii, No. 12, is a reference to THE JOURNAL A. M. A., Feb. 17, 1907, page 544. There was no issue on February 17, nor do I find on page 544 of THE JOURNAL of Feb. 16, 1907, the reference to Dr. John Beard and the pancreatic treatment of cancer. H. H.

ANSWER.—The year is an error. The abstract will be found in THE JOURNAL, Feb. 17, 1906.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending March 30, 1907:

Miller, E. W., asst.-surgeon, left Cuba, en route to the United States, to avail himself of twenty days' leave of absence.

Lynch, Charles, general staff, will proceed, at the proper time to Boston, Mass., for the purpose of delivering a lecture on April 17, 1907, to the medical officers of the Massachusetts Volunteer Militia.

Jones, Percy L., asst.- surgeon, now on leave of absence from Fort Preble, Me., will, one the expiration of his leave, proceed to Jamestown Exposition Grounds, Va., and report to the commanding officer, Jamestown Encampment, for duty as assistant to the chief medical and sanitary officer.

Smith, Lloyd L., asst.-surgeon, ordered to proceed from West Point, N. Y., to Fort Monroe, Va., for temporary duty.

Rockhill, E. P., asst.-surgeon, reported at Army General Hospital, Presidio of San Francisco, from Manila, P. I., for treatment.

Morris, Samuel J., asst.-surgeon, now on duty at Fort Washington, Md., will furnish such medical attendance at Fort Hunt, Va., as may be needed during the absence of Contract Surgeon Hart.

Gilchrist, Harry L., asst.-surgeon, granted leave of absence for one month.

Conzelmann, F. F., contract surgeon, ordered from New York, N. Y., to Fort Ethan Allen, Vt., for duty.

Roberts, Ernest E., contract surgeon, left Fort Riley, Kans., on leave of absence for ten days.

Gunckel, G. I., dental surgeon, arrived at San Francisco, from Philippine service; ordered to Fort McPherson, Ga., and granted leave of absence for two months.

Mason, G. M., dental surgeon, relieved from duty at Fort McPherson, Ga., and ordered to Manila, P. I., for Philippine service.

Miller, A. L., contract surgeon, arrived at San Francisco, on leave of absence for two months, eighteen days, from the Philippines Division.

Long, S. M., contract surgeon, arrived at San Francisco, on leave of absence for one month from the Philippines Division.

Lambkin, E .E., contract surgeon, arrived at San Francisco, from Philippine service, and ordered to his home, Baltimore, for annulment of contract.

Byars, C. R., contract surgeon, left Fort Ethan Allen, Vt., for his home, Houston, Texas, for annulment of contract; granted leave of absence for one month.

Van Kirk, H. H., contract surgeon, returned to Fort Logan, Colo., from temporary duty at Fort Wingate, N. M.

Love, Joseph W., contract surgeon, granted leave of absence for fourteen days.

Bown, Polk D., contract surgeon, granted leave of absence for ten days.

Ingalls, Raymond E., dental surgeon, ordered from Los Angeles, Cal., to Fort Leavenworth, Kans., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. N., for the week ending March 30, 1907:

Farwell, W. G., asst.-surgeon, detached from the *Worden,* April 15, and ordered to the *Lancaster.*

Schwerin, L. H., acting asst.-surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the *Worden.*

Hammar, A., pharmacist, ordered to the Naval Hospital, New Fort Lyon, Colo., for such duty as he may be assigned.

Holloway, J. H., P. A. surgeon, detached from duty with Naval Recruiting party No. 4, and ordered to the *Indiana.*

Ryder, C. E., P. A. surgeon, detached from duty at the Naval Recruiting Station, Omaha, and ordered to the *Vermont.*

Butler, C. St. J., P. A. surgeon, detached from duty at the Naval Hospital, San Juan, Porto Rico, and ordered to attend course of instructions at the Naval Medical School, Washington, D. C.

Brown, E. M., P. A. surgeon, detached from duty under the department of government and sanitation, Canal Zone, Isthmus of Panama, and ordered to the Bureau of Medicine and Surgery, Navy Department for special duty.

Bogan, F. M., P. A. surgeon, detached from duty at the Naval Recruiting Station, Baltimore, and ordered to attend course of Instruction at the Naval Medical School, Washington, D. C.

May, H. A., asst.-surgeon, detached from the *Indiana* and ordered home to await orders.

Belknap, J. L., asst.-surgeon, detached from duty with Marines in Cuba and ordered to the *Kentucky.*

Schaller, W. F., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., April 3, and ordered to *Brooklyn.*

Brown, H. L., asst.-surgeon, detached from duty with Naval Recruiting Party No. 3, and ordered to attend course of instruction at Naval Medical School, Washington, D. C.

Shook, F. M., asst.-surgeon, detached from duty at the Naval Hospital, Mare Island, Cal., and ordered to duty under the department of government and sanitation, Canal Zone, Isthmus of Panama.

Munson, F. M., asst.-surgeon, detached from Naval Proving Ground, Indian Head, Md., and ordered to attend course of instruction, Naval Medical School, Washington, D. C.

Chappelear, F. D., acting asst.-surgeon, detached from Naval Medical School, Washington, D. C., and ordered to duty at the Naval Hospital, Pensacola, Fla.

Castro, D. H., acting asst.-surgeon, detached from Naval Medical School, Washington, D. C., and ordered to duty at the Naval Recruiting Station, Baltimore.

Curtis, E. E., acting asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to duty at the Naval Hospital, Norfolk, Va.

Jones, A. McK., acting asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to duty with Naval Recruiting Party No. 4.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 27, 1907:

Pettus, W. J., asst. surgeon-general, granted leave of absence for four days from March 27, 1907.

Stoner, G. W., surgeon, granted leave of absence for four days from March 18, 1907, under Paragraph 189 of the Regulations.

Banks, C. E., surgeon, leave of absence granted for fourteen days from Feb. 21, 1907, revoked.

Carrington, P. M., surgeon, granted leave of absence for three days from March 23, 1907, under Paragraph 189 of the Regulations.

Lumsden, L. L., P. A. surgeon, granted leave of absence for one month from March 18, 1907, on account of sickness, with permission to leave his station.

Fox, C., P. A. surgeon, granted leave of absence for one month from March 28, 1907.

Collins, G. L., asst.-surgeon, granted leave of absence for one day.

Long, H. D., asst.-surgeon, relieved from temporary duty at the Government Hospital for the Insane, Washington, D. C., and directed to rejoin his station at Ellis Island, New York.

Guthrie, M. C., asst.-surgeon, relieved from temporary duty at the Government Hospital for the Insane, Washington, D. C., and directed to proceed to Ellis Island, New York.

Porter, J. Y., sanitary inspector, directed to proceed to Pensacola, Fla., for special temporary duty.

Jackson, J. M., Jr., acting asst.-surgeon, granted leave of absence for 11 days from March 14, 1907.

Stanton, J. G., acting asst.-surgeon, granted leave of absence for three days from March 20, 1907.

Safford, M. V., acting asst.-surgeon, directed to proceed to Ellis Island, New York, for special temporary duty, upon completion of which rejoin his station at Boston.

Small, E. M., acting asst.-surgeon, granted leave of absence for 8 days beginning April 15, 1907.

Thurston, E. J., pharmacist, relieved from duty at Gulf Quarantine Station and directed to proceed to Mobile Quarantine Station, reporting to the medical officer in command for duty.

La Grange, J. V., pharmacist, relieved from duty at Boston and directed to proceed to Savannah, Ga., reporting to the medical officer in command for duty and assignment to quarters.

BOARD CONVENED.

A board of medical officers was to meet at Seattle, Wash., March 28, 1907, for the purpose of making physical examination of an alien. Detail for the board: Asst.-Surgeon H. G. Ebert, chairman; Acting Asst.-Surgeon F. R. Underwood, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 29, 1907:

SMALLPOX—UNITED STATES.

Georgia: Augusta, March 12-26, 11 cases.

Illinois: Chicago, March 16-23, 9 cases, 1 death; Galesburg, March 9-23, 9 cases; Springfield, March 7-14, 1 case; Danville, March 13-27, 3 cases; Stark County, to March 13, 275 cases.

Indiana: Culver, Jan. 21-March 5, 6 cases; Elkhart, March 16-23, 4 cases; Indianapolis, March 10-24, 9 cases.

Iowa: Dubuque, March 18, 63 cases; Peoria, Feb. 2-March 23, 63 cases; Spencer, Jan. 8-March 14, 5 cases.

Kansas: General, Jan. 1-31, 126 cases.

Louisiana: New Orleans, March 9-23, 35 cases, 2 deaths, (7 cases imported); Shreveport, March 9-16, 1 case.

Massachusetts: Boston, March 16-23, 1 case.

Michigan: Centerville, Feb. 20, 36 cases; Detroit, Feb. 9-23, 12 cases.

Minnesota: General, Jan. 28-March 11, 295 cases; Winona, March 9, 1 case; March 16-23, 2 cases.

Mississippi: Natchez, Feb. 2-March 16, 13 cases.

Missouri: St. Joseph, March 16-23, 15 cases; St. Louis,1 case.

New Jersey: Newark, March 16-23, 1 case.

New York: Binghamton, March 16-23, 3 cases; New York, 3 cases.

North Carolina: Charlotte, March 9-23, 2 cases; Greensboro, March 9-16, 1 case.

Ohio: Cleveland, March 15-22, 1 case; Hamilton, Feb. 9-16, 9 cases.

South Dakota: Sioux Falls, March 9-23, 2 cases.

Texas: Galveston, March 15-22, 1 case; Williamson County, Georgetown included, Dec. to March 23, 75 cases, 1 death.

Virginia: Richmond, March 9-23, 2 cases.

Washington: Spokane, March 2-16, 26 cases, 1 death.

Wisconsin: Milwaukee, March 9-23, 11 cases; Wausau, March 9-16, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Feb. 2-9, 1 case (on S. S. *Ban Yek*).

SMALLPOX—FOREIGN.

Africa: Algiers, Feb. 1-28, 2 deaths.

Brazil: Para, March 2-9, 2 cases; Rio de Janeiro, Feb. 24-March 3, 4 cases, 1 death.

Chile: Coquimbo, Feb. 25, 24 cases, 1 death; Iquique, Feb. 25, present.

China: Hongkong, Jan. 26-Feb. 2, 9 cases, 6 deaths.

Colombia: Cartagena, March 2-9, present.

Ecuador: Guayaquil, Feb. 23-March 2, 4 cases.

Egypt: Cairo, Feb. 25-March 4, 3 cases, 1 death.

France: Marseilles, Feb. 1-28, 230 deaths; Paris, Feb. 23-March 9, 14 cases.

Germany: Bremen, March 2-9, 1 case.

Gibraltar: Feb. 25-March 10, 5 cases.

Great Britain: Bristol: Feb. 23-March 2, 1 case; Cardiff, March 2-9, 2 cases.

India: Bombay, Feb. 12-26, 10 deaths; Calcutta, Feb. 9-16, 41 deaths; Madras, Feb. 16-22, 1 death.

Italy: Naples, March 9-16, 2 cases.

Madeira: Funchal, Feb. 24-March 10, 3 cases, 2 deaths.

Mexico: Aguas Calientes, March 9-16, 10 deaths; Jalapa, March 8-15, 1 death; Mexico, Dec. 29-Jan. 26, 66 deaths; Jan. 27-Feb. 16, 44 deaths.

Netherlands: Rotterdam, March 2-9, 1 death.

Portugal: Lisbon, Feb. 23-March 9, 11 cases.

Russia: Moscow, Feb. 9-March 2, 3 cases, 4 deaths; Odessa, Feb. 23-March 2, 43 cases, 7 deaths; Riga, Dec. 1-31, 16 cases; March 2-9, 6 cases; Warsaw, Feb. 2-9, 3 deaths.

Salvador: San Salvador, Feb. 9-16, 2 cases.

Spain: Barcelona, Feb. 18-March 10, 7 deaths; Cadiz, Feb. 1-28, 6 deaths; Seville, 28 deaths; Valencia, Feb. 23-March 2, 1 case.

YELLOW FEVER—UNITED STATES.

Louisiana: Mississippi River Quarantine, March 20, 1 case (on S. S. *Cayosoto,* from Cuban and Mexican ports).

Texas: Galveston Quarantine, March 22, 3 cases (on S. S. *Basil,* from Para).

YELLOW FEVER—FOREIGN.

Brazil: Nichtheroy, Feb. 16, 1 case; Rio de Janeiro, Feb. 24-March 3, 2 cases, 2 deaths.

Ecuador: Guayaquil, Feb. 23-March 2, 7 deaths.

Mexico: Paraje Nuevo, March 3-9, 1 case, 1 death.

Peru: Callao, Feb. 17-19, 1 case, 1 death (on S. S. *Palena*).

CHOLERA.

India: Bombay, Feb. 12-26, 3 deaths; Calcutta, Feb. 9-16, 58 deaths; Madras, Feb. 9-22, 19 deaths; Rangoon, Feb. 2-16, 23 deaths.

PLAGUE.

Australia: New South Wales: Kempsey, Jan. 29, 1 case, 1 death; Sydney, Jan. 19-Feb. 2, 12 cases, 3 deaths. Queensland: Brisbane, Jan. 19-Feb. 2, 9 cases, 4 deaths; Port Douglas, Jan. 19-26, 31 cases, 1 death.

Brazil: Para: Feb. 23-March 9, 11 cases, 7 deaths; Rio de Janeiro. Feb. 10-March 3, 9 cases, 3 deaths.

Chile: Antofagasta, Feb. 25, 10 cases, 4 deaths.

Egypt: Assiout Province, Feb. 7-25, 12 cases, 10 deaths; Baliana Province, Feb. 23-27, 20 cases, 16 deaths; Beni Souef Province, Feb. 23-24, 2 cases, 1 death; Ismailia, Feb. 25-26, 2 cases, 2 deaths; Girgeh Province, Feb. 8-27, 7 cases, 5 deaths; Keneh Province. Feb. 26, 2 cases, 2 deaths; Minieh Province, Feb. 25-27, 3 cases, 1 death.

Formosa: General, Jan. 1-31, 165 cases, 141 deaths.

India: General, Feb. 9-16, 27,384 cases, 23,411 deaths; Bombay, Feb. 12-26, 384 deaths; Calcutta, Feb. 9-16, 17 deaths; Rangoon, Feb. 2-16, 105 deaths; Mauritius: Jan. 24-Feb. 14, 27 cases, 18 deaths.

Peru: Chepen, Feb. 14, 1 death; Chiclayo, 5 cases, 4 deaths; Cholseca, 13 cases, 6 deaths; Lambayeque, 3 cases, 1 death; Lima, 2 cases; Pacasmayo and San Pedro, 3 cases, 3 deaths; Trujillo, 1 case: Viru, 3 cases, 3 deaths.

Russia: Cronstadt, March 5, 1 case, 1 death (laboratory plague).

CHOLERA—INSULAR.

Philippine Islands: Manila, Feb. 2-9. 10 cases, 5 deaths.

Marriages

Philip Richard Taylor, M.D., to Mrs. P. R. Taylor, both of Louisville, Ky., March 19.

Joseph C. Placak, M.D., to Miss Eunice Sabina Emde, both of Cleveland, Ohio, March 20.

Stephen A. Hemmi, M.D., to Miss Helen Librenz, both of Chicago, at Springfield, March 23.

Bruno L. Schuster, M.D., to Miss Louise Kumz, both of Milwaukee, Wis., in Chicago, March 21.

Harry J. Moss, M.D., Philadelphia, to Miss Adeline E. Grobwan of Woodbine, N. J., March 17.

Kenneth Noble, M.D., to Mrs. Berthia Z. Schuenight, both of Milan, Mich., at Monroe, Mich., February 28.

Lucius F. C. Garvin, M.D., formerly governor of Rhode Island, to Miss Sarah Emma Tomlinson, both of Lonsdale, R. I., April 2.

Deaths

Reed Brockway Bontecou, M.D. Vermont Academy of Medicine, Castleton. 1847; a member of the American Medical Association and delegate to the International Medical Congresses of 1887 and 1890; surgeon of the old Twenty-fourth Regiment, New York State Militia, since 1849; surgeon throughout the Civil War, serving first with the Second New York Volunteer Infantry and later as brigade surgeon of volunteers; on duty in the surgeon-general's office, Washington, 1862, and afterward chief military officer of all hospitals at Beaufort, N. C.; in charge of the Haverford U. S. Army General Hospital, Washington, from 1863 until its discontinuance in 1866; one of the most extensive contributors to the Medical and Surgical History of the War of the Rebellion; brevetted lieutenant-colonel and colonel of volunteers in 1865 for faithful and meritorious service during the war; first surgeon of the Troy (N. Y.) Hospital; surgeon at the Marshall Sanitarium, Troy, since 1880; attending surgeon at the Watervliet Arsenal since 1870; who contributed much to medical literature and especially to military surgery; said to be the originator and first to practice the application of photography to the history of military surgery as well as the first in this country and the second in the world to attempt to repair a typhoid perforation (in 1887), died at his home in Troy, N. Y., March 27, after an illness of one week, aged 82.

George G. Wheelock, M.D. College of Physicians and Surgeons in the City of New York, 1864; for a year in charge of the Army General Hospital, Savannah, and later house surgeon at the New York Hospital; formerly assistant demonstrator of anatomy, lecturer on physical diagnosis, trustee, registrar of the board of trustees, and treasurer of the alumni association of his alma mater; later a trustee of Columbia University; manager of the Vanderbilt Clinic and president of the Sloane Maternity Hospital; a trustee of the New York Dispensary, New York Institution for the Blind, Children's Aid Society, and president of the State Charity and Aid Association, died at his home in New York City, March 22, from heart disease, after an illness of two years, aged 68.

Jerome B. Thomas, M.D. Jefferson Medical College, Philadelphia, 1858; assistant surgeon of the Twenty-fourth Illinois Volunteer Infantry; later surgeon-in-chief of the government hospitals at Bowling Green, Ky., and Gallatin, Tenn.; afterward acting medical director on the staff of General Pain, and, at the close of the Civil War, in charge of the Army General Hospital, Nashville; who practiced in Wyandotte, Kan., after the war, and since 1888 had been governor of the Central Branch of the National Soldiers' Home for Disabled Volunteer Soldiers, National Home, Dayton, Ohio, died at his residence, March 5, after an illness of four weeks, from heart disease, aged 71.

William Carr Glasgow, M.D. St. Louis Medical College, 1869; a member of the state and county medical societies; professor of clinical medicine and laryngology in Washington University Medical Department; president of the American Laryngological Society in 1890; fellow of the American Climatological Society; consulting physician on diseases of the throat and chest at the St. Louis City Hospital and the Martha Parsons Hospital for Children, died at his home in St. Louis, March 22, from uremia, after an illness of two years, aged 62.

Henry Root, M.D. New York University Medical College, 1859; of Whitehall, N. Y.; a member of the state and county medical societies, and for 12 years secretary of the latter; a veteran of the Civil War, in which he served as surgeon of the Fifty-fourth and Fifty-eighth New York Volunteer Infantry and was brevetted lieutenant colonel; for several terms vice-president of the Society of the Army of the Potomac; health officer of Whitehall for many years, died suddenly at Saratoga, March 20, from cerebral hemorrhage, aged 70.

William D. McCarthy, M.D. Cooper Medical College, San Francisco, 1882; a member of the state and county medical societies; major and surgeon of the First California Infantry, U. S. V., during the Spanish-American War, who served with that regiment in the Philippine Islands, died at his home in San Francisco, March 15, from rheumatism, contracted in the service, after a long illness, aged 46.

Hiram M. Keyser, M.D. Rush Medical College, Chicago, 1863; on duty at Camp Douglas, Chicago, in 1862 and 1863; receiving and disbursing agent for the territory of Montana in 1866 and 1867; representative to the Thirty-fifth General Assembly of Illinois; for several terms mayor of Momence, Ill., died at his home in that city, January 24, from angina pectoris, aged 72.

George Henry Van Wagner, M.D. Albany (N. Y.) Medical College, 1881; a member of the state and county medical societies; at one time president of the county medical society; for many years health officer for the town of Poughkeepsie, and the village of Wappingers Falls, N. Y., died at his home in Wappingers Falls, March 19, after a lingering illness, aged 55.

Otto Albert Weigand, M.D. College of Physicians and Surgeons in the City of New York, 1890; a member of the American Medical Association; one of the best known young practitioners of Hudson County, N. J., died at his home in Hudson City, N. J., March 23, from tuberculosis, after an illness of more than three months, aged 38.

Amos J. Jones, M.D. College of Physicians and Surgeons, Baltimore, 1868; a member of the state and county medical societies; for four years a soldier in the Confederate service during the Civil War, and for the last four years health officer of Duplin County, N. C., died at his home in Kenansville, March 18, after a brief illness, aged 63.

Thomas B. Lacey, M.D. Northwestern University Medical School, Chicago, 1875; professor of surgery in the John A. Creighton Medical College, Omaha, and for more than 30 years a practitioner of Council Bluffs, Iowa, died at his home in that city, March 25, from syringomyelia, after an illness of six years, aged 55.

George Miller Hull, M.D. Medical Department, Omaha University, 1885; a member of the American Medical Association, and secretary for many years of the Buffalo County Medical Association, died at his home in Kearney, Neb., February 27, after an illness of nearly a year, aged 43.

James William Murfin, M.D. St. Louis Medical College, 1879; a member of the American Medical Association, died at his home in Vernon, Ill., February 23, from septicemia following an operation for the removal of the turbinated bones, after an illness of four days, aged 51.

Pemberton Dudley, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1861; formerly dean of Hahnemann Medical College, died at his home in Philadelphia, March 25, as the result of injuries received in a street-car accident in December last, aged 69.

William B. Irish, M.D. Western Pennsylvania Medical College, Pittsburg, 1894; a member of the American Medical Association, and for 10 years a practitioner of Pittsburg, died at his home in that city March 22, from pneumonia, after an illness of six days, aged 36.

Charles E. McAdams, M.D. Missouri Medical College, St. Louis, 1869; a member of the state and county medical societies, of Wichita, Kan.; for several years a councilman of that city, died suddenly in Kansas City, Mo., March 19, from heart disease, aged 61.

Hezekiah D. Fuller, M.D. Albany (N. Y.) Medical College, 1879; a member of the state and county medical societies and of the Fox River Valley Medical Association, died at his home in Berlin, Wis., March 20, from uremia, after an illness of two days, aged 57.

Harland S. Boardman, M.D. Homeopathic Hospital College, Cleveland, 1877; formerly president of the Vermont State Homeopathic Society, died at his home in Montpelier, March 21, from organic heart disease, after an illness of several years, aged 56.

Owen Eugene McCarty, M.D. Trinity Medical College, Toronto, 1890; a member of the American Medical Association, and a practitioner of Niagara Falls, N. Y., since 1892, died at his home, March 25, after an illness of several months, aged 36.

George Elmer Sanford, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1875; a member of the state and county medical societies, died suddenly at his home in Saline, Mich., March 18, from heart disease, aged 56.

Albert Fox, M.D. Eclectic Medical College of the City of New York, 1871; once president of the Eclectic State Medical Association of New York, died at his home in Waterbury, Conn., March 20, from senile debility, aged 81.

George W. Hunt, M.D. Castleton (Vt.) Medical College, 1854; dean of the medical profession of Sullivan County, N. H., died at his home in Cornish Flat, N. H., March 3, from nephritis, after an illness of ten days, aged 77.

Mary E. Van Schoonhoven, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1891; died at her home in Salt Lake City, Utah, March 20, from valvular heart disease, aged 64.

Edward L. Carpenter, M.D. University of Louisville, Medical Department, 1886; a school trustee of Louisville for two terms, died at his home in that city, March 23, after an illness of several weeks, aged 41.

Joseph Marshall, M.D. St. Louis Medical College, 1853; a veteran of the Civil War and for many years a practitioner of Normal, Ill., died at his home March 21, from dropsy, after a long illness, aged 74.

Edward J. Jenner, M.D. Eclectic Medical Institute, Cincinnati, 1878; formerly of Birds, Ill., died suddenly at his country home near Lawrenceville, Ill., from heart disease, March 22.

Thomas W. Davis, M.D. Western Reserve University Medical College, Cleveland, 1857; for half a century a practitioner of De Witt County, Ill., died at his home in Wapella, March 16, aged 79.

John J. Hopkins, M.D. New York University Medical College, 1874; a surgeon in the Confederate service during the Civil War, died at his home in Upper Tract, W. Va., March 24, aged 65.

Charles R. Brown, M.D. New York Homeopathic Medical College and Hospital, New York City, 1873; died suddenly at his stable in Lynn, Mass., March 21, from heart disease, aged 70.

William L. Linder, M.D. Medical College of the State of South Carolina, Charleston, 1900; was shot and instantly killed in his office, in Union, S. C., March 25, aged 29.

William Steward, M.D. Bellevue Hospital Medical College, New York City, 1886; died in the Brooklyn Hospital from pneumonia, Dec. 24, 1906, after an illness of one week.

Charles F. Morcom, M.D. New York University Medical College, 1889; died at his home in New York City, March 23, from cirrhosis of the liver.

Morris E. Michel, M.D. Medico-Chirurgical College of Philadelphia, 1893; died at his home in Pittsburg, Pa., March 20, aged 62.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

Tennessee State Medical Assn., Nashville, April 9.
Mississippi State Medical Association, Gulfport, April 10.
Medical Assn. of State of Alabama, Mobile, April 16.
Florida Medical Association, Tampa, April 17.
Med. Soc. of the State of California, Del Monte, April 16-18.
Medical Association of Georgia, Savannah, April 17.
South Carolina Medical Association, Bennettsville, April 17-19.
Medical and Chir. Faculty of Maryland, Baltimore, April 23-25.
Am. Confed. Reciprocating Exam. & Lic. Med. Bds., Chicago, Apr. 30.
Association of American Medical Colleges, Washington, May 6.
American Therapeutic Society, Washington, May 4-7.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 7-9.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 7-9.
Amer. Climatological Association, Washington, May 7-9.
American Gynecological Society, Washington, May 7-9.
Amer. Laryngological Association, Washington, May 7-9.
Amer. Medico-Psychological Association, Washington, May 7-9.
American Ophthalmological Society, Washington, May 7-9.
American Orthopedic Society, Washington, May 7-9
American Pediatric Society, Washington, May 7-9.
American Assn. of Physicians, Washington, May 7-9.
American Surgical Association, Washington, May 7-9.
Nebraska State Medical Association, Lincoln, May 7-9.
Texas State Medical Association, Mineral Wells, May 7.
Utah State Medical Association, Salt Lake City, May 7-8.
New Mexico Medical Association, Las Cruces, May 8-9.
Kansas Medical Society, Kansas City, May 8-10.

BOSTON MEDICAL LIBRARY MEETING.

Held Feb. 13, 1907.

Dr. Richard C. Cabot, Chairman.

MEDICAL SUPERVISION OF SCHOOL CHILDREN.

Physical Training in the Boston Public Schools.

Dr. James B. Fitzgerald said that gymnastics was introduced in the Boston schools in 1890 along the lines of Swedish gymnastics. A director was elected in 1891, but this form of training has never been fully established in all the Boston schools. It was proposed by the superintendent of schools in 1860, but failed to be approved by the school committee. Enebuske's book was used, and, under the regular classroom teachers, exercises tried in school rooms, halls, etc. In 1899 Dr. Fitzgerald became the director. He found that some teachers are better in this line than others and wherever possible has this "departmental" arrangement. Instead of the book there are a set of graded cards devised by Hartvig Nisson, physical director of the schools in Brookline. All exercises are at the word of command. None are rhythmic or automatic. There is no music. There is a definite order for each day, including facing, heaving, stretching, balance, back, abdomen, jump and breathing in regular sequence. Primary grades devote twelve minutes per day, and these exercises are more in the form of play. Grammar grades exercise sixteen minutes each day and seek West Point ideals. For purposes of play some simple gymnastic apparatus has been installed in ten of the school buildings. There should be a special teacher of physical training for every grammar school district.

The best work in physical training in the schools is done by the girls in the high schools. They are required to spend two periods of forty-five minutes each week in gymnastic work, and excellence counts several points in their records as scholars. They need, however, to have medical examination.

The high school boys do little because of the military drill. It would be well if the schools were well rid of this. Something has been done in the supervision of competing athletes, however, and now all such competitors have a physical examination which certifies to their fitness. There are two instructors in athletics. In all the school athletes examined by the reader, he had found only one case of athlete's heart, no pulmonary tuberculosis and rarely any cardiac lesion. Their legs are, however, usually much better developed than their chests. The department now has one director, four assistants and fifteen teachers. It needs athletic fields and more teachers for boys.

School Hygiene As It Is and As It Ought to Be.

Dr. Samuel H. Durgin said that during the more than 30 years that he has been a member of the Boston Board of Health there has been much progress in the hygiene of school buildings. Thus privy vaults and cess-pools are abolished. There are separate toilet bowls and wash bowls. Basements are well lighted. Fresh air is obtained for the school rooms by air shafts and the needed power. Pupils are properly seated and not overcrowded. Still much is needed in the way of new buildings, school play grounds, etc. These matters are now in the hands of the school house commission, a very able body of men.

In 1894 agents of the Board of Health, physicians, were appointed to daily inspect the schools. Cases are referred to them by the teachers, diagnoses made, and the pupils either returned to the school room or sent home. Advice is given as to the best care for the others who may have been exposed to a contagious disease. Vaccinations are inspected and pediculosis detected. Each medical inspector receives a daily bulletin of all cases of contagious disease reported in Boston during the previous day and is expected to attend to the isolation of such cases in their homes. By examination of rashes and desquamations and cultures of throats and noses they determine when children shall be allowed to return to school. Other cities have followed Boston in this medical school inspection, and now the State of Massachusetts has made it obligatory in all cities and towns. There are many ways in which this inspection can be improved. It should be aided by trained nurses. All abnormalities should be detected, not only of sight and hearing. Necessary treatment should be insisted on. All exposed children should be followed up and examined. The school nurse, already a success in New York City, is now assured for Boston.

Physical Welfare of Public School Children.

Dr. S. C. Badger's paper was a preliminary report of a committee of five physicians appointed by the Boston School committee to study the lowest three grades. They advise that artificial light be introduced into these school-rooms and, when necessary because of dim light, schools should be dismissed. For the same reason windows should be washed more often. Two sessions are better than one. Recess in the afternoon should be longer and include more play. In the late afternoon there should be games and manual training. Grade I should be limited to 25 pupils, Grade II to 35, and Grade III to 45. Backward pupils should be studied by themselves. School nurses are needed. School yards should be open to the children after school hours and should have swings and such like apparatus, and when possible school gardens. Pupils should be allowed to continue play on the school grounds and public playgrounds after the close of the afternoon session.

As to medical inspection, the real inspection is done by the teachers and they vary in their skill and interest in this subject. It is desirable that the physician should observe all the children and not merely those referred to him by the teachers. This inspection has not been of much importance.

The work done seems to show that the public schools are not such great centers of infection as they have been thought to be.

The school nurse will help greatly as will co-operation by teachers. The value of special examinations are indicated that in one building with 1,275 pupils where the eyesight was tested this last year, 10 per cent. have been fitted to glasses. The committee found the children generally well nourished and healthy, with but few cases of apparent neglect.

Medical Supervision versus Medical Inspection.

Dr. Thomas B. Harrington maintained that the latter was not adequate. Physician, teacher and parent must co-operate, and often do not, in order to fit the child and the curriculum. Several foreign countries already have medical supervision of the schools, notably Austria and Japan. This medical supervision must have due authority, and in many matters besides infectious diseases. In this latter matter it would be better for the teacher to exclude suspicious cases and report to the board of health. Their inspectors and nurses should then follow up the cases in their homes. Something of this sort has already been done in New York City, and as a result, while in 1902 there were detected in the public schools 10,562 cases of contagious diseases, in 1903, with the new plan, only 1,001 were so sent home, others being detected in their homes or prevented by proper attention to the first case in the home.

Medical supervision, on the other hand, is a much wider subject and includes a study of the physical and mental development of the child. Not all grow equally. All develop best in certain periods. This the medical man must study and should control. The school should be a continuation of the home and the home should be the strength of the school.

DISCUSSION.

George H. Martin, secretary of the State Board of Education, told of the effort being made to interpret practically the words of the new law which require that "each child shall be examined annually for any defect or disability which may interfere with school work." Governor Guild asked a committee consisting of three members of the State Board of Health, three members of the State Board of Education, and three prominent physicians to consider the matter and report a plan. They appointed a subcommittee consisting of Dr. Robert W. Lovett, Dr. Charles Harrington, and Mr. Martin to prepare a circular to be sent to the medical inspectors throughout the state to secure uniform intelligent inspection. Conferences were held with specialists of all kinds and they were asked what defects they would expect to meet among school children, and the indications. As it was found that practically, in most places in the state this inspection must be made by the teachers, these specialists were asked to each prepare a brief, simple statement. This material was then gathered and arranged by the committee, and is now being printed. This circular, signed by those experts who are authority for its statements, will go to every teacher and medical inspector in the state, and is likely to form a most efficient aid.

Dr. Arthur C. Jelly told of his work among the backward scholars. Graded classes are for the average pupil. For many years there have been "ungraded" classes for the backward pupils, and now there are seventy such classes in Boston. The same methods are employed as in the graded classes, the object being to coach them in some special lines, e. g., foreign born, frequently ill, slow developing, irregularly developing, deaf, partially blind, poorly nourished, or mentally deficient children.

In 1898 three classes were started especially for these, and in 1902, when Dr. Jelly took charge, four more such classes were established. There are 15 children in each, or 105 in all. At first they were chosen by the teachers, and lowest types were so separated. These were not capable of doing anything and the service was thrown away. Now the effort is made to induce parents to send such children to the School for Feeble Minded at Waverly. This gives a chance for the admission to these special classes of less extreme types, and often these can be so helped by the special training that they are able to return to the regular graded classes. It is thus possible to instruct the teachers and less obvious defects are now noticed by them and remedied. More such special classes are needed.

Dr. Joel E. Goldthwaite said that the school system in Boston is broadly a great success. The problems are varied. With 40,000 pupils in the lowest three grades the only surprise is that the curriculum so well meets their varied conditions. Physicians must be careful not to condemn the system because of a few isolated examples of faults which come to their individual notice. Doubtless a much better system can be developed, but meanwhile be temperate and helpful in criticisms. The school committee and the teachers are remarkably efficient, and all suggestions of the committee were well received.

Dr. William H. Potter said caries of the teeth is one of the most common defects among children. It disables insidiously, affecting mastication, digestion, nutrition, weight. Of 700 pupils examined in one building in Brooklyn this past year, 50 per cent. had poor teeth, 25 per cent. fair teeth, and 25 per cent. good teeth, by this being meant teeth which had "no readily observable defects."

Dr. Charles Putnam said that the nearly 500 boys who are sent by the courts to the parental school at Roxbury, or to the Rainsford Island in Boston Harbor and put under the care of the trustees for children, all of them, nearly 500, have the benefit of regular examinations of teeth, sight and hearing. Surely it is proper that children who are not bad should have the same privileges.

Mr. Joseph Lee, of the Civic League, told of two bills now before the legislature, one to combine the public baths, gymnasiums and playgrounds under one paid commissioner to be appointed by the mayor, with the advice and consent of the aldermen. This he opposed as not being practicable or likely to benefit the children. The other is to put the playgrounds and outdoor gymnasiums, as well as the public school yards, under the control of the school committee. This is based on the idea that they can and should care for the physical as well as the mental well-being of the children. Boston has playgrounds valued at $4,000,000, and appropriates $50,000 annually for their maintenance. Results are now being obtained. Supervision is needed. Men and big boys monopolize the spaces for baseball, etc. Children dare not go there. There are not many professional playground directors. The school committee is already in the business. The best teachers outdoors are those who teach indoors. One of the best places to determine a child's mental ability is while at his play. Such a man of the right character can get out all the scholars and not merely those who are proficient.

Attention was called to the International Congress of School Hygiene to be held in London, England, Aug. 4-9, 1907.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, held March 7, 1907.

The President, Dr. John A. Wyeth, in the Chair.

SYMPOSIUM ON TYPHOID FEVER.

The Typhoid Epidemic in Berwick, Pa.

Dr. J. H. Bowman, Berwick, said that for two winters in succession Berwick has been visted by an epidemic of typhoid fever. In the winter of 1906-7 the epidemic began in October, and new cases were reported until Jan. 1, 1907. The total number of cases to March 1 was 114, with 9 fatalities. Berwick and its vicinity has a population of 15,000 and is dependent for its water supply on the Susquehanna River and several mountain streams. It is situated 41 miles below Scranton. The sewage of Scranton, as well as that of Wilkesbarre and Pittston, empties into the Susquehanna River. Soon after the outbreak of typhoid the water was turned off from the river and was not turned on again until February 15. An examination of the water from all sources has been made, but the presence of typhoid bacillus can not be demonstrated. An inspection of the water-sheds has also failed to reveal the source of the infection. The dairies have likewise failed to show the cause of the outbreak. Dr. Bowman concludes that the water was responsible for the epidemic and that the river probably caused the first cases and that these cases infected the mountain streams.

The Typhoid Epidemic in Pittsburg.

Dr. J. F. Edwards, Pittsburg, said that typhoid fever has been present continuously in Pittsburg since 1873, or during the entire period of available statistics. Certain years or groups of years show higher percentages than others, but the mortality has always been high as compared with other American cities. The average mortality from 1880 to 1906 was 107 per 100,000 population. The lowest rate was 55 per 100,000 in 1894 and the highest 158 per 100,000 in 1882. It is evident that a predominant etiologic factor is at work continuously, but with varying intensity. The present high rate period began in 1899. The predominant cause was an infected water supply, although other agencies and conditions were also at work. The general water supply of the city is drawn from two intakes in the Monongahela River and two in the Allegheny River; the water is pumped directly into reservoirs and distributed to the people. Several wards in the city are supplied by corporations, one having its intake about a mile farther up the river than that of the city supply. There is said to be some filtration here by means of a crib in the river bed. One ward is supplied by a corporation which has its intake farther up the Monongahela River than the others and has installed an infiltration plant. This ward is at present practically free from typhoid fever. Both rivers have a large population in towns on the water's edge. There are larger towns along the Monongahela than along the Allegheny, and one would expect more typhoid in the portions of the city supplied by that river, but this is not the case. The Monongahela has a slow current and in low water stages is said to be pumped out and put back five or six times during its course. One of these times it must run back through the sewers of a town.

The mines and mills along the river introduce acid enough into the water to render it acid during low water. Five parts of sulphuric acid to 100,000 parts of water is fatal to typhoid germs in one and one-half hours. The river reaches a much higher percentage than this. The objection to this theory is that the river is alkaline during a greater part of the year and typhoid fever was prevalent in August when the water was low. The heating of large quantities of water by manufacturing plants along the course of the river also acts as a corrigent. Four large establishments pump 178,000,000 gallons per day and heat five and three-quarter millions gallons. Many others also use large amounts and return it in a sterile condition. During the winter 1905-6 typhoid prevailed in a number of boroughs above Pittsburg on the Allegheny and the March thaw probably accounts for the large increase in the number of cases reported during the month of April. No considerable number of cases could be traced to the milk supply. Since July, 1905, there has been a progressive increase in the number of cases, and during the year 1906 there were 5,729 cases with 508 deaths.

In general, it may be stated that typhoid fever was more prevalent in those districts where the standard of living is lowest. This class of people are less likely to boil the water and there are greater opportunities for contact infection. A large percentage of cases occurred among immigrants from Austria-Hungary, Russia and Italy. A municipal filtration plant is now near completion, and it is hoped that this will greatly diminish the ravages of this disease, which destroys on an average 300 of the most productive part of the population each year. The action of the state looking toward the prevention of pollution of streams throughout the state holds another promise of relief.

The Typhoid Epidemic at Scranton.

Dr. J. M. Wainwright, Scranton, said that while reliable morbidity reports are not at hand, and while the disease has been constantly present in that city, it has not prevailed to any great extent as compared with other American cities. The fall rise in Scranton has not been nearly as great as in other cities. The sudden onset of the epidemic points to some sudden and large pollution of the water. A map showing the Scranton water supply, the larger part of which came from the Elmhurst reservoir, shows that the principal tributary of the Elmhurst reservoir was Roaring Brook which ran through Moscow, a village of about 800 inhabitants, and also through a hamlet of about 200 inhabitants. Until last September the water from the Elmhurst reservoir was delivered over a spillway and allowed to run several miles into a storage reservoir. This reservoir was abut 2,000 feet in length and the water displaced itself in every two to four days. A railroad runs near the brook and also one on either side of the Elmhurst reservoir. In the latter part of September the water was piped directly from the Elmhurst reservoir to the city cutting-out reservoir. The water was taken from near the bottom of the reservoir instead of over the spillway.

During the first week in December, 11 cases of typhoid fever were reported; this time suggested close connection with a heavy snowstorm on November 15, followed by warm rains, so that it was probable that a fecal accumulation was washed suddenly into the water. Considering the epidemic to have extended over December, January and February there were 1,155 cases reported and 111 deaths. The map of the city shows very strikingly that the distribution of the cases corresponds with the Elmhurst water supply. In portions of the city having another water supply there were only 28 cases, and these were persons who were employed or who visited frequently in that part of the city supplied by the Elmhurst reservoir. After a painstaking search of the entire water-shed by both city and state authorities, the origin of the infection could not be located; this was probably due to the multiplicity of possibilities.

Dr. Wainwright drew the following conclusions from this epidemic: 1. All cases of typhoid fever ought to be reported promptly, as when this is neglected grave danger signs often pass unnoticed. 2. Municipal ownership was an advantage, as it eliminated the harm that a private corporation can do during an epidemic in its effort to guard the capital stock at the expense of disaster to the people. 3. The numerous nuisances that have been sustained along this water-shed demonstrated the necessity of rigid police inspection of the entire water-shed by inspectors employed by and for the people and not by the water company. 4. Frequent bacteriologic and chemical examinations of the water are another safeguard. 5. In times of epidemic the water supply should be changed, if possible. The necessity of boiling water and milk should be hammered into the people, and all possible precautions should be taken to protect the milk supply. The spread from individual cases should be prevented by visiting nurses, circulars of instruction and the free distribution of some *one* effective antiseptic. Too many antiseptics confuse people. 6. Typhoid fever is to a very great degree a directly communicable disease. 7. Physicians and sanitarians must recover from their habit of speaking of a certain number of cases of typhoid fever as normal, because typhoid is caused by imbibing more or less directly the feces of a sick man. The only normal for a civilized community is no case at all.

Bacteriology of the Blood in Typhoid Fever.

Dr. Warren Coleman said that up to 1904, 75 per cent. of typhoid patients whose blood was examined revealed the presence of the typhoid bacillus. Broths were used in the earlier experiments, but the method now used is to take 90 c.c. of ox-bile, 10 c.c. glycerin and 2 grams of peptone. The mixture is distributed in small flasks, containing 20 c.c. each and is sterilized. Three of these flasks are used for every examination and about 3 c.c. of blood is run into each. The flasks are then incubated until the following morning, when streaks are made from each over the surface of a litmus-lactose-agar plate. If the micro-organisms are present they may be observed in five or six hours. If the growth does not redden the medium and the bacillus is found to be one resembling typhoid, the Widal reaction with immune serum is applied. In this way one can determine within twenty-four hours whether a case is one of typhoid.

Since using the ox-bile method a much larger percentage of positive results has been obtained; in fact, the results now obtained show that the bacillus is present in the blood in practically all cases of typhoid fever. Out of 224 examinations in the first week of the disease, 200, or 89 per cent., were positive. Of 484 examinations made in the second week of the disease, 353, or 73 per cent., were positive; of 268 examinations made in the third week, 178, or 60 per cent., were positive; of 103 examinations made in the fourth week, exclusive of relapses, 15 or 26 per cent. were positive. Therefore, the percentage of positive results is greatest in the first week of the disease and thereafter steadily declines. This does not indicate that the bacillus has disappeared from the blood in negative cases, but points to a diminishing number of bacilli, whose presence imperfect methods fail to reveal.

From investigations in regard to the absorption of the bacilli from the peritoneum and from the fact that the lymph nodes and spleen contain such enormous numbers of bacilli, it may be concluded that in typhoid fever the bacillus first finds its way from the alimentary tract to the lymphopoetic system, including the spleen, where it is developed chiefly and from whence it finds its way into the blood stream. It seems doubtful whether the bacillus multiplies in the blood; its presence means simply an overflow from the lymph organs. The presence of typhoid bacilli in the blood consequently does not constitute a true septicemia. The destruction of the bacilli proceeds most rapidly in the blood, and hence the disease is caused by the destruction of vast numbers of bacilli in the blood with the liberation of their endotoxins. It is accordingly irrational to believe that the course of the disease can be affected by intestinal antiseptics, because after the invasion of the body proper by the bacillus the battle ground shifts from the intestine to the blood.

There appears to be a definite relation in the evolution of typhoid fever between the symptoms and the bacillemia. The intensity of symptoms in the early stages of the disease corresponds to the active growth of the bacilli. They invade the blood stream in increasing numbers and are there destroyed. Then comes the stationary period when the ratio or growth and destruction appear to be uniform. The steep curve period corresponds to the diminishing bacillemia and defervescence to complete disappearance of the bacilli from the blood. Degenerative changes occur only in the presence of active growth and destruction of the bacilli. Relapses are probably caused by the persistence of some bacilli in the body and not by reinfection. The bacillemia apparently bears no relation to the type or severity of the disease, except as regards the number of bacilli. The bacilli are found in the blood with the same persistence in the mild as in the severe cases, and in the cases of short as well as in those of long duration. The definite establishment of the nature of these short duration cases would be of immense value from the epidemiologic standpoint.

A bacteriologic examination of the blood in 33 cases of relapse resulted in the recovery of the bacillus in 90 per cent. of the cases.

DISCUSSION.

Dr. Morris Manges, in speaking of the direct infection of one subject by another, told of the case of a woman baker in Germany. All those who ate her bread developed typhoid fever. The typhoid bacillus was found in her feces, and inasmuch as she used the same toilet and prepared the food for the others who contracted the disease, the source of infection was not hard to find. He cited another case of a woman who had some intestinal trouble and fed only on a beef diet. Her cook had a slight diarrhea, but the feces contained a number of spirillæ, thus showing the source of infection. It is difficult to find the foci of infection after the epidemic has passed away. The fact that the acidity of the river water in Pittsburg failed to do away with the typhoid germs shows how fallacious is the antiseptic action of the gastric juice on typhoid bacilli. He called special attention to the fallaciousness of statistics in small towns.

Dr. Sedgewick said that the summary of infection is: Food, fingers and flies.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Arkansas State Medical Board, Little Rock, April 9. Secretary, Dr. F. T. Murphy, Brinkley.

Arkansas Homeopathic Medical Board, Little Rock, April 9. Secretary, Dr. V. H. Hallman, Hot Springs.

West Virginia State Board of Health, Wheeling, April 9-11. Secretary, H. A. Barbee, Point Pleasant.

District of Columbia Board of Supervisors in Medicine, Washington, April 12. Secretary, Dr. Geo. C. Ober, Washington.

California State Board of Medical Examiners, San Francisco, April 16. Secretary, Dr. Chas. L. Tisdale, San Francisco, Cal.

Missouri State Board of Health, St. Louis and Kansas City, April 16-18. Secretary, Dr. J. A. B. Adcock, Warrensburg.

Illinois State Board of Health, Great Northern Hotel, Chicago, April 17-19. Secretary, Dr. J. A. Egan, Springfield.

Kentucky State Board of Health, City Hall, Louisville, April 23. Secretary, Dr. J. N. McCormack, Bowling Green.

Georgia Regular Board of Medical Examiners, Capitol Building, Atlanta, April 30-May 1. Secretary, Dr. E. R. Anthony, Griffin.

Texas State Board of Medical Examiners, Austin, April 30-May 2. Secretary, Dr. T. T. Jackson, San Antonio.

Texas Eclectic Medical Board, Dallas, about April 25. Secretary, Dr. L. S. Downs, Galveston.

Rules for Conducting Examinations in California.—The following set of rules governing examinations for license to practice medicine in California were compiled by Dr. J. C. King, ex-president of the Board of Medical Examiners of that state:

1. Regular meetings of the Board of Medical Examiners of the State of California will be held on the first Tuesday of each April, August and December. Examinations will be held on the third Tuesday of each June, September and December, unless otherwise ordered by the board. Only necessary routine business may be transacted at any meeting held on a first Tuesday of any month.

2. The deliberations of this board shall be governed by Robert's Rules of Order, so far as they do not conflict with the state law under which this board is organized, nor with other rules adopted by this board.

3. Any motion to add to, rescind, alter or suspend these rules or any part thereof, shall be submitted to the committee on rules without debate. On the favorable report of the committee, said motion shall be put before the board for action, but, if adopted, shall not become operative until the next regular meeting.

4. There shall be three standing committees, to-wit: One of three members, on rules; one, of three members, on credentials of applicants; one, of two members, on auditing of accounts.

5. In determining the standard grammar and high schools, academies, colleges (other than medical) and universities, the opinion of the recorder or of the credential committee of the University of California shall be taken as a guide by this board.

6. As applications are received, the secretary shall immediately place at the disposal of the committee on credentials all documents relating to each and every new applicant. This committee shall, on the first day of each regular meeting, report to the secretary the result of their investigation. The secretary shall thereon, within twenty-four hours, mail to the address of each applicant a permit to take the examination; or, in lieu of such a permit, a statement showing in what respect the credentials and documents of the applicant are incomplete or defective, together with notice that said applicant may appeal, in person or by attorney, to the full board at its next meeting, specifying date and hour.

7. An adjourned meeting of the board shall be held in San Francisco at 9 a. m., on the day on which each examination shall begin. Prior to this meeting the committee on credentials shall present to the board, and to each individual member thereof, a formal, complete and typewritten report. This report shall include a list of the names of applicants to whom permits to take the examination shall have been issued; it shall specify, as regards each applicant individually, the reason why his or her credentials or documents, or any part thereof, shall have been deemed incomplete or defective by said committee. Thereon, any applicant to whom a permit shall have been refused or not issued, may appear before the board, in person or by counsel, and may present an amendment to his or her credentials or documents, or may appeal to the board from the decision of the committee. In case the amendment is accepted or the appeal sustained by the board, the secretary shall at once issue a permit to said applicant.

8. Immediately before an examination begins, a numbered envelope will be handed to each applicant. In this envelope the applicant shall insert his permit, after having signed his name and written his address on said permit, and shall then seal the envelope. Said envelope shall then be returned to the custody of the secretary and shall not be opened until all the markings connected with that examination shall have been completed and then only in the presence of the board. The number of the envelope shall become the number of the applicant whose name shall have been inserted therein. Each applicant shall remember his or her number and shall inscribe it, in plain figures, on the exterior of each set of examination papers. No other mark shall be placed on any paper whereby the identity of the applicant may be discovered.

9. Each member of the board, to whom a subject for examination shall have been allotted, shall prepare a list of questions, at least ten of which must be answered by each applicant.

10. All questions must be written with ink, in English.

11. Each question shall be graded and marked separately on a scale of 1 to 10, in plain figures in ink, on the margin of the examination paper. The total attained shall then be computed and marked on the exterior of said paper.

12. Each of the following, when made a part of any examination, shall constitute one question: (a) Identification of microscopic preparations; (b) identification of gross pathologic preparations; (c) clinical examination of patients; (d) any other practical work. In all such cases questions must be answered in writing as a part of the examination paper, in order that the identity of the applicant may not be revealed to the examiner.

13. No oral, clinical or other form of examination shall be conducted in a manner that will permit the applicant to reveal the identity of his or her number to an examiner, or to any other person.

14. During an examination no applicant shall consult, or open for inspection, any book, notes or other aids to memory; hold any communication with any other applicant; smoke tobacco; leave the room prior to the completion of his paper, unless accompanied by a member of the board, or by an inspector appointed by the board; create any unnecessary noise or disturbance; introduce into the room any visitor or friend. Violation of this rule will be punished by exclusion from the examination.

15. Two hours shall be allowed for the completion of papers on each subject.

16. On its completion, each examination paper shall be deposited by the writer thereof, in a ballot box to be provided for that purpose by the secretary. No examiner nor other person shall be permitted to handle or to inspect any such paper until after its removal from said box. No paper shall be removed from said box until after all papers relating to the same subject shall have been deposited therein, and then only by a member of the board. Each applicant is absolutely forbidden to reveal the identity of his or her number to any examiner, or to any other person, under penalty, if discovered, of summary rejection.

17. Each examiner shall be responsible for the removal from the ballot of all papers relating to the subject allotted to him, for the correct marking of the same, and for the delivery of the same to the secretary before 10 o'clock a. m., of the day next succeeding the last examination.

18. Section 1. On the day following the last day of examination the secretary shall record on a chart prepared for the purpose the number of each envelope, and beneath that number the markings attained in each subject by the examination papers correspondingly numbered.

Sec. 2. The numbers showing an average work of not less than 75 per cent., and also a mark of not less than 60 per cent. on any one subject, shall be deemed to have passed the examination.

Sec. 3. When it appears that any number has attained an average of at least 75 per cent., and yet has failed to attain at least 60 per cent. on any one or more subjects, then the board shall review papers so numbered, so far as they relate to defective subjects, and shall, by vote, re-mark each answer thereof, and the result arrived at by the board shall be inserted on the chart, instead of the original marking.

Sec. 4. All numbers which shall finally appear to have attained an average of less than 75 per cent., or which shall have attained less than 60 per cent. on any one or more subjects, shall be deemed to have failed.

Sec. 5. The numbered envelopes shall then be opened and the name on the permit contained therein shall be attached to the numbers on the chart corresponding to the numbers on the envelopes, thus determining the identity of each applicant.

Sec. 6. After the numbered envelopes shall have been opened, no change whatever shall be made in the markings or their result, except as hereinafter specified.

19. Within three days after the success or failure of applicants shall have been determined, the secretary shall send, by express or otherwise, to the address of each successful applicant, a license, properly signed and sealed, to practice medicine and surgery in the State of California. And he shall send, by mail, to the address of each unsuccessful applicant a statement showing his or her markings in each subject.

20. Applicants for reëxamination must, not later than the first Tuesday of any April, August or December, following the legal interval after their last examination, make application to the secretary for a permit, in the form prescribed for the first examination and accompanied by the same fee; except that no credentials need accompany the application. The secretary shall thereon issue to such applicants permits to take the next ensuing examination.

21. On the last day of each examination the secretary shall return to each applicant at the examination, his or her diploma and other documents, taking therefor a receipt from each specifying all documents delivered.

22. Any clerical error in computing the results of the markings may be corrected at any time by the secretary. But such correction must be reported to the board at its next session.

23. At the meetings in each April, August and December the secretary and treasurer shall present a complete report of receipts and expenditures, which shall be referred to the auditing committee.

Miscellany

An Advertising Quack Wants a Helper.

The following advertisement appeared recently in a Chicago evening paper:

MALE HELP WANTED.

> DOCTOR, SINGLE, REGISTERED IN PENNSYLvania; wanted in a Philadelphia advertising office by April 10; must be first-class casetaker; strictly sober; good letter composer, typewriter; put up prescriptions; hours 9-4, 6-9; Sundays, 9-2; steady man willing to sign five-year contract; should send photo; highest references or security; wages to start, $840 yearly; no board or lodging. Doctor, 204 2d-st., Miami, Fla.; send full particulars.

An answer to it brought forth the literary gem here appended:

Miami, Fla., Feb. 26, 1907.

Dear Sir:—Yours to hand, and in reply will say that I am a well-known specialist in Philadelphia, and my labratory (sic) contains, actual fact, over 3 to 4,000 different drugs and they are used and not for show. I am the only physician who positively cures Syphilis, Bright's Disease, Diabetis, Mellitus, Kidney and Bladder Disease and Cancers, if I can get at it. Psoriasis, Heart Liver, Rheumatism, Piles, all kinds Bronchitis, Malaria, Endwated, (?) Scrofulatic Glands, Shingles, etc., Spermatorrhea, Impotence and all other curable cases.

Whereas, I am an old man, hence I must have an honest man, who loves medicines, and who is not lazy and who tries to follow my method, the Eclectic, Homeopathic, Allopathic, Botanic. My drugs are very expensive by the combination, and hence a physician must be able to make the patient understand that he gets cured, that we don't give mercury, calomel, saltz etc., but we combine from 12 to 60 drugs and still they do not effect the stomach. I cure Syphilis, and I don't care how dangerous cases are, but the cost for each mild case, $285.00. Well we have to get from $350.00 to $500.00, and in dangerous cases the drugs cost between $350.00 to $500.00, and for those cases $750.00 to $1,000.00 is not too much. I am no fakir, I mean just what I claim, and the most expensive treatment and work has to be done in the first three months, and therefore patients have to pay all or a great deal of amount down, and I have proof of all I claim. Now then I need an honest man, who will work. All he has to be is a good diagnostician, and then study up the cases, and then prescribe according to my ℞.

How are you as a good case taker? That is, to take the patients who have the money? To pay my expenses it takes monthly $2,450.00; now you see that the money has to come in. Now, honesty and a good case taker is everything. Then above all, a man has to be strictly sober. Then if not sober, he can do no business. A man has to start in with $840.00 the first year, without board or $600.00 and board; but as I said, if he is a good man and can increase the income, he gets more. If he is not a good case taker, of course I don't want him, not even for his board. I am an old man, and as I said I need and honest man. Of course you would have to sign a contract for five years with a provision, that if you are not capable to fill the bill I can discharge you. Then it must be to you as reasonable as possible. That if you are not a good case taker, and not able to follow my method I could not keep you. I am sure a good case taker alone would not amount to much. If the man is not able to cure, you know as well as I do, that if you could only take the money and not cure, the people will say, "Oh that's a beat," and my office would soon go to H——.

Now please be kind enough to send me your photograph. I generally can have an opinion from the expression of the man's face. Consider this well. Hours 9 to 4, evenings from 6 to 8, Wednesdays and Saturday from 6 to 9, Sundays from 9 to 2.

You have to put up all your own ℞, you must see to everything, if I am not at home, you to write with machine and dictate a good letter. The composing of these letters is in itself very important. Of course you will also have to sign in the contract, that you have never been in my employ, and you never have a right to copy my prescriptions or to take addresses or names of patients, nor to open an office in Philadelphia or associate yourself with any one else or say I was formerly with so and so, using my name, nor can you practice outside of my office while in my employ, and you must be registered in Pennsylvania without fail.

The position is a good steady one for the right man in the right place; state the age, nationality, and what college you graduated from. In fact, to avoid unnecessary correspondence and time, send highest references, not from friends and patients, but from honorable citizens, who know your good as well as your faults.

Yours faithfully,

—— ——

As the name of the individual who signed this remarkable effort was not to be found in any of the medical directories, further information was asked for, regarding the legal liability of the assistant. The reply defined the status of the assistant with clearness. Here it is:

Miami, Fla., March 5, 1907.

Dear Doctor:—My uncle for whom I write is Registered since '80 in Philadelphia and has practiced since 38 years in Philadelphia. Of course you are responsible as far as Patients goes if you poison any, but otherwise no Patient is taken without a Contract that relieves you and my uncle cure or no cure. Now what Uncle wants is a Honest Man strictly sober, good talker, a Man who will not take a Penny nor Hundreds but who Truly is Honest & of course Uncle Trusts none until he finds him Honest & so long will set Trapp to find it out. If you are the right man you get a good Place, if you are N. G. as I wrote before you're not worth a Penny to Uncle & if you are the right Man you will get your wages increased but don't Expect it in a Month or 3. You must show your value first & not Expect the Earth or after you find out you are the right Person say here I want the Earth. My uncle is O. K. all he wants is the Right Man. Send Photo & Ref. He has to decide quickly as my Cousin now takes care of office but my cousin is this Kind of a fellow He knows that he can run the office & wants the Earth, hence Uncle has to make a change.

Answer and act quick,

—— ——.

One more letter, thanking the nephew for his services as employment agent and suggesting that he send his uncle's name and address so that further correspondence might be carried on direct failed to elicit a reply.

Whether the doctor was able to get the honest man who didn't want "the earth" to take charge of his evidently lucrative practice and at the same time to fulfil the somewhat exacting requirements, all for the munificent sum of $70 monthly, we know not.

Venesection in Acute Nephritis.—Baccelli treats acute nephritis by withdrawing 200 c.c. of blood from a vein in the foot. In a typical case described in the *Policlinico*, xiv, 18, 1907, the edema of the lids, fever, blood, albumin and casts in the urine indicated severe nephritis a few days after the first stormy onset. The trouble in the kidneys causes lower arterial pressure with increased venous stasis and thrombosis in the finer ramifications of the veins with the glomeruli compressed and paralyzed. Venesection relieves these conditions as if by magic, and Nature then has a chance to heal. In the severer cases he follows the venesection with powders containing sodium sulphate, sodium nitrate and scammony, every five minutes. This stimulates the emunctories very powerfully, but the venesection alone generally aborts the nephritis and prevents its transformation into a chronic phase. In the severe acute case described the venesection was repeated the second day and recovery was soon complete.

DEDICATION OF THE BARLOW MEDICAL LIBRARY OF LOS ANGELES.

George H. Kress, M.D.
LOS ANGELES.

The establishment of medical libraries is so desirable a need of the medical profession and at the same time so unusual an event, that every such occasion seems worthy of special mention and record. It is, therefore, with considerable pride that Los Angeles, now a city of 260,000 persons, and the metropolis and natural geographical, financial, social and literary center of that wonderful region known as "The Great Southwest," is able to announce to the world that the medical profession of that section has come into possession of a fire-proof medical library building and equipment costing more than thirty thousand dollars and that the institution starts its career of active work with more than five thousand volumes and publications.

For the generous gift of the building and equipment the medical profession is indebted to one of its own members, in fact to one of the younger members of the profession of Los Angeles—Dr. W. Jarvis Barlow, who occupies the chair of clinical medicine in the College of Medicine of the University of Southern California. Dr. Barlow gave the building without any restrictions, but in his honor it has been called the Barlow Medical Library by the board of trustees, who were elected by the members. The books with which the institution starts constituted the former library of the College of Medicine of the University of Southern California. The control of the institution is in the hands of the patron members, these being physicians who subscribe twenty-five dollars annually. As yet there is no endowment and the salary of the librarian and the expense of publications come from dues of patron members, annual members (ten dollars yearly) and of associate members (five dollars yearly).

The building has been erected within eight minutes' distance of the center of Los Angeles, opposite the buildings of the College of Medicine, so that it is accessible both to physicians and to the medical students of the city. The structure itself is virtually a single mass of cement, the architecture being dignified and handsome and the color tones most pleasing. In addition to the general reading room there are a number of research rooms where physicians carrying on special investigations may leave books and papers without fear of having them disturbed. Light, ventilation and heating arrangements are most excellent.

The influence which this institution will have on the scientific tone and culture of the medical profession of the Southwest is inestimable. That it will be great and that its effects will be far reaching is not to be doubted. In conjunction with the Los Angeles County Medical Association, an organization that now holds weekly city meetings, in addition to maintaining sections in the specialties as well as supporting three branches in near-by towns, the Barlow Medical Library is bound to be a potent factor in the development of scientific progress and in the organization of the medical profession of the Southwest. The Los Angeles profession is grateful because of this new library and proud of the generosity displayed by one of its members in making this institution a reality.

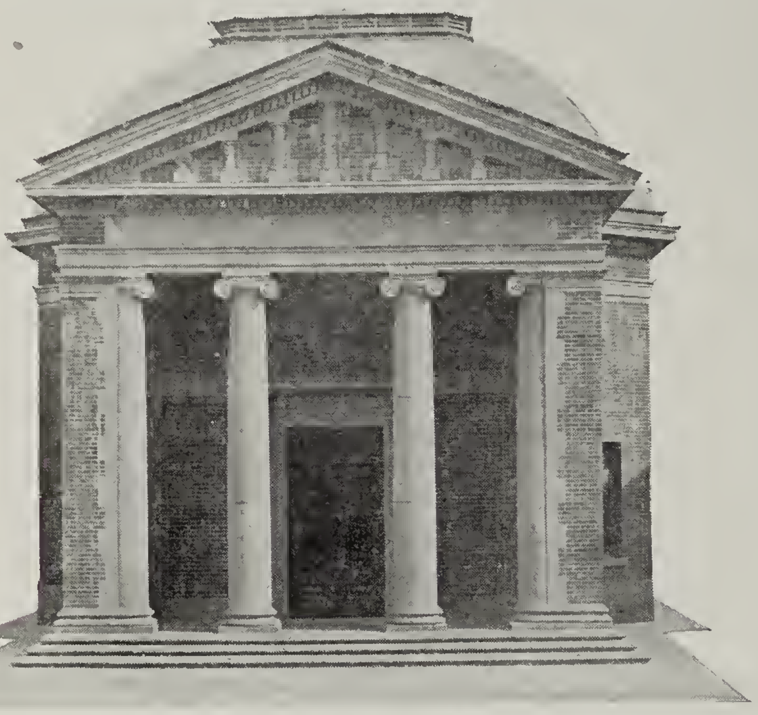


Fig. 1.—Front view of the Barlow Medical Library.

An appeal is herewith made to medical librarians and to members of the profession elsewhere to aid in the work of increasing the volumes and publications now on the shelves of the institution. Medical publications of any kind and reprints of medical articles will be gladly received. Lists of books or reprints may be sent to the librarian of the Barlow Medical Library, 740 Buena Vista street, Los Angeles, who will be glad to give detailed information concerning the needs of the institution.

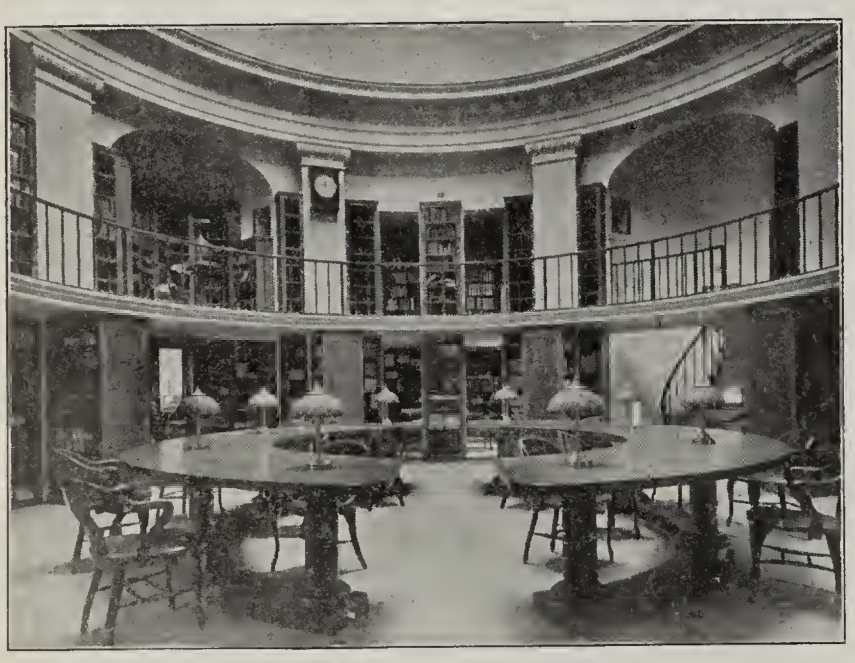


Fig. 2.—Interior view of the Barlow Medical Library.

The first board of trustees elected by the patron members consists of Dr. Milbank Johnson, president; Dr. Stanley P. Black, secretary, and Drs. George L. Cole, William A. Edwards. B. F. Church, John R. Haynes and Fitch C. Mattison. These men, on behalf of their fellow practitioners of the Southwest, request the cooperation and aid of the profession of other parts of the country in the work of which they are the custodians.

Tumors of Cerebellum and Posterior Cranial Fossæ.—The *Med. Klinik* publishes with its first number in 1907 a supplement containing an article by W. Seiffer presenting the present status of our knowledge on this subject. He explains the contradictory findings of various investigators as due to the more or less gradual development of the tumor. Of all the organs in the body the cerebellum seems to be able to benefit most from compensatory processes. A tumor developing slowly in the cerebellum exhibits entirely different symptoms from one that develops rapidly, without time for the compensating processes to be established. He urges careful record of the consequences of surgical treatment of such a tumor. Every operation of the kind is not only a life-saving measure, but is a most important contribution to the progress of science. The inoperable intrapontine tumors seldom cause choked disc or much headache, but spastic hemiparesis with exaggeration of the reflexes and Babinski's sign are frequent, also alternating hemiplegia, that is, paralysis of one or more of the cranial nerves on one side and of the extremities on the other. There is, further, frequently a total and permanent ophthalmoplegia (which is not total with tumors of the cerebellum), or bilateral spastic paresis of the extremities, sphincter disturbances (seldom observed with cerebellar tumors), eventually also hemitremor and hemianesthesia. Spitzer regards conjugated deviation of the head and eyes toward the sound side as the chief sign of an affection of the pons.

Cost Increases with Purity.—The argument that enforcement of the laws regulating the purity of milk will result in increased cost of the product to the consumer is not a valid one. The price is being advanced anyway. The law of supply and demand will settle that question, as it does all others in domestic and political economy.—*Louisville Monthly Journal of Medicine and Surgery.*

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Alopecia.

McKee, in the *Lancet-Clinic,* states that the first step is to cleanse the scalp and to remove some of the inflammatory exudates. The next step is to apply some antiseptic medication which should not only cover the scalp, but also penetrate into the hair follicles. Through this cleansing process and disinfecting the natural oil of the scalp will be removed and the third step consists in replacing it. Vaselin or lanolin in which some antiseptic has been incorporated is rubbed into the scalp daily for from one to six weeks, then every other day for a similar time, then twice a week, and then once a week.

Chrysarobin is one of the best remedies in this condition. It is best appplied in 6 per cent. ointment with vaselin or lanolin as a base. It is applied daily for a week or two, then discontinued to see if the progress of the disease has been checked. If lanugo hairs do not appear, or if the hairs in the periphery of the patch can be pulled out easily the treatment should be resumed. This remedy should not be used near the eyes. The author asserts that lactic acid, 50 per cent. in water or alcohol, gives good results. The affected parts are first freed from oil with alcohol or ether; then the remedy is applied on a swab till the skin becomes red. The following combination is useful:

℞. Thymolis ....℥ss 15|
Olei ricini |
Olei amygdalæ dul., āā.................℥ii 60|
M. Sig.: Appply to the scalp.

As recovery is often spontaneous, it is difficult to determine the exact value of the remedies used. Internally, arsenic, cod-liver oil and similar tonics should be given when indicated, in connection with regulation of the diet and physical and mental hygiene. To prevent baldness the following may be used:

℞.	Pilocarpinæ hydrochloridi	gr. v		33
	Olei rosæ	gr. viii		50
	Olei rosmarini			
	Tincturæ cantharidis, āā	℥ss	15	
	Glycerini	℥i	30	
	Olei amygdalæ dul	℥ii	60	
	Spiritus camphoræ	ʒxxiv	96	

M. Sig.: Rub well into the scalp night and morning.

In alopecia prematura, Stelwagon, "Diseases of the Skin," states that the patient's general health and the condition of the scalp must both be considered. Of general tonics he mentions arsenic, cod-liver oil, strychnin, iron and the hypophosphites. The external treatment is the essential part. In cases in which eczema seborrhicum or seborrhea is present, or is the cause of the alopecia, treatment must be directed against this alone, and when this condition is removed the usual applications in uncomplicated cases of loss of hair can be utilized. One of the most valuable remedies is resorcin, but Stelwagon warns against using this drug, except cautiously, for patients with white or gray hair, as it stains the hair, giving it a dingy yellow tinge. Stelwagon recommends the following:

℞.	Resorcini	ʒi-ii	4-8	
	Olei tiglii	m. iv-xx		26-1.33
	Olei ricini	m. x-xxx		65-1.90
	Alcoholis vel			
	Spiritus myrciæ	℥iv	120	

M. Sig.: Apply to scalp night and morning.

In alopecia areata Stelwagon advises giving arsenic internally, in the form of Fowler's solution, in doses of from 3 to 5 drops (0.2 to 0.33) three times daily. Nux vomica and the iron tonics are also of value. Locally he prescribes the following:

℞.	Sulphuris precipitatis	ʒi-ii	4-8
	Beta-naphthol	gr. xxx-ʒi	2-4
	Adeps lanæ	ʒii	8
	Petrolati liq. q. s. ad	℥i	. 30

Ft. unguentum. Sig.: Rub well into scalp once daily.

The remedial application should always be carried one-quarter or one-half inch beyond the border of the affected area.

If there are but two or three areas, Stelwagon states that the stronger remedies may be employed. Of these he recommends an ointment of chrysarobin, from 10 to 60 grains to the ounce of lard or vaselin, well and energetically rubbed in.

Hyde and Montgomery, "Diseases of the Skin," recommend the following formula:

℞.	Olei ricini	f℥ss	15
	Phenol (acidi carbolici)	ʒi	4
	Tincturæ cantharidis	f℥ss	15
	Olei rosmarini	gtt. xv	1
	Alcoholis q. s. ad	f℥iv	120

M. Sig.: Apply to the scalp.

Jackson has recommended a pomade made by boiling down a stated quantity of the fluid extract of jaborandi to one-half its volume and adding to this four parts of lard. This is rubbed into the scalp twice daily. Jackson also recommends a lotion of corrosive sublimate gr. 1½ (0.1) to the ounce of water, not on account of its parasiticide qualities, but solely on account of its stimulating effect.

All the preparations in common use in this condition possess both parasiticide and stimulating properties.

Heroin Addiction.

Paul Duhem, in *Progrès Médicale*, calls attention to the fact that since the introduction of heroin, and especially since its employment in the treatment of morphin addiction, cases of heroin addiction have been observed in increasing numbers.

Duhem bases his conclusions on 16 cases of heroin addiction observed in connection with Sollier. Of these, three patients acquired the habit from the use of the drug for asthma, four were morphin habitués who had used heroin in the hope of cure, three had first taken the drug for pain, while in six others the use was traced to various causes, such as fatigue, overwork, insomnia and other nervous symptoms which were added to a neuropathic constitution. The doses which were used as a remedy for asthma and other respiratory affections as well as those used as a substitute for morphin were rather large, 3 to 22 grains (0.2 to 1.5), while when used as an analgesic the amount was somewhat less, ½ to 1 grain (3. to 5.).

The method of withdrawal of the drug was the same as that practiced by Sollier for the withdrawal of morphin: The patient is isolated and preparatory treatment instituted to stimulate the eliminative organs. Then the drug is withdrawn as rapidly as possible, ending in complete withdrawal in about a week, with constant supervision of the elimination; finally an abundant diet and tonic treatment are given. Contrary to the experience with morphin, it was found that to allow injections of heroin during the course of the withdrawal was accompanied by serious inconveniences. While morphin in minute quantity will restore a patient with slight cardiac defect, if he becomes prostrated during the withdrawal of morphin, patients addicted to heroin showed no such effect from injections of heroin. Duhem, therefore, concluded that it is best in case of heroin addiction to withdraw the heroin completely and to substitute morphin for it. This method suffices to prevent many accidents, but does not obviate the dangers altogether. The preference of heroin for the respiratory tract explains the frequency of attacks in which this function may be almost in abeyance. These attacks of respiratory failure occur in cases in which they may not be expected. From the moment of withdrawal the respiration and circulation are slowed and intellectual torpor is marked; there is marked sweating and a leaden type of countenance, but nothing indicates the imminence of the failure of respiration. The pulse is generally good, and if the countenance is not watched the attack may not be noticed until it is in full action. The breathing suddenly ceases, the face becomes pale, the eyelids tremble, the face becomes covered with a cold sweat and the patient loses consciousness. In addition to rubbing the limbs a double injection of ether and morphin should be given; the use of heroin is without effect in such a case. It is evident that heroin is removed from the system with much greater difficulty than morphin. The patients become very feeble and emaciate alarmingly. The normal functions are more slowly established and the convalescence is more tedious. While morphin users regain their lost weight at the latest at the end of the second week, those habituated to heroin require four weeks or more for the restoration of their original weight.

These considerations lead to the conclusion that morphin is to be preferred to heroin when an active narcotic is to be used, and that physicians should be on their guard against allowing patients to become habitual users of this drug on account of the greater injury which its habitual use entails and the greater difficulty presented in curing the patient of the degrading habit.

Gastric Sedatives.

H. B. Sheffield, New York, calls attention to the fact that a highly irritated stomach will often reject even the most palatable medicine. Cracked ice, cold or hot water, calomel or bicarbonate of soda, peppermint, lime, or bitter almond water, small doses of bismuth and cerium oxalate, minute quantities of tincture of iodin well diluted in water, are all useful gastric sedatives. In continued vomiting of infants, lavage advantageously supplants drugging.

When administering medicines to infants, it is often helpful to divide the regular dose, giving it, if need be, drop by drop until the whole dose is consumed. In this manner the most irritable stomach will frequently retain the medicine when it would otherwise reject it.

Before prescribing any medicine the physician should always bear in mind the dictum: "What is hateful to thee, do not unto thy fellow-man."

Medicolegal

Duty Owed Injured Seamen.

The United States Circuit Court of Repeals, Third Circuit, says, in the case of The Mars, that the fact that a tug is engaged in comparatively short coast-wise trips does not relieve her from the usual obligations of a vessel to her crew. One of these is to furnish, at the vessel's expense, care and maintenance to a seaman injured in her service. The Osceola, 189 U. S., 175. This right extends to a fireman. The North America, 5 Ben., 486. The word "cure" is used in its original meaning of care and means proper care of the injured seaman and not a positive cure, which may be impossible. The Atlantic, Abb. Adm., 451. The duty is to furnish means of cure and to use all reasonable efforts for that purpose. Brown vs. Overton, Fed. Cas. No. 2024. In the nature of things the end of the voyage does not end the obligation, if there was not sufficient time and facilities for the vessel to have then done its duty. Its unfilled obligation may continue after the voyage ends. McCannon vs. Dominion Atlantic Company (D. C.), 134 Fed., 762; Henry B. Drake, 141 Fed., 191; The Svealand, 136 Fed., 109; Reed vs. Canfield, 1 Sumn., 195. Neither the ancient codes nor the modern decisions show any reasoning or authority for holding that, where the injury to the seaman in the performance of his accustomed duties, was received through remissness or not unusual carelessness on his part, he thereby forfeits his right to cure and maintenance. The Osceola; The City of Alexandria (D. C.), 17 Fed., 395; The Ben Flint, 1 Abb. (U. S.), 126.

Good Case Made Against Illegal Practitioner.

The Supreme Court of Iowa affirms, in the case of the State vs. Kendig, a conviction of practicing medicine without a license. The indictment, found under Sections 2579 and 2580 of the Iowa Code, charged that "the said A. J. Kendig, on the 1st day of September, A. D. 1903, and from the said 1st day of September, A. D. 1903, until the time of the finding of this indictment, did, in the county of Madison and state of Iowa, falsely, wrongfully and unlawfully assume the duties of a physician and make a practice of prescribing and furnishing medicine for the sick, and did wrongfully, falsely and unlawfully publicly profess to cure and heal, without having first obtained from the board of medical examiners of the state of Iowa, and filed for record, a certificate conferring on him the right to practice, contrary to the statutes in such cases made and provided."

The indictment was challenged on several grounds, and, first, that it was not sufficiently certain as to the person charged, or as to the offense intended to be charged, in that the act or omission charged was not set forth with sufficient particularity. It was said that the indictment did not give the slightest information as to the time, place or circumstances of the offense, nor of the evidence the defendant would be required to produce to establish his defense. But the court holds that here the statutory definition of the crime was complete, and, as the indictment charged the defendant's offense in the language of the statute, it was sufficient.

Again, it was said that the indictment did not charge the defendant with prescribing medicine for, or practicing on, human beings, as distinguished from furnishing medicine for domestic animals. This objection, the court says, was purely hypercritical and without merit. According to the common understanding, as well as in law, there is a distinction between the practice of medicine and the healing of the sick and the treatment of diseased animals.

Nor does the court think that the indictment was insufficient in that it did not negative the exceptions contained in the statute, as that it shall not be construed to prohibit students from prescribing under certain conditions or gratuitous services in the case of emergency, etc. The court says that the general rule as to exceptions, provisos, and the like is that where the exception or proviso forms a portion of the description of the offense so that the ingredients thereof can not be accurately and definitely stated if the exception is omitted, then it is necessary to negative the exception or proviso, but, where the exception is separable from the description and is not an ingredient thereof it need not be noticed in the accusation; for it is a matter of defense.

That there was ample testimony to justify the verdict returned, the court explains by saying that there was no doubt that the defendant was visiting the sick, diagnosing their ailments and furnishing medicines for their cure. Not only this, but he filed claims against the estates of some of his patients for medical services rendered and asked the county to recompense him for treating a "county charge." The statute, the court further says, was intended to cover the advertising and selling of all medicines except those known as "patent" or "proprietary," and there was no testimony that the medicines which the defendant was vending belonged to either of these classes. Moreover, the defendant was not merely selling certain preparations, but he was visiting the sick and prescribing them for his patients.

By Whom Statutory Privilege May be Waived.

The Supreme Court of Minnesota says, in the case of Olson vs. Court of Honor, that Section 5662, Subdivision 4, of the General Statutes of Minnesota of 1894 provides that "a regular physician or surgeon can not, without the consent of his patient, be examined, in a civil action, as to any information acquired in attending the patient which was necessary to enable him to prescribe or act for the patient." It is manifest that the purpose of the statute is to protect the patient, and not his adversary; for the evidence may be received with the consent of the patient.

Does this privilege become absolute on the death of the patient, or may those who represent him or claim an interest under him after death waive the privilege for the protection of such interest? This is an important question; for if they can not waive the privilege given by the statute, and their adversary may invoke it to suppress the truth and defeat the enforcement of rights the deceased provided for them in his lifetime, then the statute may be made an instrument for cheating justice. If such be the proper construction of the statute, then, if an executor or legatee presents a will for probate, which is contested on the ground that the testator was of unsound mind when the will was made, the executor or legatee may not, if the contestant objects, call the physician who was attending the testator at the time to testify as to his knowledge of the patient's mental condition, acquired in attending him. Nor could the personal representatives of a party, in an action to recover damages on account of the death of his intestate by the alleged negligence of the defendant call the physician who attended the intestate after his injury to testify as to the nature of the injuries and the cause of death, if such information was acquired in attending him.

Again, the case under consideration, the court says, illustrates the unreasonableness of such a construction. The defendant insured the deceased for the benefit of her husband and children against death by unintentional self-destruction while under treatment for insanity. The best, and perhaps the only, evidence to prove that the deceased was under treatment for insanity at the time of her death was the testimony of the physician. Yet, if the statute was to be construed as the defendant claimed, then the plaintiffs, who were asserting a right under the deceased which provided for them in her lifetime, might not waive the privilege; but the defendant might invoke it to defeat the enforcement of their right. It can not be that such is the proper construction of the statute, for it is unreasonable and unjust.

The adjudged cases, however, relevant to this question, are not in entire harmony, due, perhaps, to a difference in the wording of the several statutes construed. On principle and what seems to be the weight of judicial authority, this court holds that the statute in question is for the protection of the patient, and he may waive the privilege if he sees fit, and that, as a general rule, those who represent him after his death may also waive the privilege for the protection of interests which they claim under him. In re Will of Layman, 40 Minn., 371; Coates vs. Semper, 82 Minn., 460; 23 Enc. of Law, 90; Denning vs. Butcher, 91 Iowa, 425; Winters vs. Winters, 102 Iowa, 53; Grand Rapids Ry. Co. vs. Martin, 41

Mich., 667; Scripps vs. Foster, 41 Mich., 742; Fraser vs. Jennison, 42 Mich., 207; Groll vs. Tower, 85 Mo., 249. It follows that the evidence of the physician in this case was competent.

Insanity at Time of Trial and Expert Testimony.

In the United States Circuit Court in Alabama, in United State vs. Chisolm, an inquiry as to the sanity of a prisoner, the jury were told, among other things, that finite man at last gropes but darkly into the conditions of the human mind, and it is impossible for any court to lay down any fixed rule, as a matter of law, as to any particular state of facts which will unerringly demonstrate sanity, or the contrary condition of the human mind, or the degree of aberration which, when found to exist, exempts an accused person from criminal responsibility, or unfits him to rationally aid in his defense when arraigned for crime.

But whether or not an individual's departure from general rules governing human action demonstrates such aberration of mind as exempts him from criminal responsibility, or shows unfitness on that account to be placed on trial, depends on the circumstances of the particular case, and is to be gathered not merely from the act for which he is arraigned, but must also be determined and tested in view of every other fact and circumstance which sheds light on the condition of the defendant's mind at the period as to which the inquiry is directed. Each particular case, therefore, presents a practical question, in the decision of which general statements of the theories of medical men and the reasoning of jurists furnish only partial, and sometimes little, if any, practical help.

A person may be insane or partially so at one time, and subsequently be restored to sanity, and afterward be a responsible being in the eyes of the law. The reason why an insane person, or one who, though not insane, is laboring under such mental infirmity as to prevent his rationally aiding in his defense, should not be put to trial, is, in the language of the old books, "because he is disabled by the act of God" from making a just defense if he has one, and "because there may be circumstances lying in his private knowledge which would prove him innocent or his legal irresponsibility, of which he can have no advantage, because they are not known to persons who undertake his defense." Nevertheless, a person though not entirely sane, may be put on trial in a criminal case if he rightly comprehends his own condition with reference to the proceedings, and has such possession and control of his mental powers, including the faculty of memory, as will enable him to testify intelligently and give his counsel all the material facts bearing on the criminal act charged against him and material to repel the criminating evidence, and has such poise of his faculties as will enable him to rationally and properly exercise all the rights which the law gives him in contesting a conviction.

The defense of insanity, or mental inability to properly conduct a defense, is frequently resorted to without any just basis, and in passing on such questions the jury may give that consideration such weight as in their opinion it may deserve in connection with all the facts in the particular case. It would be a reproach to justice if a guilty man escaped the penalty for a crime on a feigned mental irresponsibility, or postponed his trial on a feigned condition of mind, as to his inability to aid in his defense. On the other hand, it would be likewise a reproach to justice and our institutions if a human being "made in God's own image," while suffering, as the old books put it, "under a visitation of God," were compelled to go to trial when he is not sufficiently in possession of his mental faculties to enable him to make a rational and proper defense. The latter would be a more grievous error than the former; since in the one case an individual would go unwhipped to justice, while in the other the great safeguards which the law adopts in the punishment of crime and the upholding of justice would be rudely invaded by the tribunal whose sacred duty it is to uphold the law in all its integrity.

The jury is not bound by the opinions of experts. If the jury's common sense, reason, judgment and observation, in view of all the evidence, produce the conviction in its mind that the expert is wrong in his opinions and conclusions, it may be governed by its own opinion and not by his. A jury should not capriciously or recklessly disregard the advice of medical men of experience in dealing with diseases of the human mind, and the advice of physicians as to such matters should be carefully weighed, but the final responsibility in arriving at a decision as to the mental condition of the prisoner rests on the jury. In this case all of the testimony of the medical experts seemed to agree that the prisoner had neurasthenia. One of them gave the opinion that he was suffering from incipient paresis. The name of the mental disease, if the prisoner was, in fact, suffering from such disease, was not important.

In the absence of any proof on the subject, the law presumes that every ordinary being of mature age is responsible in all respects, and the government in prosecuting a defendant for crime is not bound to offer any evidence on that point, but may rest on the presumption. When, however, any facts are developed which go to rebut the presumption of responsibility, it becomes a question of fact in the particular case. While the force of the presumption of innocence until guilt is found beyond a reasonable doubt has no field of operation whatever in solving such an issue as that now submitted, yet the humanity of the law is such that no man should be considered a proper subject for criminal prosecution, of whose ability to fairly and rationally make a defense there is just ground for reasonable doubt in the minds of the judge or jury which passes on that issue.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

March 23.

1 *Fracture Dislocation of Spine. S. Lloyd, New York.
2 *Pathologic Changes in Fracture Dislocations of Spine. P. Bailey, New York.
3 *Treatment of Fracture Dislocations of Spine. I. S. Haynes, New York.
4 *Phototherapy in Nervous Disease. A. D. Rockwell, New York.
5 *Early Mobilization of Patients After Major Gynecologic Operations. A. Brothers, New York.
6 *Prognostic Value of the Diazo Reaction in Tuberculosis. J. R. Williams, Greensboro, N. C.

1. **Fracture Dislocation of Spine.**—Lloyd reviews the clinical history of fracture dislocation of the spine, and many of his views in regard to the treatment of his condition agree with those held by others. His previous papers on the same subject cover the ground fully. He has now performed laminectomy 32 times, and while some of his cases have improved to a marked degree, a very considerable number have shown absolutely no benefit from the operation. In none of the cases does he attribute the improvement to regeneration. He says that if regeneration of the cord does occur, more improvement would have followed in some of the cases in which no benefit was manifested. He says it is more than likely that there have been nerve fibers that were not destroyed and that have recovered their function, allowing for a more or less considerable improvement in the patient's condition. Spinal regeneration in the human species has not been proved, and, therefore, it is fallacious to hold out this hope to the patient.

2. **Id.**—Bailey agrees with Lloyd in the matter of regeneration of the spinal cord. He says that in one-third of the fracture dislocations of the spine, the cord escapes all injury. This is especially true in the cervical region. He says that the damage to the cord is that which takes place at once. Bailey does not believe that long-continued pressure has much to do with it, since, if severely injured, the cord shrinks, and there is still space in the canal to hold it.

3. **Id.**—Haynes says the treatment under the expectant plan consists of extension and immobilization with a plaster jacket. If there is no evidence of cord injury and the injury is not in the thoracic region, replacement may be done without cut-

ting. But if the injury is in the thoracic region, or the cord is involved, it will be necessary to cut down on the laminæ and spinous processes, open the canal, remove detached pieces of bone, or clots, arrest hemorrhage, and give drainage. Even if the cord is not involved at first, unless an immobolizing apparatus is used, slipping of the vertebræ may cause or increase the injury of the spinal cord.

Haynes believes that, even if we can not diagnose the exact injury to the cord we should promptly open the canal and give the patient the benefit of the doubt, since pressure for some days will make permanent an injury that might be relieved by early operation. Even when the cord has been entirely severed, a sort of repair goes on which improves the condition of the patient and enables him to live, while without repair death ensues under a year.

4. **Phototherapy in Nervous Diseases.**—Rockwell claims that, as a rule, whenever and wherever pain exists, whether in the form of the neuralgias or neuritis, or pain of the rheumatic or gouty type, a judicious application of the light bath is pretty certain to give temporary relief, and successive applications, in a large proportion of cases, are followed by permanent relief. In the toxemias and the toxic neuroses the therapeutic value of light energy is beyond question. The benefit derived from the light bath is often greatly enhanced by supplementary physical methods, such as static high frequency currents and general faradization.

5. **Early Mobilization After Gynecologic Operation.**—Brothers sums up his views as follows: Early mobilization tends to overcome ordinary vomiting, accumulation of intestinal flatus, and bronchial irritation from retained secretions in the air passages. Instead of contributing additional risks to the possibilities of thrombosis and embolism in the absence of septic infection, the early moving about of these patients actually tends to reduce these risks. The morale of these patients is always wonderfully improved. The total result is an earlier and more pleasant convalescence. Brothers cites a number of cases in support of his views.

6. **Diazo Reaction in Tuberculosis.**—Williams always makes a careful and complete urinary analysis of every case of pulmonary tuberculosis, and the diazo reaction is one thing in particular that he always looks for, believing its presence or absence a valuable prognostic sign. He says that the absence of the reaction in white patients is of favorable prognostic value. In the colored patient, the absence of the reaction is of no prognostic value. The presence of the diazo reaction in white patients is of unfavorable prognostic value. Williams says that not only the fresh specimen of urine should be examined, but also one which had stood for twenty-four hours.

Boston Medical and Surgical Journal.

March 21.

7 *Subdeltoid Bursitis. C. F. Painter, Boston.
8 *Surgery of the Right Upper Abdominal Quadrant. F. B. Lund, Boston.
9 *Practical Considerations in Treatment of Neurasthenia. W. C. Canfield, Bristol, R. I.
10 Studies in Psychopathology. B. Sidis, Brookline, Mass.
11 New Obstetric Forceps. F. L. Good, Boston.
12 Progress in Theory and Practice of Medicine. H. A. Christian, Boston.

7. **Subdeltoid Bursitis.**—That traumatism in one form or another is the usual cause of subdeltoid bursitis is shown by the four cases reported by Painter. He says that the most common injury producing this condition is a fall on the shoulder or a violent twist or wrench of this articulation. Painter believes that the treatment of all these cases should consist in open incision and removal of the entire sac irrespective of the duration of the case or the cause of the condition. The after-treatment, which is begun within a week or ten days, consists of passive motion and hot fomentations to the shoulder. Painter found that the prognosis is better after the open method of treatment than after simple manipulation. Convalescence is also much shortened and the functional results are considerably better.

8. **Surgery of Right Upper Abdominal Quadrant.**—Lund emphasizes the advantage of early operation in diseases of the stomach, gall bladder and pancreas and the imperativeness of early operation in perforations. He says that present diagnostic methods are inadequate, and therefore the surgeon must hold himself in readiness at all times to meet conditions different from those suspected before operation.

9. **Treatment of Neurasthenia.**—In the treatment of neurasthenia, Canfield considers it wise to begin at once with physical therapeutics, consisting of isolation, rest, over-feeding, and exercise. These remedial measures are followed up by psychotherapeutics.

New York Medical Journal.

March 23.

13 *Essentials in Crusade Against Tuberculosis. L. F. Flick, Philadelphia.
14 Historical Sketch of the Development of Percentage Feeding. T. M. Rotch, Boston.
15 *Physical Processes of Immunity and Infection. J. Wright, New York.
16 *Behavior of Eosinophile Leucocytes in Pulmonary Tuberculosis. J. M. Swan and H. T. Karsner, Philadelphia.
17 Essentials for Success in Medicine. C. E. Nammack, New York.
18 *Aural Affections in Relation to Mental Disturbances. W. S. Bryant, New York.
19 Pasteurization: Advantages and Disadvantages to Consumer. R. G. Freeman, New York.
20 *Use of Ammonia in Counteracting Fumes of Formaldehyd. E. V. Wilcox, Washington, D. C.

13. **Essentials in Crusade Against Tuberculosis.**—The essentials in the crusade against tuberculosis are enumerated by Flick as follows: 1. The control of contagion. 2. The disinfection of infected places and things. 3. Life in the open air. 4. Proper food. He says that so far as possible the work in a community should be led by private effort and supported by the government. Education and the value of fresh air and proper food should be inaugurated everywhere and carried on in the school room, in the press, and on the platform. He urges the establishment of sanatoria and convalescent farms for consumption, although he considers the hospital the most efficient for the prevention of tuberculosis as it removes patients from the community during the period when the disease is in its most contagious form.

15. **Physical Process of Immunity and Infection.**—This is the third paper by Wright on this subject. In it he discusses the electro-dynamics of the surfaces of living protoplasm.

16. **Behavior of Eosinophiles in Pulmonary Tuberculosis.**—Swan and Karsner present further evidence of the behavior of the eosinophile leucocytes in cases of tuberculosis, with special reference to the prognostic value of these cells found in the peripheral blood. Differential counts of the leucocytes in the blood of 31 cases of pulmonary tuberculosis were made. Of this number, 26 cases were fatal and five were stationary, or were improving under treatment at the time the observations were discontinued. In all the fatal cases except two the eosinophile cells were below 1 per cent. as a rule, at periods varying from 102 days before death to the day of death. In the cases which remained stationary or which were improving under treatment the eosinophiles, while subject to fluctuations, were present in fair proportion, usually over 1 per cent. The authors conclude from their observations that in cases of pulmonary tuberculosis the eosinophile cells tend to disappear from the circulating blood as the progress of the disease brings the fatal termination nearer, and that as the patient improves under treatment and as the disease shows a tendency to become arrested, the eosinophile cells reappear in the circulating blood. A full report of the cases studied is appended to the paper.

18. **Ear Disease and Mind Disease.**—The results of Bryant's experience in examination of the ears of the insane have convinced him that ear disease is much more prevalent among the insane than among the sane. In fact, it is the exception not to have some demonstrable functional disturbance of the ear. Bryant found it present in 90 per cent. of the insane examined. In many of these cases a history was obtainable which showed that the ear disease was in existence before the insanity appeared, and in others the condition of the ears was such that it must have antedated the mental disturbance.

20. **Ammonia to Counteract Fumes of Formaldehyd.**—Wilcox subscribes to the value and efficiency of using ammonia for the purpose of neutralizing formaldehyd. In fumigating a sick room containing 1,500 cubic feet of space, two quarts of methyl

alcohol were consumed in a formaldehyd generator, and in addition three pounds of commercial formaldehyd were exposed on the sheets. As soon as the room had been ventilated sufficiently to make it possible to work in it, one and one-half quarts of ammonia were sprinkled over the rugs and bedding, and the room was closed again. About the same proportion of ammonia was used throughout the other rooms of the house where the quantity of formaldehyd generated had been relatively somewhat less. The formaldehyd fumes were completely destroyed within one-half hour, and the odor could not be detected in any part of the house except where formaldehyd had been spilled on the floor and had left an incrustation of paraform on the woodwork. As soon as these spots had been treated with ammonia the odor of formaldehyd disappeared entirely .

Lancet-Clinic, Cincinnati.

March 23.

21 The Good of the Profession. F. W. Langdon, Cincinnati.
22 Further Studies in Nasal Therapeutics. J. A. Thompson, Cincinnati.
23 *Primary Syphilis of Lips and Tonsils. A. B. Thrasher, Cincinnati.
24 Entoning of the Neurones in the Practice of Medicine and Surgery. C. H. Hughes, St. Louis.

23. **Primary Syphilis on Lips and Tonsils.**—Four cases of innocently acquired syphilis are reported by Thrasher, not because the cases are unique, but solely for the purpose of directing attention to the fact that such cases occur far more frequently than is usually supposed. In two of the cases the tonsil was affected and in the remaining two the lesion was situated on the lip.

St. Louis Medical Review.

March 16.

25 *Causation of the Waste of Infant Life. B. Joll, London, Eng.
26 Medical Education in Paris. C. G. Chaddock, St. Louis.
27 Medical Education in London. L. Williamson, St. Louis.

25. **Waste of Infant Life.**—According to Joll, the chief causes of the waste of infant life are improper feeding, insanitary surroundings, ignorance of parents, and immorality.

Annals of Surgery, Philadelphia.

March.

28 *Sarcoma of the Long Bones. W. B. Coley, New York.
29 *Successful Anterior Thoraco-bronchotomy for a Foreign Body Impacted in Bronchus. F. A. Goeltz, Erie, Pennsylvania.
30 *Surgical Treatment of Empyema. S. Lloyd. New York.
31 *Cysts of the Omentum. R. E. Fort, Nashville Tenn.
32 *Tuberculosis of the Bladder. G. Walker, Baltimore.
33 *Drainage of Knee Joint in Severe Infections by the Transverse Incision. C. H. Peck, New York.
34 *Diffuse Cavernous Angioma of the Upper Extremity. A. P. C. Ashurst, Philadelphia.
35 *Fracture of Coracoid Process of Scapula Caused by Muscular Action. O. H. Petty, Philadelphia.
36 *Glanders in Human Subject. J. T. Pilcher, New York.

28. **Sarcoma of Long Bones.**—The diagnosis, treatment and prognosis of sarcoma of the long bones are discussed by Coley, and he reports 69 cases. The great majority of his cases were treated by the routine methods now in vogue, namely, high amputation or exarticulation at the proximal joint. He has resected in no case. He performed amputation at the hip joint eight times without mortality, but four of the six patients in whom it was performed for sarcoma of the femur died within the year; the fifth in one and one-half years, and the sixth was not traced. In two the amputation was done for sarcoma of the soft parts. One patient died a year later and the other, who had received several months' treatment with the mixed toxins prior to amputation, now remains well after a period of six years. Coley has seen six cases of sarcoma in patients under ten years of age; one, a sarcoma of the humerus in an infant twenty months old, and four of the femur in patients aged seventeen months, six, seven, and nine years respectively. Amputation was done in 2 cases; disarticulation in 16; resection in 6, and in 29 no operation was done. Coley believes that the use of the mixed toxins of erysipelas and bacillus prodigiosus after operation will greatly widen the limits within which the operation of resection may be employed safely, even in the cases of more malignant sarcomas. All the cases are reported in full.

29. **Anterior Thoraco-Bronchotomy.**—In the case reported by Goeltz a metal collar button was inspired and lodged in the right bronchus. It was impossible to remove the button, except by operation—thoraco-bronchotomy—and this was done successfully. Forty-eight hours elapsed between the inspiration of the button and its removal.

30. **Surgical Treatment of Empyema.**—In the method employed by Lloyd the opening in the chest is made in the usual way, the pleura is incised, and the accumulated fluid is allowed to drain away gradually at first. Ether is the anesthetic employed, and before opening the pleura the anesthetic is stopped in order that there may occur a sudden expansion of the lung, and that during the remainder of the operation the patient may be coming from under the effects of the anesthetic gradually. As soon as the fluid is drained away, the opening in the pleura is made sufficiently large to permit of thorough exploration of the pleural cavity and to locate the position of the collapsed lung. While the adhesions are being severed with the finger the patient begins to cough, owing to the sensitiveness of the pleura, and with each forced expiration expansion of the lung takes place until finally the lung fills the pleural cavity. Lloyd employs a drainage tube, which in appearance is similar to a spool. He has operated in 225 cases by this method. Of these, 97 patients were cured, 58 were improved, and 47 died (including the deaths from all causes and for all periods of time after the operation).

31. **Cyst of Omentum.**—Fort discusses 21 previously recorded cases of cysts of the omentum and adds one personal case.

32. **Tuberculosis of Bladder.**—In this paper Walker discusses the differential diagnosis, the prognosis and the treatment of tuberculosis of the bladder.

33. **Drainage of Knee Joint.**—Peck believes that drainage of the knee joint by the transverse incision has not received the attention it deserves. He says that the operation should not be employed in mild or early cases in which there is hope of recovery with some preservation of joint function, drainage and irrigation through multiple incisions being preferable. He insists that a distinction should be drawn between cases in which the crucial ligaments are preserved and straightening the limb without resection, resuturing the patella or its ligament and preserving some degree of function is the end in view, and in the severer cases where avoidance of amputation or death from sepsis are the sole considerations. He maintains that in the latter class of cases the complete operation is of great value and should, as a rule, be followed by resection as a secondary procedure, except in children. Flexion of at least 45 per cent. on a suitable splint is essential. The secondary operation should not be performed until suppuration has ceased, surfaces are cleanly granulating, and temperature is practically normal.

34. **Diffuse Cavernous Angioma.**—Ashurst adds one case to 11 other cases recorded in the literature. His patient was a little girl, 12 years of age, the tumor being situated on the extensor surface of the forearm just above the wrist. The front of the thorax on the right side was the seat of a nevus composed of dilated capillaries, and below the angle of the right scapula was a mass the size of a walnut. Similar masses were palpable in several other localities.

35. **Fracture of Coracoid Process of Scapula.**—Petty reports a case of fracture of the coracoid process of the scapula in a powerfully muscled man, 57 years of age. The shoulder was treated by dressing the arm in the Velpeau position, which subsequently had to be changed on account of the inconvenience it was causing, and the right arm was bound to the side of the patient, leaving his forearm free. Later, light massage and passive motion were employed. At the end of the seventh week the patient was still unable to raise his right arm above his head.

36. **Glanders.**—Pilcher presents a detailed report of two cases of glanders occurring in the human subject. In one case the infection is believed to have occurred through inhalation and in the other case through a scalp wound. Both cases terminated fatally. In one case the incubation period was 25 days, and the other only 5 days. In both cases the striking feature was the fact that the degree of prostration was greatly out of proportion to the physical signs. There was early involvement of the larger joints of the body.

The Post-Graduate, New York.

February.

37 *Urea: Uric Acid Ratio. W. H. Porter, New York.
38 Case of Monocular Hysterical Amblyopia. D. B. St. J. Roosa, New York.
39 Systematic Treatment of Syphilis. W. S. Gottheil, New York.
40 Syphilitic Lesion of Eyelid. J. Pederson, New York.
41 Case of Rachischisis. P. Horowitz, New York.
42 Value of Cystoscopy in Gynecology. H. D. Furniss, New York.
43 Surgical Treatment of Empyema. S. Lloyd, New York.

37. **Urea: Uric Acid Ratio.**—After a very careful study of the exact ratio between the output of urea and uric acid, Porter concludes that no fixed standard of proteid intake has been established and that no fixed composition of the urine exists. The main point to be determined is the amount of uric acid produced because it is a positive index to one form of sub-oxidation. Securing all the urinary analyses possible from different sources, adding them together and striking an average, gives a fair standard of nitrogen output by the kidneys. A similar method applied to the hepatic secretion and to other secretions and excretions gives the total daily output of nitrogen from the system. Securing the total output of nitrogen determines the amount of food that must be ingested and assimilated to insure the full quota of nitrogen in the excreta, etc. Uric acid must be classed both as a secretion and as an excretion, and in both instances represents proteid utilization. Porter says that faulty action of the liver often causes the toxic symptoms commonly classed as uremic, and especially so when there is an excessive elimination of nitrogen through the kidneys.

Denver Medical Times.

February.

44 *Traumatic Appendicitis with Report of Case. H. A. Black, Pueblo, Colo.
45 *Case of Cleft Palate. T. E. Carmody, Denver.
46 Roentgen-Ray Findings in Sarcoma of the Femur. S. B. Childs, Denver.
47 *Perforating Gastric Ulcer. F. L. Dixon, Denver.
48 *Simple Method of Controlling Hemorrhage in Certain Cases of Cesarean Section. C. K. Fleming, Denver.
49 *Massage of Heart in Death from General Anesthesia. L. Freeman, Denver.
50 Appendicitis with Unusual Symptoms. H. G. Harvey, Denver.
51 Amputation of the Penis. P. Jaffa, Trinidad, Colo.
52 Uterus Bifida Unicervicalis with Pyosalpinx, Cystic Ovaritis and Adherent Appendix. N. A. Johanson, Denver.
53 *Mammary Sarcoma. G. W. Miel, Denver.
54 Gunshot Wound of Femur, Non-Union, Resection with Suture of Fragments, Cure. C. A. Powers, Denver.

44. **Traumatic Appendicitis.**—Out of 129 cases of appendicitis Black found three in which trauma was the direct cause, and one in which it served as an exciting agency. In the first three cases there was no history obtainable which in the slightest would suggest previous trouble with the appendix.

45. **Cleft Palate.**—Carmody reports a successful operation for cleft palate done on a young lady, 19 years of age. The Brophy operation was the one employed.

47. **Perforating Gastric Ulcer.**—In the case reported by Dixon the perforation occurred in the anterior wall of the stomach. It was closed with catgut sutures, 28 hours after perforation had occurred. The case was interesting further because of the absence of many symptoms which typical cases of gastric ulcer offer, if not usually present previous to perforation.

48. **Controlling Hemorrhage in Cesarean Section.**—The following plan of controlling hemorrhage under certain conditions was employed by Fleming: After having made the usual incision in the uterus the placenta was discovered attached to the anterior wall. In attempting to detach it so as to enter the cavity through the membranes, it was found that not only the placenta but the membranes were firmly adherent to the uterus. It then became necessary, in order to quickly deliver the fetus, to go directly through the placenta, which was done and the fetus delivered, cord cut between two forceps and the child handed to an assistant. The hemorrhage at this time was very profuse, both from the placenta and the incised uterine wall. The assistant could but partially control it by the usual method of pressure on the broad ligaments. Fleming grasped the uterus with both hands and quickly and easily inverted it through the incision, when the hemorrhage ceased immediately, after which the placenta and its membranes were carefully separated and removed, the uterus replaced and sutured.

49. **Massage of Heart.**—Freeman reports one instance in which massage of the heart failed to revive the patient, a woman 38 years of age, who was being operated on for obstruction of the common bile duct by gallstones. The patient had been jaundiced severely for months and the operation was one of necessity rather than choice. She stopped breathing as soon as the abdomen was opened but was resuscitated by means of prolonged artificial respiration. Strychnin was used and physiologic salt solution was injected during the operation. While the wound was being sutured the patient's breathing again ceased. Artificial respiration, continued for ten minutes, resulted in failure. Meanwhile the cardiac impulse had stopped and heart massage was resorted to, but also proved ineffective.

53. **Mammary Sarcoma.**—Miel cites a case of sarcoma of the breast occurring in a colored girl, 16 years of age. The tumor was removed and after six years there is no evidence of recurrence.

Utah Medical Journal.

February.

55 Inguinal Hernia and Its Relation to Corporations. J. F. Critchlow, Salt Lake City.
56 Mental and Moral Delinquencies in the Degenerate or Feebleminded. W. B. Ewing, Salt Lake City.

St. Louis Courier of Medicine.

February.

57 *Conditions Experienced in Cases of Ordinary Labor That Have Caused Me at Times Considerable Discomfort. F. Reder, St. Louis.
58 *Acute Fever in Childhood, Usually Incorrectly Diagnosticated. J. Zahorsky, St. Louis.
59 Treatment of Goiter. H. N. Chapman, St. Louis.

57. **Complications of Labor.**—The conditions discussed by Reder are unusual rigidity of the soft parts; a want of correspondence of axis caused by obliquity of the uterus, and a mechanical obstruction of the os by a scar, the result of a trachelorrhaphy performed five years previously.

58. **Acute Fever in Childhood.**—Zahorsky refers to an acute infection of the urinary tract, occurring especially in girls, which gives rise to an acute fever of varying duration and intensity and which is often overlooked. He has seen nine cases. The fever resembles that of typhoid, but it is dependent on an infection of the urinary tract. A remarkable feature of these cases is the slight disturbance of the bladder.

American Medicine, York, Pa.

February.

60 *Orchitis in Typhoid. N. B. Gwyn, Philadelphia.
61 *Pre-icteric Itching. D. Riesman, Philadelphia.
62 Nervous Disorders of Children: Their Relation to School Life and Work. J. Punton, Kansas City, Mo.
63 Chronic Appendicitis. W. H. Morrison, Philadelphia.
64 Rupture of Colon from Violent Peristalsis Probably Induced by Fecal Impaction. G. W. McCaskey, Fort Wayne.
65 Treatment of Cardiac Dilation in Pulmonary Tuberculosis by Means of Artificial Nauheim Baths. G. W. Norris, Philadelphia.
66 Bilateral Malignancy of Ovaries. L. J. Hammond, Philadelphia.
67 *Medicines and Means for Control of Postpartum Hemorrhage. J. S. Raudenbush, Philadelphia.
68 Thrombosis of the Superior Mesenteric Artery with Hemorrhagic Infarction and Perforation of the Ileum. J. Funke, Philadelphia.
69 *Congenital Fetal Malformation. C. S. Barnes, Philadelphia.
70 Seven Years with Home Treatment of Tuberculosis in Private Practice. J. B. Martin, Lynn, Mass.
71 Purulent Meningitis with Meningococcus Intracellularis. A. Gordon, Philadelphia.
72 Tests of Water by Bacterial Inoculation. O. A. Johannsen, Ithaca, N. Y.

60. **Orchitis in Typhoid.**—Gwyn reports two cases of typhoid in which orchitis was a complication. In the first case the onset of the orchitis was marked by a severe abdominal pain in the appendiceal region, with marked distension, slight rising pulse and temperature, but no leucocytosis, muscular rigidity or signs of collapse suggesting perforation. Following this the testis on that side became enlarged. The swelling subsided quickly, the pain disappearing by the fourth day. This case is of interest in that it gives another clue to the origin of some cases of abdominal pain in typhoid. In the second case the orchitis occurred during the fifteenth week. The pain in the testis and groin was most severe, the gland rapidly swelled to the size of a goose egg; constitutional disturbance was marked. After a week the organ suppurated and the abscess broke through the scrotum. Gwyn says that evidently this was a case of direct typhoid infection in the testis.

61. **Pre-Icteric Itching.**—Riesman reports three cases of jaundice in which itching was the first symptom, showing that the itching is not due to a deposit of bile pigment in the skin, but in all probability is caused by some metabolic poison. Riesman suggests that when itching exists for which no cause can be found, the liver as a possible factor should not be overlooked. He says that pre-icteric itching is suggestive, though not pathognomonic of the existence of malignant disease involving the liver or the biliary pasages.

67.—See abstract in The Journal, Jan. 13, 1906, page 149.

69. **Congenital Fetal Malformation.**—In the case reported by Barnes two inches of the duodenum were replaced by a small impervious fibrous cord. Below this cord the intestine was abnormally small for a short distance and then shaded into a normal bowel. The child died of exhaustion at the end of 72 hours.

Buffalo Medical Journal.

February.

73 *Infantile Scurvy. C. W. M. Brown, Elmira, N. Y.
74 Plea for Earlier Diagnosis of Appendicitis. A. L. Beahan, Canandaigua, N. Y.
75 *Prevention of Tooth Decay. F. W. Low, Buffalo.
76 Case of Cerebral Abscess, Operation, Death. L. W. Rose and R. G. Cook, Rochester.
77 Fracture of Skull, with Complications. A. M. Rooker, Buffalo.

73. **Infantile Scurvy.**—Brown gives the histories of five cases of infantile scurvy observed by him. One of the cases terminated fatally.

75. **Prevention of Tooth Decay.**—Low discusses briefly the report of the committee on scientific research of the New York State Dental Society in which is recommended the administration of potassium sulphocyanate in one grain doses, before retiring at night, for the prevention of tooth decay. This commission found that in mouths where rapid and general decay of the teeth exists, potassium sulphocyanate is absent, whereas this salt is present in large quantities in the mouths of individuals whose teeth are immune to decay.

Montreal Medical Journal.

February.

78 Glanders in Canada. G. D. Robins, Montreal.
79 Family Physician and the Insane. T. J. W. Burgess, Montreal.
80 *Miliary Tubercle of the Chorioid. G. H. Mathewson, Montreal.
81 The Quality of Milk: What Can Be Done to Improve It. J. E. Laberge, Montreal.
82 Purulent Conjunctivitis. H. McKee, Montreal.

80. **Miliary Tubercle of Chorioid.**—Mathewson reports two cases which present some interesting features. The first case was diagnosed as a pleurisy with effusion, and a considerable quantity of fluid was removed. An examination of the fluid and also of the sputum for tubercle bacilli proved negative. A guinea-pig was inoculated with some of the pleural fluid and when killed showed definite signs of tuberculosis. A careful examination of the eyes revealed two miliary tubercles of the chorioid in the left eye. The patient died with pronounced symptoms of meningitis. A necropsy could not be done. The second case presented the characteristic symptoms of typhoid including a positive Widal reaction, but the period of elevated temperature was unduly prolonged. The patient began to complain of headache, cough and scanty expectoration. Examination of the sputum for tubercle bacilli was negative. An area of slightly impaired resonance was found at the apex of the right lung. In each eye there was a single miliary tubercle. The patient died and the necropsy showed miliary tuberculosis of lungs, liver, kidneys, meninges and chorioid.

Western Medical Review, Omaha.

February.

83 The Trained Nurse. F. A. Long, Madison, Neb.
84 Treatment of Fractures of the Neck of the Femur. J. P. Lord, Omaha.
85 *What Shall We Do to Check the Commission Evil. H. Gifford, Omaha.
86 Use and Abuse of Obstetric Forceps. A. B. Somer, Omaha.
87 Salt Action and Salt Solutions. A. L. Muirhead, Omaha.

85. **How to Check Commission Evil.**—In Gifford's opinion there are two measures that would, in a measure, check the commission evil. One of these would be for the state or national society to come out flat-footed and say that the best way for the general practitioner to get his dues is to establish a rule that he is entitled to a definite share, say 10 per cent. or 25 per cent., of the fee charged by the specialist; and that this share shall be paid with the full knowledge of the patient, and that any one paying or offering to pay a larger commission than the established one shall be expelled from the society. Such a plan, objectionable as it might be on some grounds, would at least have the merit of being free from hypocrisy. Its most serious defect, however, is that it would inevitably lead to one of the abuses which any system of commission-giving leads to, namely, to the sending off of a lot of patients for operations or consultations which could well be avoided. The other measure, and the one which Gifford seriously proposes for consideration, is a rule which shall automatically expel from the society any member who, after a fair and impartial hearing shall be found guilty of giving or taking commissions.

The Ophthalmic Record, Chicago.

February.

88 *Impressions of the Basle or Inner-pole Magnet. H. Gifford, Omaha.
89 A New Fixation Forceps. C. H. Beard, Chicago.
90 Tuberculin Injections in a Case of Probable Cerebellar Tumor. H. B. Young, Burlington, Iowa.
91 Chalazion Forceps. H. R. Boettcher, Chicago.
92 *Pulsating Exophthalmos—Ligation of the Orbital Artery—Recovery. F. P. Lewis, Buffalo.
93 *Simple Test for Convergence Power. M. D. Stevenson, Akron, Ohio.

88. **Inner Pole Magnet.**—Gifford questions whether the inner pole magnet can excel or even equal the strength of the Haab instrument, but his experience has convinced him that the instrument possesses advantages which make its use desirable. These advantages are the ease with which the eye can be illuminated when the small points are used, and the handiness of the small cores in comparison with the giant magnet or any hand magnet. Where a maximum of magnetic force is desired, the Haab instrument, used as an inner pole, is the ideal one.

92. **Pulsating Exophthalmos.**—Lewis' patient was a strong man, 26 years old, who received a blow on the head, which rendered him unconscious. After several weeks a pulsating exophthalmos was present. A marked feature of the case was a feeling of anxiety almost amounting to nervous terror. Having decided that an aneurism of the ophthalmic artery was responsible for the condition, Lewis concluded to operate. The artery was tied off just within the orbital cavity and within three weeks all the symptoms, except some divergence, had disappeared. The patient eventually made a complete recovery. Vision in each eye was 20/30. The interest in this case centers in the fact that although some portion of the aneurism extended outside of the orbit, a ligature within succeeded in controlling it, and that without removal of the eye.

93. **Test for Convergence Power.**—The test described by Stevenson is used to ascertain whether a patient's eyes converge just enough, too much, or too little for an object held one-third of a meter from the eyes, while the desire for single vision is suppressed.

Canada Lancet, Toronto.

March.

94 Perforation in Typhoid. McPhedran, Toronto.
95 Treatment of Chronic Heart Diseases. T. Schoot, Nauheim, Germany.
96 Hygiene in Public Schools. C. J. Fagan.
97 Case of General Septic Peritonitis. J. B. Coleridge, Ingersoll.

Journal of the Minnesota State Medical Association, Minneapolis.

March 15.

98 Gastrogenic Intestinal Diseases. A. Schmidt, Dresden, Germany.
99 Treatment in Cerebrospinal Fever. E. E. Bigelow, Owatonna, Minn.
100 Paracentesis Spinalis, with Report of a Case of Cerebrospinal Meningitis. W. H. Witherstine, Rochester, Minn.
101 A Few Drugless Remedies in Treatment of Disease. O. F. Way, Claremont, Minn.

Vermont Medical Monthly, Burlington.

March 15.

102 Treatment of Pernicious Vomiting of Pregnancy. E. A. Colton, Montpelier, Vt.
103 The Third Stage of Labor. E. B. Watson, Williamstown, Vt.
104 Postpartum Hemorrhage. C. E. Griffin, Fair Haven, Vt.
105 Repair of Lacerated Perineum. A. C. Bailey Randolph.
106 Care of Newborn Infant. C. H. Burr, Montpelier.

Annals of Gynecology and Pediatry, Boston.

March.

107 Ectopic Gestation. H. F. Quackenbos, New York.

American Practitioner and News, Louisville, Ky.

March.

108 Cholera Infantum or Acute Milk Infection. J. C. Butler, Mountain City, Tenn.
109 Emergency Surgery. F. W. Samuel, Louisville, Ky.
110 Treatment of Acute Diffuse Peritonitis. A. D. Willmoth, Louisville, Ky.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional interest.

British Medical Journal, London.

March 9.

1 *Friedreich's Ataxia. T. W. Griffith.
2 *Treatment of Incipient and Borderland Cases of Insanity in General Practice. E. W. White.
3 *Case of Abscess of Cerebrum: Recovery. L. B. Rawling.
4 *Total Enucleation of Prostate, for Radical Cure of Enlargement of that Organ. P. J. Freyer.
5 *Tetanus Treated with Antitetanic Serum. M. W. Hall, E. G. Carter and C. R. Howard.
6 *Staining of Animal Parasites. I. W. Hall.
7 Kala Azar. L. Rogers.

1. **Freidreich's Ataxia.**—Griffith reports five cases of this affection occurring in two families. In one family two sisters, aged respectively 17 and 10 years, were affected, and in the other family the second, third and seventh members of a family of 13 were affected. These three patients were two brothers, aged respectively 29 and 18 years, and a sister, aged 27 years.

2. **Incipient and Borderland Cases of Insanity.**—The cases considered by White in discussion of treatment are the following: Backward or deficient children; epileptics; neurotics; the moral imbecile; incipient melancholia and mania; borderland delusional cases; the premature dements; borderland alcoholic insanity and paralytic insanity; incipient senile dementia, and the incipient general paralysis of the insane. The treatment adopted by White is similar to that employed by other alienists.

3. **Cerebellar Abscess.**—Rawling reports a case of abscess of the cerebrum, occurring in a man aged 21, who had been suffering from a purulent discharge from the left ear for four months, pain in the ear then developed, and two weeks later chronic frontal headache. There also was inability to close the left eye completely, and the face was drawn over to the right side. The mastoid antrum was exposed and found full of cholesteatoma. The extradural space was exposed and examined, but without result. Although the patient felt better afterward, the previously existing optic neuritis increased and vomiting of the cerebral type occurred. At a second operation the antero-lateral aspect of the cerebellum was exposed and an abscess cavity was found one inch from the surface. One ounce of greenish pus was evacuated and the cavity adequately drained. The patient regained excellent health, but complained of pain over the left occipital parietal region and of inability to see objects in the right visual field. The gait was also slightly staggering and there was a decided tendency to lurch toward the left side when standing with the eyes shut. There was no evidence of optic atrophy.

4. **Enucleation of Prostate.**—Freyer reports a further series of 119 enucleations of the prostate for enlargement of that organ, making a total of 309 cases in which he has operated. In connection with these 119 operations there were nine deaths. The causes of death were jaundice (case complicated by malignant disease of liver), pulmonary embolism, shock and uremia (six cases in which the kidneys were extensively diseased before operation). The ages of the patients varied from 50 to 86 years, the average being about 68.

5. **Tetanus Treated with Antitetanic Serum.**—Hall, Carter and Howard each report a case of tetanus successfully treated with antitetanic serum.

6. **Staining of Animal Parasites.**—The method of staining animal parasites devised by Hall is described as follows:

1. Prepare a film of the blood, feces, or sediment of the secretion. Fix by heat, or, less preferably, by formalin vapor.
2. Treat the film with the following solution from one-half minute to 2 minutes: Watery methylene blue, 1 per cent., 100 c.cm.; glacial acetic acid, 5 c.cm. (Neisser's methylene blue solution may be equally well used if at hand. Methyl violet, Nile blue, etc., are not so good.)
3. Wash in water.
4. Cover the film with saturated alcoholic eosin solution. Allow to stain for from 5 to 10 minutes, or heat over the flame, blowing out the alcohol each time it catches fire, until the film is almost dry.
5. Wash in water.
6. Fix in potash alum solution for from one-half minute to 2 minutes.
7. Decolorize in 90 per cent. alcohol until a uniformly pink color obtains.
8. Wash in water; allow to dry; mount in Canada balsam.

It is the treatment with acetic acid which affects the outer coverings of the ova, embryos and parasites, and allows the stain to permeate the entire structure.

The Lancet, London.

March 9.

8 Pyorrhea Alveolaris. K. W. Goadby.
9 Kala Azar, Its Differentiation and Epidemiology. L. Rogers.
10 *Insanity, with Special Reference to Prognosis. A. R. Urquhart.
11 Postoperative treatment of Congenital Hip Dislocation. J. J. Clarke.
12 *Uterine Fibroids. A. E. Giles.
13 Operative Treatment of Traumatic Psychosis. B. Hollander.
14 National School for Consumptives. C. H. Garland and T. D. Lister.

10. **Insanity.**—Of 110 alcoholic cases investigated by Urquhart nearly 43 per cent. were hereditarily predisposed to insanity, and nearly 23 per cent. to alcoholism. Out of 40 cases of general paralysis 23 were undoubtedly syphilitic and 14 were alcoholic. The author's experience leads him to believe that the hereditary factor is of importance in general paralysis. Among his 40 cases the heredity of insanity found expression 10 times, eccentricity 4 times, neurosis 12 times and alcoholism 14 times. Rheumatism, gout and tuberculosis were also noticed. There was a distinct neuropathic heredity in 32 cases. There were only five cases of ordinary, uncomplicated epilepsy and 11 of alcoholic epilepsy. Urquhart concludes that the innate or hereditary cases of insanity terminate in recovery in fair proportion, although they are more subject to relapse than cases in which the insanity is acquired. He finds that the average age on admission for men is 36 years, and the age of death 54.65 years, as against 63.96 for healthy males. The average age on admission for women is 38 years, and the age of death is 60.93, as against 66.83 for healthy females. Of 809 patients 31.14 recovered; in 38.93 the condition remained stationary; 17.3 died.

12. **Observations on Uterine Fibroid.**—Giles claims that the doctrine that the menopause is Nature's cure for fibroids is a mischievous tradition. He summarizes his reasons for this belief as follows:

1. The ostensible menopause is delayed in cases of fibroids and menstruation—or, at least, uterine hemorrhage—may continue for years after the usual age of the menopause has been passed; meanwhile the severe losses of blood may imperil the patient's life, or impair her health so seriously that many years will be required to recover the lost ground.
2. The cessation of hemorrhage, when it does occur, does away with only one of the dangers incidental to fibroids; and the patient may remain for many years disabled by pain and by the weight of the tumor.
3. The time of the menopause has its own special risks in relation to fibroids; the most important are degenerative changes in the tumors and injurious pressure effects when a tumor which has occupied an abdominal position atrophies just sufficiently to allow of its falling into and filling the true pelvis.
4. When, in the vain hope that the menopause is going to work a cure, operation has been delayed year by year and then has to be undertaken in spite of complications and of the enfeebled state of the patient, the danger of a fatal result is materially increased.

Journal of Tropical Medicine and Hygiene, London.

March 1.

15 Case of Black Water Fever Occurring After Twenty-three Years' Residence in Central Africa. R. Howard.
16 *Occurrence of Hymenolepsis Nana in the United States. W. H. Deaderick, Marianna, Ark.
17 *The Actinic Theory of Sunstroke. A. Duncan.

16.—See The Journal, Dec. 22, 1906, page 2087.

17. **Actinic Theory of Sunstroke.**—Duncan believes that the actinic theory of sunstroke is the correct one. He urges that soldiers' helmets should be lined with orange red; that their khaki coats should have a detachable strip of orange red underneath the material along the spine, and that the men should wear shirts dyed this color.

Intercolonial Medical Journal of Australasia, Melbourne.

January 20.

18 Miner's Disease. W. Summons.
19 *Case of Acute Suffocative Pulmonary Edema. A. E. R. White.
20 *Acute Hemorrhagic Pancreatitis. R. H. Russell.
21 *Cases of Surgical Interest. W. Moore.

19. **Acute Suffocative Pulmonary Edema.**—The treatment employed by White in his case proved most effective. Nothing was known of the history of the patient, a man, except that he had vomited several times on his way to the hospital. He was given strychnin and inhalations of oxygen and amyl nitrite without any apparent relief of the dyspnea or any lessening of the degree of cyanosis. He was then given morphin, gr. 1/6, with atropin, gr. 1/100, and in about ten minutes improvement in his condition was noted. Fifteen ounces of blood were then extracted from one of the veins of the forearm. During the venesection the patient rapidly improved and regained consciousness. The man was kept in bed, dieted and given potassium iodid in doses of from 20 to 30 grains, three times a day. He recovered from this attack, but about five months later he returned with another attack. The same treatment was carried out as before, with the same result.

20. **Acute Hemorrhagic Pancreatitis.**—Russell reports an instance of this kind, which simulated intestinal obstruction so closely that the diagnosis was made accordingly. Operative intervention carried the case to a successful end.

21. **Cases of Surgical Interest.**—The cases reported are as follows: Two cases of appendicitis in which the omentum was wrapped around a sloughing appendix; two cases of fracture of the femur, with fracture of the upper end of the humerus.

Glasgow Medical Journal.

March.

22 *Ankylosis of Spine. W. K. Hunter.
23 Value of Tuberculo-Opsonic Index in Diagnosis. E. T. Fraser.
24 *Case of "Spider's Lick." D. H. Macphail.
25 *Fracture of Rib by Sneezing. H. E. Jones.

22. **Ankylosis of Spine.**—The outstanding feature of Hunter's case, a man aged 48 years, was the rigidity and immobility of the vertebral column, but associated with that was a generalized muscular atrophy as well as contractures of the adductors of the humerus and the flexors of the knee. He regards the case as one of rheumatoid arthritis.

24. **Spider's Lick.**—MacPhail reports a case of eruption on the forearm due to contact with a spider. The whole of the affected area was red and raised above the general surface. There were numerous small pustules. There was no pain. Itching was present at first, but soon disappeared. A carbolic acid dressing, 1-40, was applied and on the following morning the eruption had disappeared. In India this condition is known as spider's lick.

25. **Fracture of Rib by Sneezing.**—Jones reports a case of fracture of the tenth rib, which the patient thought was the result of a very violent sneeze. No other cause for the fracture could be discovered.

Annales de l'Institut Pasteur, Paris.

Last indexed, page 649.

26 (XXI, No. 1, pp. 1-79.) *Treatment of Experimental Infection from the Trypanosoma gambiensis. (Inf. exp. à Tryp. gambiense.) F. Mesnil, M. Nicolle and P. Aubert.
27 Action of Bile on Pneumococcus and Other Bacteria. (Action de la Bile.) M. Nicolle and Adil-Bey.
28 Sero-immunity to Bile Salts. (Séro-immunité vis-a-vis du choléate de soude.) M. Nicolle.
29 Antimalaria Campaign in Algeria. (Etudes épidémiologiques et prophylactiques du paludisme.) E. and E. Sergent.
30 *Ocular Manifestations of Trypanosomiasis. (Manifestations oc. au cours des trypanosomiases.) V. Morax.
31 Anaërobic Microbes of Drinking Water. (Etude bact. des eaux potables.) H. Vincent.
32 Dosage of Isobutyric and Valeric Acids. (Application de la méthode de distillation fractionnée de Duclaux à la recherche et au dosage des acides isobutyrique et valérique normal.) A. Lasserre.

26. **Treatment of Experimental Trypanosomiasis.**—This article relates the results of extensive experimental research on trypanosomiasis induced in rabbits, dogs, monkeys, etc., and treated with various stains and a preparation of arsenic. The writers do not state that any of the numerous animals in their experiments were cured by the drugs, but they add that such is their impression in regard to the monkeys and to the majority of the rats and other animals. [Ehrlich has recently announced that trypanosomes gradually acquire an artificial immunity to certain drugs when treated with them for some time. He was able to demonstrate this for 18 different chemicals belonging to the trypan group, the arsenic group and the basic anilin stain group, producing fuchsin-proof, trypan red-proof and a number of other similar strains of trypanosomes. This acquired property of artificial immunity to a certain chemical was retained by one strain through 92 passages through animals. He found further that when a strain had become thus immunized against a certain chemical, another chemical might be able to act on it with primal power—in case sufficient amounts were used—and the trypanosomes would be rapidly annihilated. He draws the conclusion that a combination of some of the various remedies from these three groups of chemicals found effectual against trypanosomes might cure the trypanosomiasis where a single one would fail. Laveran, van Campenhout and Kopke have also reported experiences showing the advantage of combining strychnin with arsenic in treatment of sleeping sickness.—Ed.]

30. **Ocular Manifestations of Trypanosomiasis.**—Morax calls attention to the frequency and the special characteristics of the ocular manifestations in the course of infection with trypanosomes. The finding of an interstitial non-ulcerative keratitis, in an animal, suggests the possibility of a trypanosome infection. This interstitial keratitis is the work of the trypanosomes proliferating in the spaces between the layers of the cornea. Their proliferation induces infiltration of leucocytes and may entail complete disorganization of the cornea, or the lesions may heal, leaving scarcely a trace. The latter condition is observed in animals that display marked resistance to trypanosome infection. This was observed particularly in goats infected with dourine or nagana. Dogs, on the other hand, always died while the cornea was still completely opaque.

Bulletin de l'Académie de Médecine, Paris.

33 (LXXI, No. 6, pp. 181-242.) *Program for International Congress of Penitentiaries at Washington in 1910. (Congrès pénitentiaire internat.) Magnan. H. Monod and Motet.
34 *Infection from Oysters. (Epidémie de fièvre typhoide et d'accidents gastro-intest. consécutive à l'ingestion d'huitres.) A. Netter.
35 *Prevention of Injury from Fire-damp and Carbonic Oxid. (La lutte contre le grisou et contre l'oxyde de carbone.) N. Gréhant.
36 (No. 7, pp. 243-278.) Treatment of Muscular Atrophy After Joint Effusions by Systematic Muscular Exercises with Progressive Resistance. (Atrophies musculaires.) Rochard and Berger.
37 *Nomenclature of Diseases. (Nomenclature des maladies.) Fernet.
38 (No. 8, pp. 279-312.) Three Cases of Tuberculosis Affecting the Muscles. (Tuberculose musculaire. Myosite tuberculeuse.) Kirmisson and Cornil. Commenced in No. 6.
39 *Malaria in Madagascar. (Epidémie de paludisme, 1906.) Kermorgant, Blanchard and Kelsch.

33. **Program for International Congress of Penology.**—The French government commissioned the Académie to suggest topics for discussion at the next international congress of penology, to be held at Washington in 1910. The committee to which the matter was entrusted suggests three topics: "The advisability of adding to the law course a course on elementary psychiatry to enable lawyers and judges to be better equipped for passing judgment on the criminal insane. Physicians of penal establishments should be thoroughly trained in psychiatry, to enable them to estimate the mental condition of the prisoners in their care. Systematic surveillance by an expert psychiatrist would disclose the cases of insanity developing in the prison, and enable their cure by treatment in appropriate institutions, and it would also supply a basis for rectification of errors in judgment and the revision of sentences imposed on the irresponsible." The second question suggested for discussion is: "The advisability of creating special establishments, intermediate between the prison and the insane asylum, in which criminals can be interned when there is doubt as to their mental responsibility, the duration of their stay in the establishment to be determined by the improvement in their mental condition. They should not be discharged without a legal decision to that effect based on the advice of a special committee." The third question refers to the advisability of complete suppression of all alcoholic drinks in case of convicts addicted to alcohol.

34. **Severe Gastrointestinal Infection from Oysters.**—An epidemic of 125 cases of severe gastrointestinal disturbances is described, traced to infection from oysters. The cases were distributed through fourteen towns and cities, but all the persons affected had partaken comparatively recently of oys-

ters from a certain oyster bed. In 33 persons typical typhoid fever was observed, ending fatally in 7. In other cases a hectic fever simulated acute tuberculosis. Even when the disturbances were limited to colic, diarrhea and vomiting, they did not occur at once, but an interval of from 24 to 48 hours elapsed. In some cases there was much somnolence, weakness, and, especially in children, a syncopal condition with profuse sweating. Epistaxis was observed in many instances. The gastrointestinal disturbances generally subsided in a few days, but in some cases they persisted for several weeks and the patients were long in recovering. In 3 of the cases a choleriform diarrhea with anuria proved fatal. The troubles observed were evidently due to mixed infection. In 1896 the Académie recommended that all oysters from suspicious oysters beds, a week before being offered for sale, should be transferred to some point along the coast, where they would be laved with pure sea water, not so much for the purpose of rinsing the oysters as to promote phagocytosis, and thus to cause the destruction of micro-organisms lurking in the oyster organism or their expulsion in the excreta or by the action of the ciliated epithelium. The vital processes in the oyster in contaminated waters are sluggish, but they start up with amazing energy when the oyster is transferred to pure sea water.

35. **Fire-Damp and Carbonic Oxid.**—Grehant urges that the air in mines should be tested for the presence of fire-damp night and day, and has devised a simple means for determining its presence with the "eudiometer," slightly modified. He also calls attention to the extreme toxicity of water gas, stating that 22 c.c. of dry carbonic oxid were obtained from 100 c.c. of red blood from the inferior vena cava of a dog which had died in 33 minutes after breathing a mixture of 294 liters of pure air and 6 liters of water gas containing 40 per cent. carbonic oxid. In another experiment, a dog was made to inhale a mixture of one liter of illuminating gas in 299 liters of ordinary air for an hour. About 2.8 c.c. of carbonic oxid were obtained from 100 c.c. of the animal's blood afterward. This experiment shows the danger from leaking gas fixtures, as 1 per cent. of gas in the air caused the passage of nearly 3 c.c. of carbonic oxid into 100 c.c. of blood. Water gas, he says, contains seven times as much carbonic oxid as ordinary illuminating gas.

37. **Suggestions for New Nomenclature for Diseases.**—The Journal, March 2, 1907, p. 838, mentioned Lancereaux's suggestions in regard to a new classification and nomenclature of diseases. A committee was appointed to study the subject, comprising Lancereaux, Blanchard, Jungfleisch, Reclus and Fernet. The committee accepted Lancereaux's 3 classes and added 2 more, the "psychonoses"—affections caused by moral or mental agents, and "trophonoses"—affections caused by agents of nutrition. All diseases can be classified in these 5 groups: Physical agents—physinoses; chemical agents—cheminoses; animate agents—bionoses; mental and moral agents—psychonoses, and nutritional agents—trophonoses. The latter group includes all the affections resulting from nutritional disturbances, whether due to excessive or defective nourishment, insufficient or ill-regulated physical exercise or vitiated air. These diverse causes induce a dyscrasia of the blood and organic lesions which may develop at almost any point, causing changes in the vascular or digestive system, in the liver or kidney, in the central or peripheral nervous system, or plethora and vitiation of the blood. They are not only the direct causes of various diseases—gout, chronic rheumatism, diabetes, kidney and gallstones and sclerosis of the viscera—but they impress a special stamp on accidental affections of various origins which may supervene on a soil thus modified by the diathesis inherent to the individual. The rôle of the nervous system in some of these trophonoses is undeniable, but the trouble in the nervous system is a result of the general or partial dystrophy. This same diathesis is also responsible for certain hypertrophies or atrophies, arrests of development, deformities and tumors resulting from local nutritional disturbance, such as cancers, fibromata, lipomata and certain cysts. The term "pathy," the committee adds should be retained to designate the local manifestations of any of the above 5 groups of agents, and if the adjective designating the cause is added, the term thus becomes explanatory while localizing the trouble, as, for example, syphilitic dermopatny, alcoholic gastropathy, rheumatic cardiopathy. The advantages of a new nomenclature based on the above principles are extolled by the committee, and especially the tendency to direct the mind constantly toward the etiology of the affection in question. When the etiologic conception of an affection is constantly impressed on the mind it bears fruits in the lines of prophylaxis, of hygiene, both moral and material, and of treatment. Blanchard added that in parasitology an etiologic nomenclature has already made great progress. He has long used the terms "zoösis" and "bacteriosis" to take the place of mycosis and similar terms. Uncinariosis and babesiosis are proper terms, he declares, for the affections incorrectly called ankylostomiasis and piroplasmosis (the latter due to the Babesia bovis). The latter terms were introduced long after the others had been established in the literature and had proved their correctness and usefulness.

39. **Malaria in Madagascar.**—It is stated that malaria is more prevalent in Madagascar than ever before, and that the condition is becoming serious. It is impossible to petrolize the rice fields which are the main source of support for the natives, and it is equally impossible to screen the native huts. Blanchard urges the government to distribute quinin and to insist that all workmen on public or private works must take a daily preventive dose, given by the proprietors or contractors of the works, who should be supplied with quinin at cost price by the government. It is stated that out of a population of 35,000, Tananarivo had 18,000 ill with malaria last June.

Presse Médicale, Paris.

40 (XV, No. 11, pp. 81-88.) *Imaginary Seasickness. (Le mal de mer d'imagination.) F. Regnault.
41 *Interauricular Insufficiency. (Insuff. inter-auriculaire.) H. Roger.
42 Cells in the Effusion of Epidemic Cerebrospinal Meningitis. (Cellules de l'exsudat.) Speroni.
43 The "Vibro-Suppressor." (Nouvel instrument pour la percussion topographique.) A. Abrams.
44 (No 12, pp. 89-96.) Clinical Exploration of the Colon. (Exploration du colon.) J. Okinczyc.
45 Mechanism and Action of Thermocauterization. (Cautérisation ignée.) P. Desfosses and A. Martinet.
46 (No. 13, pp. 97-104). The History of Electrolytic Introduction of Drugs. (Introduction electrolytique médicamenteuse.) A. Zimmern.
47 Protecting Function of the Liver Against Toxic Substances from the Intestines. (Fonction protectrice du foie.) G. A. Petrone and A. Pagano.
48 Passive Congestion in Treatment of Atonic and Phagedenic Ulcers on the Limbs. (Méthode de Bier, etc.) M. Bruas
49 (No. 14, pp. 105-112.) Study of Process of Degeneration of Nerves. (Nature intime du proc. de dégénérescence des nerfs.) G. Marinesco.
50 *Dangers of Habitually Eating Too Much. (Suralimentation habituelle.) M. and H. Labbé.
51 (No. 15, pp. 113-120.) The Uniform for Physicians of all Armies. (Uniforme des médecins militaires.) A. Epaulard.
52 Principles of Artificial Feeding of Infants. (Elevage au biberon.) P. Londe.
53 Prevention in Army of Contagion of Typhoid Fever from Urine. (Bidons démontables.) Bonnette.
54 (No. 16, pp. 121-128.) Scopolamin and Spinal Anesthesia for Laparotomies. (Rachistovaine et scopolamine.) Chaput.
55 Local Treatment of Gumma with Injections of Potassium Iodid. (Gommes syphilitiques et injections locales d'iodure de pot.) F. Trémolières.
56 (No. 17, pp. 129-136.) *Electric Sleep. (Le sommeil électrique.) S. Leduc.
57 Systematic Treatment of Attack of Influenza. (Grippe chez un adulte.) A. Martinet.

40. **Imaginary Seasickness.**—Regnault has had much experience as ship physician, and points out the necessity for differentiating between actual, somatic seasickness, and that which is exclusively the work of the imagination, as prognosis and treatment differ for the two forms. As a rule, in the imaginary variety the symptoms are more pronounced and more persisting. They may be accompanied by some unusual symptom which gives the clue to the imaginary character of the affection; sometimes the two forms are associated. It has been said that the smell of the ship, the sight of the movement of the ship and waves, and the noises of the machinery are the causes of seasickness, but the fact that the blind, the deaf and those who have lost the sense of smell are liable to suffer from seasickness, shows that persons affected by these conditions suffer more from their imagina-

tion than from the reality. This is also the case in the seasickness that comes from seeing others affected. Patients with imaginary seasickness require entirely different treatment from the other variety, emphasizing the psychologic element. These are also the cases that call for the most sympathy and in which the condition has hitherto been deemed incurable.

41. **Communication Between the Auricles.**—Rogers describes 2 cases of what he calls insufficiency of the inter-auricular valve. So long as the pressure in the left auricle is higher than that in the right, the valve keeps the abnormal opening closed, and the two auricles are separate and independent. But when the pressure in the right auricle is higher than that in the left, the valve opens and the venous blood mixes with the arterial. He diagnosed the condition in one case as nothing could be found in the heart or lungs to explain the excessive cyanosis and asphyxia. The patient was a man of 44, subject to recurring bronchitis every winter, rapidly inducing asphyxia and cyanosis. After the age of 30 he noted that he "got out of breath" easily on slight exertion, but was otherwise healthy. In the second case a man of 54 presented intense cyanosis accompanying recent bronchitis after old emphysema. As the bronchial affection healed, the cyanosis subsided. It reappeared, however, for a few minutes after every violent effort or fit of coughing. Each time that the insufficiency recurs in such cases the restoration to normal is slower and less complete.

50. **Hygiene of the Table.**—Labbe discusses the hygiene of the table and advocates four meals a day. Breakfast, he says, should be a warm, substantial meal to repair the tissues and produce energy for the morning's work. At noon, a light, easily digested lunch should supply the energy needed for the afternoon's work without making such demands on the system as to interfere with muscle and brain work. At 5 o'clock another light meal should be taken, supplying energy while waiting for the last meal of the day. This, the dinner at 7 or 8, should not be an elaborate meal, but a simple and short repast. As work is over, and as the expenditure of heat is less at night than during the day, the dinner does not have to produce much energy, but should serve merely for repair of tissue. The lightness of this repast enables the individual to retire soon after, without interfering with digestion or having his sleep disturbed. Labbé recognizes that this arrangement of meals conflicts with customary usages in France, but the first duty of the physician who strives to inculcate the principles of alimentary hygiene is to warn against habitual table excesses, and the present three or two meal a day plan generally leads to overeating at one or more of the meals.

56. **Electric Sleep.**—This is the term applied by Leduc to a condition in which all sensation is abolished and the individual lies in complete lethargy as the consequence of the passage through the brain of an electric current. The current used differs from those usually employed, in that it is constantly interrupted, a special device—of which he gives an illustrated description—allowing the current to pass, then interrupting it for a period nine times as long, then allowing it to pass again, always in the same direction, a hundred interruptions being made in the course of a second. The electromotive force should not be much above the low maximum desired, which renders storage batteries better for the purpose than the urban electric light service. The peculiar properties of this interrupted current, he states, have shown that it is far superior to all other means for exploration of the sensation, excitability, contractility, etc., in physiologic and pathologic conditions. Its proper use in these lines, he is convinced, will soon be rewarded with an abundant harvest of new facts. When this electric current is gradually turned through the brain of a dog or other animal he passes gently, progressively, and without a sign of resistance or pain, into a condition of cerebral inhibition analogous to the sleep of chloroform. Except for the preservation of the reflexes, especially if the spinal cord is not in the path of the current, the animal does not react to any stimuli, but seems to be in a condition of absolute general anesthesia; all kinds of operations can be performed and no reactions are observed any more than with profound chloroform anesthesia. To induce this electric sleep in the rabbit from 6 to 8 volts are necessary, giving 1 or 2 milliamperes in the intermittent circuit, which corresponds to 10 or 20 milliamperes in a circuit without the interruptions. The moment the current is turned off, the animal gets up, looks tranquilly around, manifesting neither suffering, fatigue nor fright, and as soon as he is relieved of the electrodes he frisks about gaily and eats with relish. No by-effects were ever observed, no vomiting, and only rarely a slight degree of stupor. The dogs submitted to the maneuvers without fear or resistance, even when repeated again and again. The action of the heart and lungs continues unmodified, even when the passage of the current is continued for nearly 5 hours, as he shows by tracings taken before, during and after such experiences. The instantaneous cerebral inhibition caused by closing the circuit always induces in animals the evacuation of the intestines and bladder. The blood pressure is high during the entire experience. This form of current abolishes first the functions of the higher centers, and not until later those of the heart and respiratory organs. For this reason Leduc thinks that this form of current would be much more humane than those usually employed for electrocution. Only two experiments on man have been made with this new interrupted current, and both were on Leduc himself, the results confirming in every respect those anticipated from observation of its workings on animals. The inhibition first affected the centers of speech, then the motor centers; the limbs without being completely relaxed were not stiff. The pulse was not affected, but respiration was a trifle impeded. When the current had been turned on to the maximum he was conscious, as in a dream, of what was going on around him, and could perceive contact, but with deadened sensation. The consciousness of the dissociation and successive suppression of the various faculties was like the impression in a nightmare in which one is unable to speak or move in the presence of a grave danger. On both occasions the experience was not pushed to the complete suppression of all consciousness, his assistants thinking each time that this stage had been reached, when they were just short of it. The voltage was 35; the milliamperage 4, and each time he was under the influence of the current for 20 minutes. When the current was turned off the awakening was immediate and complete, leaving no by-effects except a sensation of physical vigor, so that he was able to proceed at once to deliver a lecture. It is possible also with this current, he says, to induce complete local anesthesia, so that with the eyes shut it is impossible to say whether the region is being pricked, pinched or cut. Using a more powerful current, he was able to induce a typical epileptiform convulsion in animals. About 55 volts accomplished this in the rabbit, but 110 volts were necessary for dogs.

Archiv f. Verdauungs-Krankheiten, Berlin.

58 (XII, No. 5, pp. 367-486.) Roentgen Diagnosis of Gastric Ulcer. (Neue Methoden zur Diagnose des Magengeschwürs.) J. C. Hemmeter.
59 Physiologic Importance of Mucus. (Bedeutung des Schleimes.) W. Zweig.
60 Splenomegaly with Cirrhosis of the Liver. (Bantische Krankheit.) M. Einhorn.
61 Shape of the Esophagus in Relation to Physiologic and Pathologic Conditions. (Konfiguration des Oesoph.) W. Telemann.
62 *Achylia Gastrica and Gastric Secretion in the Elderly. (Beschaffenheit der Magensekretion im höheren Lebensalter.) M. J. Liefschütz.
63 (No. 6, pp. 487-588.) *Experimental Study of Action of Alcohol on the Stomach. (Wirkung des Alkohols auf den Magen.) L. Kast.
64 Conditions of Secretion in the Stomach According to Findings in Dogs. (Sekretionsbedingungen des Magens.) W. Gross.
65 *Influences that Inhibit the Healing of Gastric Ulcer. (Heilung des Magengeschwürs hemmende Einflüsse.) F. Tecklenburg.
66 *Diagnosis of Carcinoma of the Stomach. (Diagnose des Magenkarzinoms.) A. Zirkelbach.

62. **Achylia Gastrica.**—Liefschütz announces that in his tests the secretion of the stomach in persons who have passed their fiftieth year showed a marked tendency to diminution. He states further that complete absence of free hydrochloric acid is relatively not a rare phenomenon in old age. In investigating the digestive power of the gastric juice by the

method of Mett, it should always be tested both without and with the addition of hydrochloric acid. The digestive power in cases of achylia produced by carcinoma of the stomach is not improved by the addition of hydrochloric acid. The aspect of the stomach contents and of the filtrate is often instructive. He adds that in examining the stomach contents the possibility of the passage of the so-called natural mixture, that is, a mixture of intestinal juice, pancreatic juice and bile, into the stomach must be kept in mind. The occasionally observed presence of pancreatic juice in the stomach affords a new means for the study of pancreas digestion and its disturbances. Gastric digestion is far from being so simple as it might have been assumed from previously known facts. There is no reason, he says, for separating simple achylia gastrica as an independent clinical entity with definite etiology. Its origin should be determined in the interests of effective treatment as well as in reference to prognosis.

63. **Action of Alcohol.**—Kast concludes as the result of experiments on a dog after the method of Pawlow and on a girl with a gastric fistula, after resection of the espohagus, that alcohol increases the amount of gastric juice, but does not affect the percentage of HCl, while the amount of pepsin is reduced. In a strength of 10 per cent, or less there is no noticeable local irritation from the alcohol, but when the proportion is above 20 per cent. local irritation is pronounced. Continued use of dilute solutions produces at first hyperchlorhydria, then catarrh with gradual decrease of acidity. The occurrence of hyperchlorhydria is explained by the fact that the increased quantity of the secretion mixed with the food gives an increased average acidity. In his experience, alcoholic drinks containing less than 20 per cent. of alcohol favored motility and absorption and did not materially reduce peptonization.

65. **Ulcer of the Stomach.**—Tecklenburg concludes from his research that a number of relapses in case of gastric ulcer are due to overstretching of the walls of the stomach. The most important cause of this overdistension is muscular atony and the swallowing of air. He concludes that if such ulcers do not heal under the ordinary measures gastroenterostomy should be resorted to.

66. **Gastric Carcinoma.**—Zirkelbach has tested Salomon's method of diagnosis of cancer of the stomach in 10 cases of carcinoma and 37 of other diseases, and is convinced that it is reliable for the early diagnosis of cancer of the stomach. The method consists in washing out the stomach in the evening and then on the following morning introducing 400 c.c. of normal salt solution. This solution is removed after a short stay in the stomach and tested for the presence of albumin and for the proportion of nitrogen. Marked turbidity with Esbach's reagent (picric acid) or the presence of more than 30 mg. of nitrogen indicates the presence of carcinoma.

Centralblatt f. d. Grenzgebiete der Med. u. Chirurgie, Jena.

Last indexed, XLVII, page 1062.

67 (IX, Nos. 17-23, pp. 641-928.) *Syphilitic Febrile Tertiary Visceral Affections. (Fieb. tertiär-syph. Organerkrankungen.) H. Raubitschek. Collective review of the literature.
68 *Tuberculin in Diagnosis and Therapeutics. (Diagn. und therap. Anwendung des Tub.) G. Weiss. Collective review.
69 *Old and New in Rachitis. (Altes und Neues uber Rachitis.) D. G. Zesas.
70 *Scoliosis in Sciatica. (Ischias scoliotica.) E. Oberndörffer. Collective review.
71 *Literature on the Gall Bladder and Biliary Passages During the Last Decade. (Lit. der Gallenblase und der Gallenwege.) A. v. Bardeleben.
72 *Leukemia and Pseudo-leukemia of the Skin. (Leucaemia und Pseudoleucaemia cutis.) L. Isler. Collective review.
73 *Value of Lumbar Puncture in Diagnosis and Treatment. (Diagn. und therap. Wert der Spinalpunktion.) W. Kaupe. Collective review.

67. **Febrile Syphilitic Affections of Various Organs.**—Raubitschek reviews 35 publications on this subject and emphasizes the necessity for bearing the possibility of a syphilitic affection in mind when confronted with a persistent hectic fever of dubious origin. Syphilitic affections of the liver, lungs and other organs may run their course with only slight or vague symptoms attracting attention to the organ. On the other hand, a febrile, acute tuberculous affection of the lungs may lead to a fatal termination in a syphilitic without the lues being directly responsible for it. In some of the cases reported an exploratory incision revealed a gummatous affection of the liver or other organ, and all symptoms subsided under mercurial treatment. The syphilitic affection may simulate acute articular rheumatism. In Klemperer's case a man of 30 had suffered for months from fever with a slight chill every evening, followed by sweating. Long-contiued quinin treatment gave no relief, but mercurial injections had an astonishing effect. The liver and spleen returned to normal size, the fever vanished, and the patient has been in good health since.

68. **Tuberculin in Diagnosis and Treatment.**—About 350 articles are reviewed by Weiss without drawing any definite conclusions from the data presented by the various authors, although the important points are discussed in turn.

69. **Old and New in Rachitis.**—Zesas' article was commenced in No. 9 and is concluded in No. 18 of this publication. He cites Heubner, Bokai, Troitzky, Rauchfuss and others as advocates of phosphorus in treatment of rachitis, especially in combination with cod-liver oil, the results obtained surpassing those recorded from any other means of treatment. Cod-liver oil without phosphorus is sometimes given in small doses, a teaspoonful or two during the meals. Lime seems to be ineffectual, but when the child has started on the road to recovery, and the osteoid tissue has become capable of taking up the lime, then its administration seems rational. Stöltzner gives 0.5 gm. calcium carbonate three times a day. Lime water contains too little lime, less than the same amount of cow's milk. Bernard has reported good results from administration of dog's milk. Iron preparations seem to do good service, especially in cases in which cod-liver oil is not tolerated. Medicated baths have also been found useful, especially those with sea salt. Henoch has the legs rubbed with flannel during the bath and others have used massage with benefit. Good results have also been reported from galvanization along the spine and from electric baths. In extreme craniotabes the head of the child should be supported on a soft ring cushion. Fueth has used to advantage an apparatus to ensure respiration of condensed air to combat the rachitic deformity of the chest. This not only benefits the bony frame, but also helps to develop the lung tissue. Rachitic kyphosis should be combated by having the child lie on a hair mattress instead of being carried in the arms, or a plaster cast may be used for young children and a Phelps bed for older ones. Hoffa's experience has been that the children all recover in from two to three months if kept on a strict antirachitic diet, lying flat, with massage of the muscles of the back. The position in which the child lies is important also in prevention of scoliosis. He generally supports the spine in such cases with a corset. Rachitic deformity of the leg is liable to subside spontaneously in the course of three or four years in children under six. In treatment, an apparatus with elastic pressure on the convex side and permanent traction on the concave side will be found most useful. The application of the apparatus requires such care on the part of parents to prevent decubitus that, as a rule, Hoffa advises operative treatment, manual osteoclasis, for young children, with instrumental osteoclasis for older children. Macewen performed osteotomy ten times on one patient before the limb was brought to the desired shape.

70. **Scoliosis Accompanying Sciatica.**—Oberndörffer concludes from his study of the various publications that have appeared on sciatic scoliosis that the most probable explanation of the scoliosis is from the extension of the disease process to the lumbar nerves. This factor distinguishes sciatic scoliosis from that due to mechanical static stress. Some writers mention the scoliosis as occurring in 90 per cent of their cases of sciatica, while others have observed it in 10 per cent. or less.

71. **Literature on the Gall Bladder and Biliary Passages.**—More than 1,000 articles or books in various languages were consulted by von Bardenheuer in preparing his monograph describing his 286 operations for gallstones. He here reviews the entire list, with brief summaries of the more important

points in turn as he cites the titles in full. The titles are arranged alphabetically in two groups, the first containing the articles on the anatomy and physiology of the gall bladder and genesis of gallstones, and the second the articles on the pathology of the gall bladder and biliary passages since 1897. The list includes a number of inaugural theses, and is an international summary.

72. **Leukemia and Pseudoleukemia of the Skin.**—Isler analyzes 44 communications that have been published on the cutaneous manifestations of lymphatic leukemia or pseudoleukemia. Most of the writers report their cases without decisive comment. The cutaneous manifestations may be diffuse, suggesting eczema, or they may appear as tumors large or small, generally affecting the face and causing subjectively little disturbance, but accompanying the changes in the blood. Similar manifestations may appear with violent itching, generally with the so-called pseudoleukemia. In other cases the cutaneous manifestations may be associated with or show a tendency to transformation into fungoid mycosis, sarcomatosis of the skin or pernicious lymphoderma of Kaposi's type.

73. **Lumbar Puncture.**—Kaupe discusses the diagnostic and therapeutic importance of lumbar puncture from analysis of 487 articles on the application of this measure in the clinic. He states that the consensus of opinion has established the harmlessness of the measure if due precautions are taken. Too large amounts of the fluid should not be allowed to escape and it should never be aspirated; and the measures should never be applied to an out-patient. Transient by-effects such as hemorrhage, transient lesions of the nerves, headache, vertigo, vomiting, irregular pulse or pains in the limbs, have been reported by a few writers, and Remak urges restriction of the measure to certain indications. Exceptional caution is necessary on suspicion of a tumor in the brain or in the cerebellum, on account of danger of hemorrhage in the tumor tissue, of variations in the intracranial pressure and of the shutting off of the fluid in the ventricle from the rest of the cerebrospinal fluid. In one case of otogenic meningitis no bad effects were observed, but in another case these were noted. Lumbar puncture is generally harmless in tuberculous meningitis, but again it may hasten the fatal termination. In case of hydrocephalus it can do no harm unless the foramen of Magendie is occluded. For diagnostic purposes lumbar puncture may prove of paramount importance. Chemical tests for albumin may prove very instructive, apart from the knowledge gained in regard to the pressure of the cerebrospinal fluid. Its principal value, however, is for cytologic and bacteriologic investigation. As a rule, Kaupe says, polynucleosis is observed with acute and mononucleosis with chronic affections of the central nervous system, especially of the meninges. Lymphocytosis is often an early and important symptom of progressive paralysis and tabes, and confirms the probable syphilitic etiology of tabes. Bacteriologic examination of the cerebrospinal fluid is sometimes the only means of diagnosing epidemic cerebrospinal meningitis. From the therapeutic standpoint, lumbar puncture is able to relieve and to improve threatening symptoms, at least temporarily and in many cases has a direct life-saving and curative action. A number of such instances of its beneficial influence were reported in the last epidemic of meningitis in Germany. Epidural injection probably acts mainly by suggestion, but may sometimes be useful in this line.

Münchener medizinische Wochenschrift.

74 (LIV, No. 7, pp. 305-352.) Mode of Action of Modern Therapy of Gonorrhea. (Wirkungsweise der mod. Gonorrhoetherapie.) K. Zieler.
75 Etiology of Erythema Nodosum. (Erythema nodosum.) W. Hildebrandt.
76 *Treatment of Diabetic Phthisis. (Diabetische Phthise.) O. Thorspecken.
77 The "Silver Spirochetes" True Micro-organisms. (Nerv oder Mikroorganismus?) H. Bab.
78 Bifocal Crystalline Lens. (Linse mit doppeltem Brennpunkt.) G. Freytag.
79 Action of Uviol Lamp on the Skin. (Wirkung des Uviollichtes auf die Haut und deren therapeutische Verwendung in der Dermatologie.) C. Stern and Hesse.
80 *Passive Hyperemia as Remedy for Seasickness. (Bier'sche Stauung bei Seekrankheit.) H. Roesen.
81 Field Hospital in Southwest Africa, 1905. (Feldlazarett.) A. Lion.
82 Seventieth Birthday of F. A. Kehrer. Heil.

76. **Treatment of Diabetic Phthisis.**—Thorspecken has had considerable experience with diabetics suffering from pulmonary affections, and has found that careful treatment gives excellent results. The diabetes should be treated with the same energy as without the pulmonary complications. In one case a tuberculous affection of the larynx healed as the patient, a man, was cured of the glycosuria. He has since been in comparative health for 16 years. In another case a bilateral tuberculous process in the upper lobes with much emaciation was so much improved under treatment of the diabetes that the patient, a physician, was able to resume his practice and has gained nearly 12 pounds in weight. In another case the tuberculous process was primary, and in a long latent stage when the onset of the diabetes made it flare up again. The course of this case shows how neglect of the diabetes in an active tuberculosis soon avenges itself, and it also shows the benefit on the tuberculous infection of effectual treatment of the diabetes.

80. **Passive Hyperemia in Treatment of Seasickness.**—Roesen has derived much benefit in seasickness from Bier's method of inducing hyperemia in the head by an elastic band around the neck. His personal and clinical experience as ship physician showed that this measure was able to induce subjective well-being, but had no influence on the tendency to vomit when the stomach was full. When the stomach was empty, however, there was not the slightest tendency to nausea. The application of the elastic band must be individualized and must be supervised by the physician. It is not necessary to keep it up during the night, when the patients are reclining.

Zeitschrift f. Geb. u. Gynäkologie, Stuttgart.

Last indexed, page 376.

84 (LIX, No. 1, pp. 1-204.) *Laparotomy for Chronic Inflammatory Affections of the Uterine Adnexa. (Adnexerkrankungen und ventrale Laparotomie.) P. Esch.
85 Diffuse Proliferation of the Mucosa into the Wall of the Uterus. (Diffuse Adenome im Myometrium.) Schütze.
86 Artificial Sterilization of Women. (Schützt die Anwendung der "Darmmethode" bei tubarer Sterilisation vor Rezidiven?) Offergeld.
87 Peripheral Langhans' Cells. (Periphere Langhanszellen.) O. O. Fellner.
88 Elimination of Scraps of Tissue in Physiologic Menstruation. (Anatomie der Menstruationsabgänge.) E. von der Leyen.
89 Cells of Chorion and Decidua. (Decidua- und Chorionzellen.) R. Meyer.
90 *Implantation of Ureter in the Bladder. (Einpflanzung des Harnleiters in die Blase.) K. Franz.

84. **Laparotomy for Chronic Inflammation in Adnexa.**—Esch relates the experiences at Olshausen's clinic with 83 cases of chronic inflammatory affections of the adnexa treated by a laparotomy. The mortality was 7.2 per cent. The open abdominal cavity was protected with sponges against the bursting of a pus pocket, and every effort was made to leave the abdominal cavity as dry as possible before suturing the incision, without rinsing or draining. Olshausen says that any pus that can be seen during the operation can be readily wiped away and any that escapes observation must be in such small amounts that it could not be eliminated through a drain. If the infectious fluid has poured out in such quantities that it has worked its way between the loops of intestines, then nothing is to be gained by drainage. Rinsing out the cavity is liable to distribute the infectious material over a still larger surface, he thinks. He operates only in an interval period, and not until nine months after the date of infection, trusting that the bacteria have perished by this time. In three instances there was a communication between the pus pocket and the vagina, illustrating the complete failure of palliative treatment by mere incision in case of suppurative affections in the adnexa.

90. **Implantation of Ureter in Bladder.**—Franz reports 15 cases in which the ureter was implanted in the bladder. His technic was worked out on the cadaver and on animals. He found it necessary to avoid crushing the ureter at any point and to use as little suture material as possible. He has performed the operation in 20 cases, but in five the patients succumbed to the effects of cancerous degeneration, and they are not included in this report. In one of the other cases one ureter was severed in the course of an abdominal operation for removal of uterine cancer, and the ureter was implanted in the bladder; in another case the operation was for removal of a

cancer in the bladder, and in another of a myoma in the uterus. Twice both ureters had to be resected and implanted in cancer operations, and in three instances a fistula between the ureter and vagina was cured by implanting the ureter in the bladder. In another case the ureter was injured during a vaginal hysterectomy and had to be implanted in the bladder. The results, both immediate and remote, of the operations on the ureters were extremely beneficial in most cases and did no harm in any instance. In two other cases it proved impossible to implant the injured ureter in the bladder, and the kidney above had to be removed. The individual technic in each case is described in detail.

Riforma Medica, Naples.

Last indexed, page 841.

91 (No. 50, pp. 1373-1400.) *Pathogenesis of Gastric Ulcer and Its Importance for Treatment. (Ulcera gastrica.) G. Marchetti.
92 Physical Signs of Presence of Gas in Pleural Effusions. (Note di semeiotica fisica, etc.) M. Landolfi.
93 *Passage of Mercury Through Placenta. (Passaggio del mercurio dalla madre al feto.) A. Conti and P. F. Zuccola.
94 (No. 51, pp. 1401-1428.) Experimental Study of Chronic Poisoning from Nitric Acid. (Avvelenamento cronico da acido nitrico.) L. Tomellini.
95 *Experimental Rabies in the Rat. (Rabbia nel ratto.) T. Mazzei.

91. **Pathogenesis and Treatment of Gastric Ulcer.**—Marchetti calls attention to the fact that both the sympathetic and vagus are involved in the innervation of the stomach, and states that these two nerves are the ones that generally suffer most in nervous disturbances. He has made a number of experiments on animals which confirm his clinical experiences and suggest that lesions in the vagus—the motor nerve of the stomach—causing local paralysis, entail stagnation of stomach contents at the part involved, with ulceration in time. When the vagi are divided or ligated the motor function of the stomach is completely arrested and death is only a question of a few days. Ligating the right vagus paralyzes only the right half of the stomach, and in his experiments the center of the paralyzed part soon showed the typical ulcer while the rest of the stomach remained normal. The animals all vomited soon after eating, as do persons with an incipient ulcer. He attributes this to excitation of the vomiting center from the mechanical irritation of the food at the seat of the incipient ulceration. He thus explains ulcer of the stomach as the result of some change in the vagus interfering with the normal motor function of the part of the stomach innervated by the branch of the nerve in question. Particles of food collect at this point, which ceases to share in the general peristalsis of the organ, and stagnation is sooner or later followed by ulceration. He also states that treatment of ulcer of the stomach should aim to restore the injured vagus to normal, when the ulcer will heal of itself. If this can not be done, then the only course is to excise the paralyzed portion as the conditions that induced the development of the ulcer persist and the ulcer is liable to be reproduced at any moment. In his experimental research, ligature of one branch of the vagus, causing local paralysis of part of the stomach, was invariably followed in the course of about four weeks by the development of an ulcer, similar in every respect to simple, chronic gastric ulcer in man. Gastroenterostomy always cured the ulcer in his animals, and he advocates it for severe cases in man as the ideal procedure.

93. **Passage of Mercury Through the Placenta.**—Conti has been studying this subject both in the clinic and in experiments on animals, and his conclusions are that mercury administered to the mother does not pass through the placenta to the fetus. He believes, however, and his research seems to demonstrate the fact, that the mercury in the maternal organism causes the production of substances—antibodies—which are able to pass through the placenta to the fetus and to act on the specific agent of the disease, neutralizing its action.

95. **Experimental Rabies in the Rat.**—Mazzei relates experiences with rats inoculated with rabies which have convinced him that rats are much better adapted than dogs, monkeys or other animals for experimental study and control of the action of rabies virus and antibodies.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Anesthetics and their Administration. A. Text-book for Medical and Dental Practitioners and Students. By Frederic W. Hewitt, M.V.O., M.A., M.D., Cantab., Anesthetist to His Majesty the King. Third Edition with Illustrations. Cloth. Pp. 627. Price, $4.00 net. London and New York: The Macmillan Co., 1907.

Pediatrics. The Hygienic and Medical Treatment of Children. By Thomas Morgan Rotch, M.D., Professor of Pediatrics, Harvard University. Fifth Edition, Rearranged and Rewritten. Illustrated. Cloth. Pp. 1060. Price, $6.00 per volume. Philadelphia and London: J. B. Lippincott Co., 1907.

Histologic Observations on Sleeping Sickness and Other Trypanosome Infections. By F. W. Mott, M.D., F.R.S. (From the Pathologic Laboratory of the London County Asylums). Cloth. Pp. 50. Price, $1.50 net. New York: William Woods & Co., 1907.

Aids to Diagnosis and Treatment of Diseases of Children. By John McCaw, M.D., R.U.I., L.R.C.P., Edin., Physician to the Belfast Hospital for Sick Children. Third Edition. Cloth. Pp. 381. Price, $1.25. New York: William Wood & Co., 1907.

Text-Book of Materia Medica for Nurses, Including Therapeutics and Toxicology. By G. P. Paul, M.D., Attending Physician to Samaritan Hospital, Troy, N. Y. Cloth. Pp. 242. Price, $1.50 net. Philadelphia: W. B. Saunders Co., 1907.

Psychology Applied to Medicine. Introductory Studies by David W. Wells, M.D., Lecturer on Mental Physiology in Boston University Medical School. Cloth. Pp. 141. Price, $1.50 net. Philadelphia: F. A. Davis Company, 1907.

Dermatologische Vorträge für Praktiker. Heft 7, Die ambulante Behandlung der Unterschenkelgeschwüre. By Dr. Jessner. Dritte Auflage. Paper. Pp. 52. Price, Mk. .9. Würzburg: A. Stuber's Verlag (Curt Kabitzsch), 1907.

Manual of Diagnosis and Treatment of Diseases of the Eye. By Edward Jackson, A.M., M.D., Professor of Ophthalmology in the University of Colorado. Cloth. Pp. 615. Price, $2.50 net. Philadelphia: W. B. Saunders Co., 1907.

This Labyrinthine Life. A Tale of the Arizona Desert. By George Alexander Fischer, author of Beethoven: A Character Study. Cloth. Pp. 382. Price, $1.20. New York: B. W. Dodge & Co.; Chicago: A. C. McClurg & Co., 1907.

University of Pennsylvania. The Provost's Report for the Year Ending Aug. 31, 1906. Seventh Series: No. 3, Part 6. Paper. Pp. 298. Philadelphia: Published by the University. February, 1907.

Aids to Dental Surgery. By A. S. Underwood, M.R.C.S., L.D.S., and D. Gabell, M.R.C.S., L.R.C.P., L.D.S. Second Edition. Cloth. Pp. 126. Price, $1.00. New York: William Wood & Co., 1907.

Annual Report of the Bureau of Health for the Philippine Islands. Victor G. Heiser, Director of Health. July 1, 1905-June, 30, 1906. Paper. Pp. 150. Manila Bureau of Printing, 1906.

Aids to Medical Diagnosis. By Arthur Whiting, M.D., M.R.C.P., Physiciaan to the Tottenham Hospital. Cloth. Pp. 152. Price, $1.00 net. New York: William Wood & Co., 1907.

Twelfth Report of the Board of Health of the Town of Montclair, New Jersey. From Jan. 1, 1906, to Dec. 31, 1906. Paper. Pp. 76. New York: Jones Printing Co., 1906.

International Medical Annual. A Year-Book of Treatment and Practitioner's Index. 1907, Twenty-fifth Year. Cloth. Pp. 644. Price, $3.00. New York: E. B. Treat & Co.

Meckel's Diverticulum in Surgical Practice. (In Russian). Sixty-two Illustrations. By Prof. M. I. Rostovtzeff. Paper. Pp. 154. St. Petersburg: V. C. Ettinger.

Transactions of the Luzerne County (Pa.) Medical Society, For the Year Ending Dec. 31, 1906. Volume XIV. Paper. Pp. 178. Wilkes-Barre: E. B. Vordy Co., 1906.

Die Syphilis and der Tripper. von Dr. Orlowski, Spezialarzt in Berlin. Paper. Pp. about 40, each. Würzburg: A. Stuber's Verlag (Curt Kabitzsch), 1907.

Ninth Annual Report of the Eastern Indiana Hospital for the Insane, for the Period Ending Oct. 31, 1906. Paper. Pp. 116. Indianapolis: W. B. Burford.

Monthly Summary of Commerce and Finance of the United States. January, 1907. Paper. Pp. 1577. Washington: Government Printing Office.

Transactions of the American Society of Sanitary and Moral Prophylaxis. For the Year Ending May 31, 1906. Vol. I. Paper. Pp. 166.

Thirty-third Annual Report of the Medical Director of the Cincinnati Sanitarium for the Year Ending Nov. 30, 1906. Paper. Pp. 18.

American Society of Tropical Medicine. Papers Read before the Society and Published Under Its Auspices. Vol. II, 1905-1907. Pp. 500.

Seventeenth Annual Report of St. Mary's Hospital, Rochester, Minn., for the Year 1906. Paper. Pp. 29. Rochester: C. Elliott & Son.

Fifteenth Annual Report of the Board of Health of Spokane, Washington, for the Fiscal Year Ending Dec. 31, 1906. Paper. Pp. 25.

Official Army Register for 1907. Published by Order of the Secretary of War. Paper. Pp. 618.

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Original Articles

INTERNAL HYDROCEPHALUS

WITH REPORT OF TWO CASES, ONE RESULTING FROM OCCLUSION OF THE AQUEDUCT OF SYLVIUS.*

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PHILADELPHIA.

It is by no means rare to find occlusion of the aqueduct of Sylvius as one of the etiologic factors in internal hydrocephalus mentioned in text-books dealing with this subject. Attention is particularly attracted by the fact, however, that no references are given in most of the articles which refer to this occlusion as a possible cause, whereby one can determine that the author is speaking from clinical experience and not theorizing.

We have been struck with the *a posteriori* nature of discussions on this subject, and it is therefore with pleasure that we bring forward a case of internal hydrocephalus the cause of which is probably congenital almost total occlusion of the aqueduct of Sylvius.

Anton,[1] in dealing with the causes of hydrocephalus, quotes Baginsky's opinion that acute hydrocephalus is identical with acute non-tuberculous inflammation of the choroid plexus and the following increase of exudation. He adds that there is without doubt involvement of the ventricle walls and the ependyma. He also advances the view held by Rindfleisch, Huguenin and Von Bönninghaus to the effect that the inflammatory affection of the ventricles and choroid plexus is always associated with a meningitis serosa or purulenta, and that these are caused by toxic or infectious factors. Referring to Macpherson, he states as a possible cause an infectious phlebitis with thrombus formation of the venous sinuses. He says that occasionally the exciting agent of the inflammation gains access directly to the ventricle through the brain substance, with or without traumatism, and there sets up a fibrino-purulent process. Lastly he calls attention to a possible connection between rachitis and hydrocephalus.

Gowers[2] holds that the "only known cause" of acute hydrocephalus is meningitis. Speaking of chronic internal hydrocephalus he makes this interesting statement: "Sometimes all the ventricles are distended; more often the fourth ventricle suffers little, even where there is no obstruction in the aqueduct of Sylvius. In such a case the aqueduct may be funnel-shaped, dilated towards the enlarged third ventricle." This statement should be compared with the gross anatomical findings of our second case. Gowers further mentions the possible obstruction of the veins of Galen preventing the return of venous blood from the intraventricular vessels and thereby becoming a cause. Such a condition as this, if acute, is likely to cause ventricular hemorrhage and rapid death, as in a case reported by one of us (Spiller) with Wadsworth, but when developing slowly might be productive of internal hydrocephalus.

Oppenheim[3] speaks of compression of the aqueduct of Sylvius as a cause of internal hydrocephalus. D'Astros[4] states that an obstruction of the aqueduct of Sylvius will produce *une hydropsie* of the third and lateral ventricles; but he gives no instance of its so doing. A Henle[5] says that a closure of the aqueduct of Sylvius will cause a hydrocephalus confined to the third and lateral ventricles; but he gives no reference to a case. P. Bourneville[6] speaks of "another case" of hydrocephalus caused by the obliteration of the aqueduct, but no further information is given. F. Schultze[7] mentions the possibility of hydrocephalus being caused by the obstruction of the aqueduct, and refers to Seeligmüller's cysticercus case which we cite below.

Seeligmüller[8] speaks of a possible pressure on the aqueduct of Sylvius by a tumor causing hydrocephalus. In the same work he gives the history of his case of hydrocephalus caused by the plugging of the aqueduct by a cysticercus the size of a cherry stone. Apropos of cysticercus Karl Osterwald[9] has collected about thirty-four cases in literature of cysticercus in the ventricles of the brain, but in none of the cases given was the parasite in the aqueduct.

Bönninghaus[10] gives as a cause of hydrocephalus, what he terms an "acute automatic closure" of the aqueduct of Sylvius. By this he means that when the effusion into the third and lateral ventricles occurs rapidly, the more yielding portions of the third ventricle, i. e., the floor and the roof, become displaced and pull from above and below on the more solid pons and in this way produce an elongation of the aqueduct which may result in complete closure.

One of us[11] (Spiller) reported a case in which the third and lateral ventricles were dilated and the aqueduct was occluded by proliferation of the neuroglia. Two other cases of partial internal hydrocephalus have come under his notice. In one the distension was confined to one lateral ventricle of the brain and was caused by partial inflammatory closure of the foramen of Monro; in the other case only the posterior horn of the lateral ventricle was distended, and very greatly, from unknown cause. In this case the occipital lobe of the affected side was a mere sac. He also refers to a case of Bourneville and Noir,[12] in which the aqueduct was entirely occluded, but there was no microscopic study of the tissues. In this same paper he (Spiller) speaks of Touche's case,[13] in which there was occlusion of the aqueduct.

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* From the Department of Neurology and the Laboratory of Neuropathology in the University of Pennsylvania.

[1] Flatau-Handb. path. Anat. d. Nervensystems.

[2] Dis. of the Nervous System.

[3] Lehrb. d. Nervenkrankheiten.

[4] Les Hydrocéphalies, 1898, 75.

[5] Beitr. z. Path. u. Therap. d. Hydrocephalus.

[6] Brouardel, Traité de Médecine.

[7] Nothnagel: Specielle Pathol. u. Therap.

[8] Krankheiten d. Rückenmarks u. Gehirns.

[9] Beit. z. Diag. d. Cysticercus Ventriculi Quarti-Neurolog. Centrbl., March, 16, 1906.

[10] Die Meningitis Serosa Acuta, 1897.

[11] Am. Jour. of Med. Sci., July, 1902.

Our first case was reported by one of us (Spiller) without microscopic study.[14] The history as obtained from the Pennsylvania Training School for Feeble-minded Children is as follows:

Patient.—Sally H., age 62 at time of death; American.

History.—Father died of consumption, aged 39; mother died aged 63, cause unknown; two brothers and two sisters died of consumption. One sister (the first born) died in early infancy, cause unknown; two brothers are living in good physical and mental condition. Of the details of the patient's birth nothing is known. She was supposed to have been born hydrocephalic and was weak and sickly as a baby. Sight, hearing and speech were good. She had epilepsy for years and during her seizures would froth at the mouth and purge. She suffered frequently from vomiting without assignable cause, and had occasional attacks of vertigo. She was said to have chronic kidney disease six years prior to her death. There was no paralysis at any time, and although no joint complication was present she always walked as though lame. She was said by Dr. Llewellyn, who had known her for years, to have been fairly well developed mentally. Her advanced age and her mental condition are remarkable in view of the extensive hydrocephalus.

Macroscopic Examination.—The third and lateral ventricles of the brain were greatly dilated and the white matter surrounding them was intensely atrophied. The whole cerebrum appeared as a greatly distended sac. The lateral ventricles freely communicated with one another, and the walls of the third ventricle were so pushed apart that the floor of this ventricle was on a level with the upper part of the basal ganglia.

Microscopic Examination.—Left Optic Thalamus: The blood vessels were thickened and there were some recent hemorrhages within the substance of the thalamus. All the vessels were distinctly congested. There was little vacuolation of the cells of the choroid plexus such as described by Raubitschek.[15]

Corpus Callosum: A section from the median portion of this structure was not more than 1 mm. in thickness; it stained normally and contained numerous amyloid bodies.

Left Occipital Lobe: In places the cortex and white matter were not more than 2 mm. in thickness; in other places the thickness was 6 mm. The atrophy was relatively much greater in the white substance than in the cortex. Where the width of the section was the least, more than half was occupied by the cortex. The cells were much diminished in number as shown by the thionin method.

The Fornix: This was much atrophied and the blood vessels within it were greatly thickened.

The aqueduct was almost occluded, this occlusion being probably a congenital malformation because the cavity was well lined throughout by a layer of ependymal cells, which would hardly be the case if the occlusion were caused by proliferation of the neuroglia. The neuroglia tissue immediately adjoining the ependymal lining was a little proliferated, and the aqueduct was filled with red blood corpuscles which were unaltered in shape, and probably were deposited there shortly before death. To the naked eye the aqueduct seemed to be entirely occluded. In a microscopic section the aqueduct to the naked eye was hardly as large as the point of an ordinary pin.

The second case is reported as one of intense congenital hydrocephalus without occlusion of the aqueduct. The pathologic material was received from Dr. Thompson S. Westcott, to whom the case belongs. The patient lived to be a year and a half old. The skull was excessively large. It is difficult to describe the gross appearance of the brain other than to say that it was a large thin bag of nerve tissue so attenuated in many places as to be translucent, and the mere handling of it caused numerous tears in its substance.

Microscopic Examination.—The corpus callosum was not more than 0.5 mm. thick.

Left Occipital Lobe: Sections in places were not more than 1 mm. thick. Here, as in the other case, the atrophy was much more pronounced in the white matter than in the cortex.

Left Motor Area, Median Side: The white matter was most affected. There was great diminution in the number of cells and the pericellular spaces were all distended. The cells appeared all decidedly smaller than normal. The pia was not thickened and the cortex and white matter were 4 mm. thick.

In contrast to the other case the fourth ventricle was greatly dilated as the result of the dilatation of the aqueduct of Sylvius. The cause of the hydrocephalus in this case could not be determined, but the condition seemed to have been a congenital malformation.

The two cases show very clearly that the distension of the fourth ventricle may depend on the patulency of the aqueduct of Sylvius.

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[12] Le Progrès Méd., July 14, 1900, 17.
[13] Bull. et Mémoires de la Soc. Méd. d. Hôp. de Paris, 1902, vii, 141.
[14] Jour. of Nervous and Mental Dis., 1900, 559.
[15] Ztschr. f. Heilkun., 1905, p. 219.

MYXEDEMA: A STUDY.*

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INTRODUCTION.

HISTORICAL NOTE.

In 1873, in a paper entitled "A Cretinoid State Supervening in Adult Life in Women," Sir William Gull[1] first described the disease known later as myxedema. This name was suggested by Ord,[2] in 1877, as he said, "To be applied to an essential condition in the cretinoid affection occasionally observed in middle-aged women." He also wrote:

> The whole collection of symptoms are related as effects to jelly-like swellings of the connective tissue, chiefly, if not entirely, consisting in an overgrowth of the mucous-yielding cement by which the fibrils of the white element are held together. Accordingly, I propose to give the name of "myxedema" to the affection.

He further emphasized the similarity of myxedema and cretinism and among other things pointed out that in one of his cases (as in one of the cretins reported by Curling), there was diminution in size and almost complete annihilation of the thyroid gland. Charcot[3] in 1880 proposed the name "cachexie pachydermique." He writes:

> L'expression pachydermique nous parait bien rendre compte des traits dominants du tableau clinique et qu'elle en donne une idée, sinon plus exacte, tout au moins plus vivante que la dénomination des auteurs anglais.

J. L. Reverdin[4] in a paper before the Medical Society of Geneva in 1882, called attention to a train of symptoms following the total extirpation of goitrous thyroid glands. The symptoms which he enumerated were weakness, languor, hebetude, pallor and edema of the face and hands, without albuminuria. One case he states "was very analogous to a cretin." A year later (1883) the same author[5] pointed out the similarity of the group of symptoms to the myxedema of the English writers and named the condition "myxedema postopérative." He rightly attributed it to a loss of the thyroid gland. At the twelfth congress of the German Surgical Association in 1883, Kocher[6] described a similar train of symptoms following total thyroidectomy to which he gave the name, "cachexia strumipriva." He, however, thought the condition was due to a mechanical injury to the structures of the neck, resulting in a chronic asphyxia. Later Kocher acknowledged his mistake and accepted the view of Reverdin and Semon.

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* From the Medical Clinic of the Johns Hopkins Hospital, Baltimore.

[1] Trans. Clinic. Soc., London, 1874, vii.
[2] Med. Chir. Trans., 1878, lxi.
[3] Le Progrès Médical, 1880, viii.
[4] Rev. Med. de la Suisse romande, 1882, ii.

Sir Felix Semon,[7] of London, next pointed out the correlation of myxedema and cachexia strumipriva and suggested a common causative factor, namely, a loss of function of the thyroid gland. Paul Bruns, in 1884, reported the case of a boy, aged 10, in whom extirpation of the thyroid gland was followed by the condition known as sporadic cretinism.

These observations led the Clinical Society of London to appoint on Dec. 14, 1883, a special committee to investigate this subject. The members of this committee immediately set about their researches and in 1888 published their monumental report[8] which has formed the groundwork for all later investigation of the subject. The committee comprised such men as Victor Horsley, who directed the experimental work, William Ord, who collected the clinical data, and Halliburton who investigated the chemistry of the tissues. In 1887, Virchow contributed some data to our knowledge of the pathology of the disease. More recently many valuable contributions have been published, which will be discussed later.

In America the first case of myxedema was reported in 1881 by W. A. Hammond.[9] In 1888 Hun and Prudden[10] described in detail 4 cases of their own and reviewed the literature up to the date of publication.

DEFINITION.

In his monograph, Murray[11] defines myxedema as follows:

> It is an affection characterized by widespread changes in nutrition as shown by the appearance of solid edematous swelling of the subcutaneous tissues, dryness of the skin and arrest of development of its appendages, subnormal temperature, slowness in the mental processes and in the execution of voluntary movements.

CLINICAL VARIETIES.

Under the general term myxedema are included three groups of cases: 1, cretinism; 2, myxedema proper; 3, operative myxedema.

1. Cretinism.—This is a chronic affection, either congenital or appearing at any time before puberty. Osler[12] says:

> It is characterized by disturbance of the growth of the skeleton and soft parts, a remarkable retardation of development, an extraordinary disproportion between the different parts of the body, and a retention of the infantile state with a corresponding lack of mental progress.

Three sub-varieties of cretinism are now recognized:

a. Endemic cretinism which develops in certain localities of Italy, France and Switzerland, in association with goiter under local conditions of an obscure toxic nature. No cases of this variety have occurred in America.

b. Sporadic cretinism in which the thyroid gland may be congenitally absent or atrophied after one of the specific fevers or in association with goiter. In 1897 Osler[13] collected 60 cases of this type in America. Many more cases have since been reported.

c. Juvenile myxedema is a term suggested by Parker for a small group of cases occurring in children who have developed physically and mentally until their fourth or fifth year at least, at which time the symptoms occur in consequence of atrophy of the thyroid gland following in all probability an acute thyroiditis in the course of an infectious fever, as typhoid, scarlatina, etc. In this group there are the usual symptoms of the adult form, but there is also an arrest of development at that stage of a child's growth when the disease set in. Osler and others in America have reported a few instances of this variety.

Pineless[14] in a very excellent paper has recently drawn sharp lines of demarcation between three types of cretinism, which are practically identical with the foregoing. His varieties are: a, Thyroaplasie or congenital myxedema; b, infantile myxedema; c, endemic cretinism. The first type, though rare, includes some of the sporadic cases. The second comprises those cases in which atrophy of the gland occurs in association with goiter or follows one of the specific fevers; the third is identical with endemic cretinism above described.

A remarkably elaborate monograph on "Cretinism" by Wilhelm Scholz,[15] of Graz, has recently appeared, and is well worth a careful perusal. His clinical material is particularly rich, and some of his conclusions are both interesting and original.

2. *Myxedema Proper.*—This includes those cases in which the symptoms develop in an adult at any age after puberty.

3. *Operative Myxedema or Cachexia Strumipriva.*—This is the variety in which the symptoms of myxedema develop after a total thyroidectomy for goiter or other disease of the thyroid gland. Of this variety there are two different types, the cretinous and the adult myxedematous, according to the age of the patient at which the gland was removed.

In the American literature prior to July 1, 1905, I find but two cases of operative myxedema. The first, Dr. McGraw's case, which is briefly referred to by Osler,[12] occurred in a young man in whom a complete thyroidectomy for goiter at the age of 12 was followed six years later by the gradual development of the typical myxedematous features which persisted for 12 years. A second case was mentioned by Huntington[16] at a meeting of the California Academy of Medicine, Nov. 27, 1900. This patient was also a male in whom myxedema followed one year after complete thyroidectomy. More recently Moffit[17] states that two cases of postoperative myxedema have occurred in California, one of which was in all probability Huntington's case. I have not included any of these cases in my series which is restricted to myxedema proper.

Abortive forms occur in myxedema just as in exophthalmic goiter. The French have suggested the term

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[5] Ibid., 1883, iii.
[6] Verh. d. Deutsch. Gesellsch. f. Chir., 1883, ii.
[7] Brit. Med. Jour., 1883, ii.
[8] Clinic. Soc. Trans. (London), 1888, supplement vol., xxi.
[9] "Neurological Contribution" (New York), 1881, i.
[10] Am. Jour. Med. Sci., 1888, xcvi.
[11] Twentieth Cent. Practice, 1895, iv.
[12] Am. Jour. Med. Sci., 1893, cvi.
[13] Trans. Cong. A. M. Physicians and Surgeons, 1897, 12.
[14] Wien. klin. Wochschr., 1902, xv.
[15] "Klin. und anatom. Untersuch. über Cretinismus," Berlin, 1906.
[16] The Journal A. M. A., 1901, xxxvi.
[17] Ibid., 1905, xiv.

"myxedeme fruste." J. L. Reverdin[18] in 1886 first noted this form in cases following partial thyroidectomy in which there was subsequent atrophy of the remainder of the gland. In these cases there may be no mucinoid infiltration of the skin but there is a liability to swelling and localized hypertrophy of the mucous membranes of the nose, throat, etc., as well as a predisposition to tonsillar enlargement and adenoid formation. Further, the teeth may decay early and the hair fall out prematurely. The French consider loss of the outer half of the eyebrow as almost pathognomonic of this type of the disease. In women there is also a tendency to circulatory disturbances of the mucous membranes at the menstrual period or a hyper-sensitiveness of the nose, throat or even of the vaginal mucous membrane. Chronic constipation, painful joints, vague pains between the shoulders, paresthesiæ and an occasional giving way of the legs, are other obscure manifestations of the disease. Moffitt[17] has reported 11 cases of this type, in all of which definite improvement followed thyroid medication.

CASE REPORTS.

The following 10 cases occurred in the practice of Dr. William Osler, either in private or in the wards of the Johns Hopkins Hospital.

Case 1.—*White female; aged 37; quintipara; sister of patient in Case 2; a second sister with exophthalmic goiter; a third sister with Raynaud's disease; three years' duration; thyroid therapy; loss of 54 pounds; recovery.* (*Previously reported by A. R. Oppenheimer.*)

Patient.—M. D., American, housewife, of Virginia, was admitted Jan. 26, 1894, to the Johns Hopkins Hospital complaining of "swelling of the body."

History.—The parents were not blood relatives; of two brothers one had "renal trouble." There were three sisters, one of whom is the patient in Case 2 of this series; another had exophthalmic goiter and died from "peritonitis," and a third later consulted Dr. Thayer (October, 1905) for Raynaud's disease. Patient had always been healthy and had borne five children.

Present Illness.—This dated back three years (1891), when at the age of 34, while pregnant, she underwent a prolonged physical and mental strain. Subsequently she gave birth to a child, which lived only three months. About three months after delivery and about ten days before her menstrual period, she first noticed that her entire body became more or less swollen, but did not pit on pressure. This swelling was repeated before subsequent "periods," but would disappear temporarily with the onset of the flow. A year before admission (1893) the menses became less frequent, being at intervals of from six to eight weeks. The swelling also became more or less constant, though it was more pronounced at certain times. The tongue began to feel stiff and swollen. Later the skin became dry, harsh and rough; there was some loss of hair and a constant chilly sensation. The bowels were constipated. The appetite was good. Micturition was free, but never excessive. There was no loss of memory or difficulty of speech.

Physical Examination.—On Feb. 26, 1894, examination revealed a very large woman of medium height, weighing 189 pounds. She was very garrulous. The face was heavy, rather dull and expressionless. The cheeks and neck were very full and with an almost edematous appearance. The complexion was doughy, without any marked hectic flush. The supraclavicular regions were moderately full. The arms and legs were decidedly swollen. The dorsal surfaces of the hands and feet were very puffy and edematous looking, but nowhere pitted on pressure. The skin had a resistant feel, very dry and in some places showed a little scaling. The hair was rather dry and coarse. The finger nails were thin, with marked longitudinal striations, and a slightly everted and very irregular free edge. The thyroid gland could not be felt, though, owing to the thickness of the neck, it was impossible to determine any diminution in its size.

The abdominal and thoracic viscera were normal. The pulse ranged between 60 and 68 to the minute. The temperature in the mouth ranged between 97.6 and 98.4 degrees. The urine had a specific gravity of 1020; and on two examinations contained neither albumin nor casts.

Clinical History.—Jan. 27, 1894: Five grains of desiccated sheep thyroid were given three times a day.

January 31: In the evening there was a very striking fulness over both clavicles, and a mass the size of a hen's egg was present in each fossa. These disappeared by next morning.

February 2: For the first time she complained of weakness, headache and pain in the back. The pulse had become more rapid, ranging from 80 to 90 to the minute. There was sweating and some nausea. She had taken but 65 grains in the five days, and had lost 8 pounds. The dose was reduced to 5 grains twice a day.

February 9: She had then taken 160 grains of thyroid. The temperature and pulse range since February 2 was 98.4 to 99.5 degrees and 84 to 108, respectively. There was a loss of 10½ pounds during twelve days' treatment.

She was discharged from the hospital much improved, with directions to continue the treatment at home.

Further History.—A letter from her physician, Dr. H. B. Melvin, stated that her improvement continued. During the first twenty-five days of treatment she had lost 25 pounds, and the loss continued until she then was very nearly her normal weight.

November, 1894: She was then taking only 3 grains every second day, and though eight months' pregnant, was very well.

Sept. 30, 1896: The patient was readmitted to the hospital for observation. "Her condition beyond being nervous was very good." The skin was soft and natural and there was no edema.

October 1: Her weight was 135 pounds, i. e., a loss of 54 pounds since admission in 1894.

October 9: After a few days' rest in the hospital she was discharged.

Oct. 21, 1905: The patient consulted Dr. Thayer, who kindly gave me the following notes: "She has regarded herself as well since leaving the hospital. She has, however, taken the thyroid intermittently. Her ordinary course has been to take 5 grains of Armour's extract in capsules three times a day for four or five days, then to stop taking anything for two or three weeks, at the end of which time she begins 'to feel slow and tired and to swell.' This swelling consists of a puffiness of her hands and shoulders. The ankles are continually puffy. Her pulse is always slow, and she is always rather susceptible to cold, a susceptibility which is much more marked after she has stopped taking the thyroid for a considerable length of time."

On examination, "she looked well and bright. The face, however, was a little heavy and above the clavicles there was rather a marked fulness. The hands were chubby, but nothing more. About both ankles there was a marked elastic puffiness. Between the sternomastoids in the region of the thyroid there was a distinct hollow; the thyroid was not to be felt. The pulse was 68."

Case 2.—*White, female, aged 19; nullipara; sister of patient in Case 1; exophthalmic goiter (previously reported by A. R. Oppenheimer); readmitted at 22 with myxedema; no trace of goiter; thyroid therapy; recovery.*

Patient.—S. E., American, of Virginia, was admitted Jan. 26, 1894, to the Johns Hopkins Hospital, complaining of "enlargement of thyroid gland" and "great nervousness."

History.—Her family history was the same as that of her sister, the patient in Case 1. Patient had measles and scarlatina in childhood. Menses had always been irregular, appearing only once in the previous year. Patient was single and had borne no children.

Present Illness.—This began in 1891, three years before admission, when after a severe fright she became very nervous, excitable and restless. There were frequent palpitations of the heart. The thyroid gland became enlarged in 1893 and remained so. There were attacks of dyspnea due, the patient thought, to pressure on the trachea by the goiter. There was also tremor of the hands following any excitement. The voice became husky; the eyes became a little more prominent. The appetite was good; there was no nausea and no vomiting. Bowels were regular; there was no cough.

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[18] Congrès franc. de Chir., 1886, ii.

Physical Examination.—Examination on Sept. 26, 1894, revealed a slight though well nourished girl, of very neurotic temperament. The face was flushed and there were numerous areas of transient flushing of the skin over the body. There was a decided double exophthalmos, but von Graefe's sign was absent. There was marked symmetrical enlargement of the thyroid gland. The apex beat of the heart was in the sixth interspace; the impulse was powerful and heaving; first sound markedly booming. The lungs and abdominal viscera were negative. The urinalysis showed a specific gravity of 1012, with a slight trace of albumin, but no casts. The pulse was rapid, from 110 to 120 to the minute. Temperature was 99 to 99.5 degrees. Weight was 137 pounds.

Clinical History.—January 27: A diagnosis of exophthalmic goiter was made and the patient was given thyroid extract gr. v, t.i.d.

February 2: A very definite fine tremor of the hands was noted.

February 9: She was discharged after having taken 200 grains of thyroid extract and having lost 2½ pounds (134½ pounds).

Subsequent History.—November 22: After her discharge from the hospital, she was given tincture belladonnæ, gr. xv, t.i.d, for two months, which resulted in some diminution in the size of the goiter and in the degree of exophthalmos.

May 7, 1897: Patient was readmitted. She was then aged 22 and single. She complained of "general swelling" and "soreness."

After leaving the hospital in 1894 she had not felt very strong and was unable to take any active exercise. In January, 1896, her friends noticed that she was becoming stout, and the patient found that her collar was getting tight and that her shoes would not button. The swelling was general, including the supraclavicular regions. It was more pronounced after exercise and in the afternoon. She felt very drowsy and "not up to anything." Her speech became slow. Occasionally the skin of the hands and face around the mouth would turn purple. She suffered from the cold, especially in the evenings, and she became very nervous. Bowels were regular. There was no increase in the amount of urine. She was given thyroid extract three times a day by her physician, and at first improved, but later became so weak that she was unable to sit up, and the dose was reduced.

Second Physical Examination.—Examination on May 7, 1897, revealed a paler and little fuller facies than on previous admission. There was no puffiness above the clavicles. The goiter had entirely disappeared. The tongue was rather large, dryish and indented. The hands were a little full. The feet and legs above the ankle joints were swollen; but did not pit. The skin was harsh. Over the face was a marked vasomotor disturbance. There was marked dermatographia. Superficial reflexes were active. Except for a palpable right kidney the examination was negative.

Urine had a specific gravity of 1010, and contained neither albumin nor casts. The amount in twenty-four hours was 340 to 800 c.c.. Temperature was from 99.4 to 98.2 degrees; pulse, 60 to 98; weight, 122 pounds (i. e., 12½ pounds less than on discharge, February, 1894).

Further Clinical History.—May 12, 1897: She was given thyroid extract, gr. ii, t.i.d., which, on May 23, was increased to gr. iv.

May 31: Dr. Osler noted that "the joints of the feet were painful, but not swollen or infiltrated. There was some puffiness of the wrist and face. The legs were much smaller and more natural. There was slight tremor. There was no enlargement of the thyroid gland, but the lobes could be felt. There was instability of the vasomotors of the skin, and a patchy chloasma over forehead, chin and neck." Patient was discharged "much improved," having taken 186 grains of thyroid extract and having lost 4 pounds in weight (118 pounds). Her temperature after beginning treatment was practically unaffected, being still always above normal, but the pulse ranged a little higher (70 to 112). The quantity of urine also showed some increase, sometimes reaching to 800 and once to 950 c.c. in the twenty-four hours.

Oct. 21, 1905: Dr. Thayer learned from the sister (Case 1) that the patient "has grown rather worse. From time to time she has had definite mental symptoms, being 'flighty.' She feels that she is sick and that her presence in the house makes others sick and she tries at times to get away." At other times she is perfectly well except for "nervousness." There was no statement as to the use of the thyroid tablets.

Case 3.—*White, female, aged 23; nullipara; consanguinity of grandparents and parents; duration four months; marked delusions and hallucinations; thyroid therapy; loss of 3⅞ pounds in two weeks; recovery.*

Patient.—E. T., German; tobacco factory girl of Baltimore, was admitted to the Johns Hopkins Hospital June 26, 1894.

History.—Her paternal grandparents were first cousins. Her father and mother were healthy, but were second cousins. There was a history of tuberculosis in mother's family. There was no history of goiter, myxedema or neurosis in the family. Patient was born in Germany, in the district of Westphalia, but came to America at 16. She did not remember having seen any cases of goiter, etc., in her native village. Except for the diseases of childhood she had always been well and strong. The menses began at her fifteenth year and were regular until after her arrival in America, when she had amenorrhea for three months. They returned and were regular until May, 1891. She came to the Johns Hopkins Hospital Dispensary on June 6, 1891, complaining of pallor, constipation, fulness after eating and loss of weight. Physical examination was practically negative except for slight chlorosis.

She occasionally attended the dispensary during the following year. The general condition improved markedly, though the catamenia did not return. Between April 9, 1892, and June 25, 1894, the patient was lost sight of. When last seen she was a rather delicately formed, well-nourished girl with good color and delicate attractive features. On June 26, 1894, she applied to the hospital for treatment and was admitted. The following additional facts were obtained: On July 15, 1893, she went to the country as chambermaid. While there her general condition improved greatly. The catamenia reappeared for the first time since 1891, and became regular, lasting three days without pain. She returned from the country Oct. 1, 1893, and went to work in a tobacco factory.

Present Illness.—In February or March, 1894, her health began to fail. In April, 1894, her family began to notice that her eyes appeared swollen. She herself observed loss of appetite, dryness of the throat and also a general dryness of the skin, with absence of sweating. The swelling increased and appeared also in the hands and arms. Her friends noticed that her voice became changed, being deeper and harsher, while she spoke in a distinctly slower, more expressionless manner. There was an unnatural thirst. She became very susceptible to cold and wore heavier clothes than formerly. She was very irritable and nervous and her ordinarily placid disposition entirely changed. Her sleep, however, was always good. In fact, there was a certain tendency to drowsiness and she was easily fatigued. The bowels were constipated. There was no cough, but she complained of a heavy feeling in her chest. Several weeks before entry she began to have delusions. She fancied that certain members of her family were going to poison her. She also believed that she was pregnant, and insisted that she felt something moving in her abdomen. She declined to stay at home, and went to the house of a companion, who brought her to the hospital. She had gained slightly in weight.

Physical Examination.—Examination by Dr. Thayer June 26, 1894, revealed a most extraordinary change in her general appearance. There was marked puffy edematous condition of the face, hands and arms, which did not, however, pit on pressure. She had a peculiar muddy complexion. The puffiness was particularly marked about the eyes, the bridge of the nose and chin. There was a fulness over the clavicles, but no marked edema. The hands and arms showed the same puffy appearance, without any pitting. She had an expressionless, dull manner, talked slowly, appeared suspicious and was distinctly irritable. She was reticent about stating her delusions and was unwilling at first to allow a physical examination. The urine was free from albumin. The thyroid gland could not be distinctly felt. A diagnosis of myxedema was made, and she was admitted to the hospital for observation. During the first four days there was little change.

Clinical History.—June 30, 1894: Dr. Thayer noted that the skin, particularly that of face and hands, was rather dry, harsh and resistant. The lips seemed thick. The general expression was dull and heavy, very similar to that in acute nephritis. The cheeks were pink in rather sharp contradistinction to the white areas elsewhere. The hair was dry, but the nails were well formed. The pulse was slow, 50 to the minute, regular and full. The thyroid gland appeared extremely small, being scarcely distinguishable on palpation. The heart, lungs and abdominal viscera seemed normal. The deep reflexes were not increased. There was no edema of the legs. She was placed on desiccated thyroid, gr. iii, t.i.d.

July 1, 2 and 3: The urine showed no albumin and no casts and a normal specific gravity (1020 to 1022).

July 4: There was a trace of albumin, but no casts.

July 5: Blood examination revealed: Hb = 59 per cent.; red blood corpuscles, 3,532,000; white blood corpuscles, 6,000. A differential count of 500 leucocytes gave:

	Per cent.
Polymorphonuclear neutrophiles	77.4
Small mononuclears	17.1
Large mononuclears	4.2
Eosinophiles	1.3

There was no poikilocytosis.

July 9: The condition had changed materially since beginning the thyroid treatment 9 days before. The puffiness about the face had diminished, but scarcely as much as that about the hands and arms, which had disappeared in a most remarkable manner. The mental condition had entirely cleared up and she was then bright and cheerful. Pulse was 104.

July 14: A further change in her condition was noted. While the face was still a little full, the edematous appearance about the eyes was almost entirely gone. The change in the hands and arms was almost more remarkable. The skin was no longer dry, but moist and warm, and she stated that there was a good deal of sweating, She was placid and cheerful. The blood count revealed Hb. 69 per cent.; red blood corpuscles, 6,124,000; white blood corpuscles, 8,500.

She was discharged on the fourteenth day much improved, having taken 270 grains of thyroid extract and having lost 8½ pounds.

The temperature, which was usually normal or slightly above, showed later a tendency to be subnormal. The pulse which formerly ranged between 72 and 86 became more rapid with the thyroid treatment and varied from 80 to 105. She was directed to continue the thyroid extract, but to increase the dose to gr. vii, t.i.d.

Subsequent History.—July 28, 1894: She returned to report herself as feeling perfectly well. The change in her physical condition was most extraordinary. All signs of puffiness were gone, her color was natural, her voice and manner as they used to be.

Sept. 4, 1894: She again reported; she had gained materially in weight, and looked stronger and better. There was no sign of puffiness in the face or hands. She was then taking the glycerin extract, instead of the desiccated powder, every other day.

Dec. 14, 1894: She was not feeling as well, as she had been more irregular in the use of the thyroid extract. The face was a little swollen and the skin dry. There was a tenseness about the skin of both hands and feet, but no swelling of the legs.

At intervals during the subsequent ten years Dr. Thayer saw the patient, who remained free from symptoms as soon as she recognized the absolute necessity of taking small doses of the thyroid gland.

Oct. 20, 1905: The patient reported again at Dr. Thayer's request. She stated that she still took a 5-grain tablet every day. If she omitted it for more than forty-eight hours she felt the bad effects. The general health was excellent. Menstruation was regular. On examination she looked well. There was still a little roundness about the face and a peculiar expression about the eyes due to a little fullness of the lids, but so slight as to be overlooked by the casual observer. Her skin felt natural. There was, however, a striking depression over the thyroid cartilage and no trace of the gland could be felt.

(To be continued.)

PATHOLOGY OF PARALYSIS AGITANS.*

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The subject of the pathology of paralysis agitans is one on which few physicians have definite ideas, and those who have differ widely from each other. It is obvious that so long as the nature of this disease is in controversy and obscurity the treatment must be imperfect, changeable and unfortunately inefficient. Numerous investigations with the idea of clearing up this problem have but added to its complexity by suggesting new hypotheses and unexplored fields for reasearch.

The clinical picture of paralysis agitans is so clear cut and typical, the course of the disease so unchangeable and progressive that it certainly suggests an organic basis. To classify it as a neurosis is begging the question and explains nothing, while it would be distinctly harmful if it hindered further search for the real pathology.

SUMMARY OF LITERATURE.

In order to define the present status of our knowledge of the subject, it will be necessary to review briefly the findings and opinions recorded by numerous observers since Parkinson wrote his classical paper in 1817. For the sake of convenience these findings may be classified according to their location into: 1. Those in the nervous system, the brain, spinal cord and peripheral nerves. 2. Those in the muscles. 3. Those in the ductless glands.

The gross lesions in the central nervous system found by some of the earlier writers which were regarded by them as the cause of paralysis agitans are not now credited with such a relationship. It must be remembered that at that time the difference between multiple sclerosis and paralysis agitans was not well understood; consequently, in the opinion of Wollenberg,[1] one of the cases which Parkinson himself described was probably a case of multiple sclerosis and, according to the same authority, similar cases have been reported by Oppolholzer,[2] Marshall-Hall,[3] Skoda,[4] Lebert[5] and others.

Confusion has arisen, also, from the fact that cases are reported in which paralysis agitans was combined with multiple sclerosis, as in the case reported by Furstner[6] (his second case) and the case of Schultz,[7] in which the diagnosis is questionable, as he only found areas of sclerosis of pinhead size ("Stecknadelkopfgrosse"), but Sanders[8] thinks it should be included in this category. Many of the earlier writers recorded as paralysis agitans cases in which the tremor was symptomatic of some gross lesion of the brain, such as the case reported by v. Leyden[9] of a sarcoma of the left optic thalamus, also those of Charcot,[1] Benedikt,[1] and Blocq and Marinesco,[10] who described cases of tremor caused by tumors situated in the region of the cerebral peduncles. Chvostek[11] reported a case in which clinically there was first paresis, then tremor of the extremities on the left side, and in which anatomically there was a sclerosis of the entire right cornu ammonis. Ordenstein[12] found in one case areas of softening in the cerebral peduncles, but in the two other cases reported by him at the same time the findings were negative. Herterich[13] described a case with very marked contractures in which he found an area of softening in the left cerebral peduncle. Cases have been reported by Virchow,[14] Leubuscher,[8] Berger[7] and others in which areas of softening in the brain were the cause of a tremor. In reporting a case of tumor of the left prefrontal lobe, Mills and Weisenburg[15] say:

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906. This paper was accompanied with a detailed report of fourteen cases, for which The Journal could not give space. The author offers to send a reprint of the complete article, including the case reports, to anyone who requests it and sends a two-cent stamp for postage. The entire article will also appear in the volume of Transactions of the Section on Nervous and Mental Diseases of the American Medical Association, 1906, and in the volume of Contributions of the Laboratory of Neuropathology of the University of Pennsylvania, 1907.

[1] Nothnagel: spec. Path. u. Therap., xii.

[2] Wien. med. Wochschr., 1861, Nos. 36-38. Quoted by Wollenberg, reference 1.

[3] "Traité des Maladies du Systeme Nerveux," 1841.

[4] Wien. med. Halle, 1862, No. 13.

[5] "Handb. d. prakt. Med.," 1871, ii, p. 632.

> There were muscular tremors in the hands and legs much like those seen in paralysis agitans. At first they were on the left side only, but toward the end involved the right side also. They were at first partially under control, and by an effort of will the patient could stop them; later he could not, and they occurred also during sleep.

Though this tremor differed in some respects from the tremor of paralysis agitans, it is difficult to see why, if a symptomatic tremor, it should have begun on the same side as the tumor. There are many instances of gross lesions found in the brain which are simply conditions complicating the paralysis agitans, viz.: Oppolzer[16] found an apoplectic cyst in the occipital lobe accompanied by an ependymitis of the lateral ventricles, especially the posterior horns; v. Sass[17] reported a case in which there was an ependymitis of the fourth ventricle. At present the occurrence of gross lesions in the central nervous system in cases of paralysis agitans is regarded as merely a coincidence.

A critical study of the positive pathologic findings in the central nervous system in cases of paralysis agitans reported by numerous investigators leads to the conclusion that they are simply the changes of senility modified occasionally by intercurrent affections or the senile marasmus that is so often the cause of death in these cases. The lesion regarded as specific for the disease by one observer is expressly denied by many others. In most of the cases the lesions described are diffuse and affect various anatomic elements, nerve fibers, nerve cells, neuroglia, the blood vessels, etc., but there is the greatest diversity of opinion as to which is the most affected, and it is evident that these findings have no constant relation to the disease. Occlusion of the central canal by the overgrowth of the epithelial cells is described by Joffroy,[18] Demange[19] and many others. In the case reported by Murchison and Cayley[20] the central canal was widened and filled with leucocytes. In many cases numerous amyloid bodies were found in the spinal cord. Cases are reported as presenting a partial degeneration of the tracts in the white matter of the spinal cord. Burzio[21] found a light grade of atrophy in many fibers of the crossed pyramidal tracts and of Goll's and Burdach's columns. Dowse[22] found degeneration of only one lateral column. Sanders[8] found "a somewhat diffuse degeneration of nerve fibers in the spinal cord, but especially in the direct and crossed pyramidal tracts." Most investigators expressly deny the existence of any degeneration in the spinal cord, and in the 14 cases studied by me I was unable to detect any degeneration in the Marchi methods of staining.

Many writers have described changes in the neuroglia in paralysis agitans. Schultze speaks of a chronic "leptomeningitis and chronic interstitial myelitis." Murchison and Cayley found thickening of the subpial neuroglia layer with extension of the proliferation into the cord and islets of sclerosis scattered throughout the spinal cord by either the Weigert hematoxylin or the cord, especially in the dorsolumbar region and more in the posterior root entrance zone. Demange,[19] Joffroy[18] and Dubief[23] report similar findings. Koller[16] found practically the same in his case, but questions whether we can draw a line between this proliferation and the neuroglia increase in senility. In paralysis agitans the neuroglia overgrowth, he thinks, was more marked in the lateral and posterior columns, and he considers it to be the primary change, which by interfering with the lymph circulation causes secondary alteration of the nervous elements. Redlich[24] lays great stress on the increase of glia tissue which he found, especially about the blood vessels, forming small islets which had a tendency to become confluent and form larger islets. This perivascular sclerosis occurred chiefly in the anterolateral columns, and the stiffness of the muscles and the tremor, in his opinion, are due to a functional disability ("schwäche") of the nerve fibers. Somewhat similar findings are described by Wollenberg,[1] Borgherini[25] and Sanders,[8] but the last two mentioned found the neuroglia proliferation more marked in the gray matter than in the white. Sanders especially emphasizes this as being a different condition than that found in senility. He found not only a comparatively greater increase in the amount of neuroglia tissue in the anterior horns, but also numerous spindle cells ("spinnenzellen") in both cases of paralysis agitans and cases of senility with a marked tremor. He explains the tremor and also the difficulties in gait by assuming that this glia overgrowth interferes with the connection between the upper and lower motor neuron. As contrasted with these findings, Dana[26] describes a very moderate increase in the connective tissue within the cord and none of the islets of neuroglia described by Redlich.[24]

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6. Arch. f. Psych. u. Nervenkrankh., 1898, xxx.
7. Virchow's Arch., lxviii, 1876, p. 120.
8. Article by Sanders: Monatschr. f. Psych. u. Neurol., 1898.
9. Virchow's Arch., xxix, p. 202, 1864.
10. Ref. in Neurol. Centrbl., 1894.
11. Wien. med. Wochschr., 1871, Nos. 37 to 39.
12. Thèse de Paris, 1868.
13. Herterich Dissert., Würzburg, 1878. Quoted by Keller, reference 16.
14. Virchow: Die krankhaften Geschwülste, xi. Cited by Sanders, reference, 8.
15. The Journal A. M. A., 1906, No. 5.
16. Article by Koller: Virchow's Arch., cxxv, p. 287.
17. Petersburg Wochschr., 1891, Nos. 19-20, abs. in the Neurol. Centrabl., x, p. 756.
18. Gaz. de Hôp., 1871, p. 602.
19. Rev. Méd. de l'Est, 1897.
20. Trans. Path. Soc., Lond., 1871.
21. Riv. spermin di frenatria, 1903, No. 4, 1904, No. 1, abs. in Centrabl. f. allg. Path. u. path. Anat., xvi, p. 700.
22. Trans. Path. Soc., Lond., 1879, xxix, p. 17.
23. Thèse de Paris, 1887.
24. Jahrb. f. Psych., xii, p. 385.
25. Article by Borgherini: Wien. med. Wochschr., 1890.
26. Am. Jour. Med. Sci., November, 1899.

Pathologic changes in the blood vessels of the central nervous system are described by many writers on the subject. They are generally of the arteriosclerotic type, but in some cases are described as peculiar either in character or distribution. Burzio[21] found the blood vessel walls thickened, especially in the neighborhood of the neuroglia overgrowth, and Sanders emphasizes this relation. Sanders found also that the finer capillaries were more affected than the larger, a fact which has been noted by Joffroy,[18] v. Sass[17] and by Murchison and Cayley.[20] The last named and also Ketscher[27] found miliary hemorrhages here and there in the spinal cord. J. R. Hunt[28] found that the blood vessels in the spinal cord were increased in number and there was a universal cellular infiltration about them which, when stained by Erlich's method, proved to consist of escaped leucocytes. Miliary aneurisms were seen in the spinal cord by Borgherini,[25] Ketscher[27] and Sanders.[8] Carrayou[29] found varicosities of the veins in the medulla with small areas of softening in the oculomotor root and pyramidal tracts, and he explains the clinical symptoms of the disease on the ground that these lesions interfere with the passage of the nervous impulses. Redlich[24] speaks of a hyaline degeneration of the blood vessel wall with an especial thickening of the media and a proliferation of tissue about the blood vessel which fills up the perivascular spaces. These changes, he affirms, were much less marked in the medulla oblongata and were not there accompanied by the perivascular sclerosis. Dana[26] could discover no special thickening of the walls of either the veins or arteries in his case. Borgherini[25] found changes in the sympathetic ganglia, degeneration of the cells with an overgrowth of the interstitial tissue.

Philip[30] found degenerated Betz cells in the paracentral lobules. The change consisted in a diffuse staining of the cells and a similar though less marked condition was noted in the motor cells of the anterior horns of the spinal cord. His finding is the only direct pathologic evidence I could discover bearing out the oft repeated assertion (Gowers,[31] Bychowski[32] and others) that paralysis agitans is a disease of the cerebral cortex. Gordinier[33] found changes in the motor cells of the cerebral cortex, but not so marked there as in the spinal cord. The Golgi stain showed the dendritic processes nearly normal.

The condition of the anterior horn cells of the spinal cord has been noted as normal in some of the cases to which reference has already been made (Redlich,[24] Wollenberg[1] and others). In a large number of cases the anterior horn cells were found to contain an excessive amount of yellow pigment (Dubief,[23] Dowse,[22] v. Sass,[17] Hunt,[28] Borgherini,[25] Herterich,[13] Joffroy,[16] Ketscher,[27] Gordinier,[33] Luys[34] (of the medulla oblongata), Sanders[8] and others). Joffroy[35] and Demange[19] describe also a pigmented condition in the cells of the column of Clarke. Gordinier[33] also noted this, but found it less marked than in the anterior horn cells. Distinct degenerative changes in the anterior horn cells are described by Demange,[10] Koller,[16] F. Burzio,[21] Caterina,[36] Hunt,[28] Gordinier[33] and Dana.[28] The changes described as present in these cases differed somewhat, but were generally a chromatolysis, with a loss or displacement of the nucleus of the cell, atrophy of the cell, vacuolation of the cell, tumification of the nucleolus, etc. Dana[26] lays great stress on diminution in number and pathologic changes in the dendritic processes of the spinal motor cells, with a consequent diminution in richness of the dendritic plexus in the anterior horns. He found this lesion most marked in the lower cervical and first dorsal segments (corresponding to the beginning of the tremor in his case), next in the midcervical, then midlumbar, upper sacral and least in the middle and upper dorsal. The brain cortex showed slight degeneration of the cells. It should be remembered that Dana's case was complicated by sarcomatosis, and death was due apparently to exhaustion, and that in such cases a tumor toxin is probably present which produces chromatolytic and degenerative changes in the nerve cells.

No pathologic changes in the cerebellum were noted by Dowse,[22] v. Sass,[17] Borgherini,[25] Redlich,[24] Hunt,[28] Gordinier[33] or Dana,[26] except participation to a moderate extent in a general arteriosclerosis. Hunt[28] and Gordinier[33] found the spinal nerve roots normal. Dana[26] found them greatly congested, and by Borgherini[25] and Redlich[24] they were found slightly degenerated.

A long list could be made of cases in which the pathologic examination of the central nervous system was negative. Thus Koller[16] cites the cases of Peträus,[37] Olliver,[16] Cohn,[38] Charcot,[39] 3 cases; Westphal,[40] Simon,[16] 4 cases; Bauer,[41] 2 cases; Leroux[42] and Weinkowitz.[43] To these may be added the case of Oppenheim,[8] in which he found only a "questionable" staining of the columns of Goll. Furstner[6] mentions specifically that there was no pathologic condition present in the brain or spinal cord of his first case, the blood vessel walls were not thickened and there was no increase of the neuroglia nor changes in the nerve cells. His patient was 61 years of age and had the disease for five years. Schwenn[44] reported a case of a patient who died at the age of 43½ years and was therefore no senile. He says: "I found neither in the brain nor spinal cord any pathologic changes." Idelsohn[45] and Bloeq[46] also report cases in which there was no pathologic change in the central nervous system.

Various changes have been observed in the peripheral nerves. Borgherini[25] found in the vagus, median and external tibial nerves a hyperplasia of the interstitial tissue and increased vascularity. Skoda[4] found thickening of the neurolemma in the nerves of the upper extremities. Joffroy reported a case in which paralysis agitans was combined with a peripheral neuritis, and Follet and Marquis[47] report *Un cas de maladie de Parkinson fruste, peutêtre d'origine polyneuritique.* Their paper is inaccessible to me. Borgherini,[25] Redlich,[24] v. Leyden[7] and Ketscher[27] have noted an increased amount of the interstitial tissue in the nerves, and by the last-named the nerves were also found degenerated. Bloeq,[46] who examined the peripheral nerves, both in the fresh state and after hardening, found nothing abnormal. Dana[26] also found them normal. v. Sass[17] found the perineurium and endoneurium thickened, and they appeared partially degenerated when stained by the method of Pal.

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[27] Prager Ztschr. f. Heilk., December, 1892.
[28] Jour. Nerv. and Ment. Dis., 1896.
[29] Thèse de Paris, 1903. Abs. in Le Sémaine Med., 1903, No. 16.
[30] Deutsch. Ztschr. f. Nervenhlk., 1899. Nos. 5-6.
[31] Allbut's "System of Medicine," ix, p. 73, 1900.
[32] Arch. f. Psych. u. Nervenkrankhl, 1898, p. 722.
[33] Am. Jour. Med. Sci., 1899, p. 648.
[34] Gaz. Med. de Paris, 1880.
[35] Arch. de Physiol., 1872, No. 1.
[36] Riv. di path. nerve. ment., 1899.
[37] Den Fremadskridende Skjoelvelamhed, Hosp. tid. kjobenh., 1861, cited by Koller, reference, 16.
[38] Wien. med. Wochschr., 1860, p. 406.
[39] "Lecons sur le Systeme Nerv.," Paris, 1884.
[40] "Charite-Annalen," 1876, p. 360.
[41] Annalen d. stadt. allg. Krankenh. in Munchen, i, p. 124.
[42] Diss. Paris, 1880.
[43] Diss. Breslau, 1883.
[44] Deutsch Arch. f. klin. Med., 1901, p. 193.
[45] Rev. Neurolog., 1904, p. 394.
[46] Manuel de Med., Debove Archard, 1894. Quoted by Raymond, reference 57.
[47] Bull. Soc. Sci. et Med. de l'Ouest., xi, 104.

ORIGINAL INVESTIGATIONS: THE NERVOUS SYSTEM.

I have had the opportunity of examining the pathologic material from 14 cases of paralysis agitans, in 8 of which I was able to study the peripheral nerves and muscles and in 2 of them also the ductless glands. That 14 cases with necropsy is a very large number will be better appreciated when it is remembered that Gordinier,[33] writing in 1899, could find reported but 54 cases with necropsy in the whole literature of the disease, and of these only 24 had been examined histologically. The largest number of cases with necropsy reported by any single observer is 4. Details of the positive pathologic findings in 14 cases with necropsy, in 12 of which there is also given an abstract of the clinical histories, will be found in the appendix.

The ages of the patients at death, in the cases that I have examined, ranged from 45 to 75 years; the duration of the disease from two to twenty years.

Macroscopic examination of the central nervous system, including trans-sections, revealed lesions in only one case.

The tissues are preserved in formaldehyd solution (10 per cent.), or in Müller's fluid. In making the microscopic examination of the central nervous system pieces of tissue were taken from each paracentral lobule, the pons, the vermis of the cerebellum, the medulla oblongata and from the cervical, thoracic and lumbar regions of the spinal cord. The anterior and posterior spinal nerve roots from the lumbar and cervical regions were examined separately from the cord in 6 cases; the posterior root ganglia, from the lumbar region, in 2 cases; the peripheral nerves were examined in 8 cases. The pieces were dehydrated in alcohol in the usual manner, imbedded in celloidin, and the sections stained as follows: Thionin modification of the Nissl method for study of the nerve cells; the Weigert hematoxylin and the Marchi osmic acid for degeneration; the hemalum-acid fuchsin, and the Mallory neuroglia stains.

A summary of the findings in my cases shows that the most constant lesion was a fibrosis of the capillary blood vessels of the spinal cord, which by rendering them more prominent, caused an apparent increase in their number. The region of the posterior and lateral columns seemed to be the most affected. This lesion was present in eleven cases, in all of which it was an accompaniment of a general sclerosis of the blood vessels of the nervous system. The next most frequent finding was a diffuse overgrowth of the glia in the spinal cord, usually more marked in the posterior columns, in six cases. It was not confined to any system of fibers, and in but one case did it show the tendency to form islets about the blood vessels as described by Redlich.[24] In no case was it demonstrated that the neuroglia proliferation was more marked in the gray matter than in the white matter. The Betz cells of the paracentral lobules were considerably pigmented in many cases, but only in four cases was the pigmentation very marked, and in only two cases were there any distinctly degenerated cells. The motor cells of the anterior horns of the spinal cord were excessively pigmented in six cases; in four cases they showed distinct chromatolytic changes in some of the cells, but the loss of the dendritic processes, with a consequent lessening of the richness of the dentritic plexus, as described by Dana, was not observed. Recent hemorrhages into the anterior horns of the spinal cord were observed in two cases; they were probably agonal. The perivascular spaces were widened in four cases, and in five cases numerous amyloid bodies were seen in the spinal cord, especially in the posterior columns. The central canal was closed in eight cases, dilated in one case, double in one case, but probably these are to be regarded as normal conditions. The cerebellum, pons and medulla oblongata were practically normal in all the cases in which they were examined; a moderate sclerosis of the blood vessels and a slight subpial proliferation of the neuroglia not being considered pathologic when found in aged persons. In one case there was a round cell infiltration of the pia. The anterior and posterior spinal nerve roots in the cervical and lumbar regions were found congested in two cases, but not in any case degenerated. There was no degeneration of the nerve fibers of the cord in any case, but the neuroglia proliferation, in six cases, gave the posterior columns the appearance of staining lighter than the rest of the cord by the Weigert hematoxylin stain. The peripheral nerves were examined in eight cases; in two they appeared degenerated when stained by the Weigert hematoxylin stain; in two others there was a swelling of the myelin sheaths, accompanied in one case with swelling of the axis cylinders. The intramuscular nerves, even those within the muscle spindles, stained well with the Weigert hematoxylin stain. The nerves showed no degeneration when stained by the Marchi method.

DISCUSSION OF THEORIES OF THE NERVOUS ORIGIN OF THE DISEASE.

Many theories have been advanced as to the nature and location of a lesion in the central nervous system in paralysis agitans. Some have been purely hypothetical and based entirely on the clinical symptoms, others on the findings in the few cases examined by their authors. Gowers[31] expresses his view thus:

> Paralysis agitans must be regarded as a chronic senile change in the nutrition of the terminations of the branching processes of the dendrites of the motor nerve cells of the cortex causing constant liberation of nerve energy to be increased, and also causing a change in the form, uniformity gives place to rhythmical liberation.

Bychowski[32] and others hold similar views. The arguments advanced in support of this are: 1. A hemiplegic distribution of the tremor speaks for a cortical origin. Numerous cases have been reported in which the symptoms involved both arms or both legs, or in other words, were paraplegic. By Hart (l. c.) they were found to be as frequently paraplegic as hemiplegic. 2. The tremor ceases during sleep, i. e., when the function of the hemisphere is least active, but in cases in which tremor is known to be due to cortical involvement (case of Mills and Weisenburg, l. c.) the tremor does not disappear during sleep. 3. When a case of paralysis agitans in which all four extremities are affected develops a hemiplegia, the tremor disappears on the paralyzed side. Such cases are said to have been observed by Gowers,[31] Westphal[40] and Grashay.[48] This, if invariably true, proves that the nervous impulses which by their perversion cause the symptom originate in the cerebral cortex, but it does not prove where the perversion of impulse in this disease takes place. Whether in origin, transmission or in their reception ultimately by the muscle, the result of a complete cessation of the impulse would be the same. Hart reports a case in which the tremor did not stop on

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48. Berlin klin. Wochschr., No. 30, 1885, p. 487.

the paralyzed side after a hemiplegia and was apparently unaffected by it.

Bychowski[32] adds the following reasons: 4. The not uncommon combination of insanity, hysteria or brain disease with paralysis agitans. Most authors regard this combination as decidedly uncommon. 5. The parasthesiæ and subjective sensations of heat and cold. These are generally considered as accompanying peripheral rather than cortical conditions. 6. The constant failure of any change in the sphincter reflexes. This is of some importance as differentiating a spinal from a cortical origin, but would have no bearing if the lesion is outside the nervous system. 7. The increased knee jerks. The knee jerks in paralysis agitans are too variable to be used as an argument on which to base a pathology of the disease.

Cuylits[49] considers the tremor of paralysis agitans as cortical in origin, and holds that the lesion consists of retraction of the dendritic processes of the cells and draws analogies to tremor seen in paresis, alcoholism, etc. There is no pathologic evidence to support the theory of a cortical origin for the disease except the findings of Philip.[30] Brissaud[50] believes that a lesion of the locus niger is the cause of the disease. Tremors are produced by lesions in this region, but they are different from that of paralysis agitans and are not accompanied by the other symptoms of the disease. Valery[51] considers that paralysis agitans is a syndrome due to a lesion in the mesencephalon, the syndrome being more or less complete, according to the extent of the lesion. However, lesions of the mesencephalon are not found at necropsy.

Ballet[52] and also Dana,[26] from pathologic evidence furnished by their own cases, place the chief lesion in the motor cells in the anterior horns of the spinal cord. Ballet,[51] as a breaking of the processes, particularly the dendritic processes. Dana[26] holds that:

> There is early functional disturbance and later a degeneration and destruction of the dendrites of the anterior horn cells which interferes with the even flow of motor impulses, and finally leads to motor weakness and rigidity, owing to the cell being practically cut off from the brain.

From a pathologic standpoint this theory is not confirmed by any other observer, although especially looked for in my cases. Clinically, it would seem that a tremor due to such a lesion, "which interferes with the even flow of motor impulses," would be rather of the intention type, and unlike that of paralysis agitans which momentarily disappears on voluntary movement.

Redlich[24] believes that the overgrowth of the neuroglia in islets about the blood vessels in the lateral and posterior columns of the spinal cord accounts for the tremor and rigidity on the grounds of a functional weakening of the nerve fibers in their vicinity, thus producing a special type of dorsolateral sclerosis. The rigidity of paralysis agitans, however, is very different from the spasticity due to lesion of the lateral column, and the pathologic findings of Redlich are not confirmed; indeed, are expressly denied by other observers (Dana[26]). I found a diffuse overgrowth of the neuroglia in the lateral and posterior columns in a number of cases, but not in the form of islets about the blood vessels except in one case.

Gordinier[33] explains the tremor and rigidity as follows:

> The characteristic symptoms of this disease are due to one and the same cause, namely, an irritation from the presence of an increased amount of neuroglia in the posterior columns producing an excitability of the reflex collaterals of the posterior nerve roots arborizing about the ventral cornual cells which results in an increase in the normal rhythmic discharges of energy from those cells, producing at first the tremor and later the rigidity.

Gordinier's case, the pathology of which is the basis of his hypothesis as to the causation of tremor and rigidity, was "a typical case without tremor."

Sander[8] thinks that the overgrowth of glia in the anterior horns by interfering with the connection between the upper and lower motor neuron, is the cause of the tremor and the difficulties in gait. He examined the central nervous system from cases of senility with and without tremor and also paralysis agitans; in the cases of paralysis agitans and in those seniles in whom tremor had been marked, he found a special predilection of the glia proliferation for the gray matter. This theory of Sander[8] takes no account of the clinical difference between paralysis agitans and senile tremor, and his pathologic findings lack confirmation.

From the above summary it will be seen how diverse and contradictory are the pathologic findings in the central nervous system in paralysis agitans, but the explanation for this is simple. Paralysis agitans is a disease that in almost every case begins late in life and is not rapidly fatal. There are changes which occur in the central nervous system, as they do in other parts of the body with the advance of years, changes that are well known, though perhaps not well understood, and which consist, to state it in a few words, of a gradual replacement of the parenchymatous structure by the connective tissue of the part, in the nervous system by the neuroglia. This change is modified, advanced or retarded, to an extent, by the mode of life, heredity, disease, etc. Arteriosclerosis is usually found at this period of life, and also the incidence of wasting diseases and malignant new growths, which, by their toxic influence, are known to produce degenerative changes in the central nervous system. These changes, the changes of senility variously modified by the other factors of which I have spoken, are the most constant findings in the central nervous system in paralysis agitans.

Many men (Wollenberg,[1] Campbell,[53] Nonne[54] and others) have found changes similar to those found in paralysis agitans, in the spinal cords of seniles who during life had shown none of the symptoms of that disease. To reconcile this similarity in the findings with such distinct clinical differences, it has been held that the lesions in paralysis agitans are of precocious onset and exaggerated intensity; such a view is held by Dubief,[23] Jacobsohn,[55] Borgherini[25] and Ketscher.[27] Against this, however, are the findings of Furstner,[6] who found no marked senile changes, Idelsohn,[45] and Schwenn,[44] whose patient died at 43½ years, and was therefore not a senile.

That paralysis agitans is but senility, even though a precocious or special form of senility, I believe, with Dana,[26] "is contrary to all clinical experience." The lesions of senility found in the central nervous system in many cases are but natural when we consider the age of the patient at necropsy, and the same lesions are found in many seniles not the subject of the disease; while in those patients who die at an earlier age these changes are not found. Therefore, from a pathologic standpoint also, paralysis agitans and senility must be regarded as two different conditions.

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[49] Présse Méd. Belge, Brussels, 1897, xlix, p. 121-124.

[50] Jour. de Méd. et de Chir. Pratique, 1894, p. 641.

[51] Thèse de Paris, 1904, Abs. Rev. Neurol., 1905.

[52] Bull. et Mem. Soc. Med. de Hôp. de Paris, 1898, xv, pp. 40 to 43.

[53] Jour. Ment. Sci., Oct., 1894.

[54] Deutsch. Ztschr. f. Nervenheilk., xiv, p. 193, 1899.

[55] Berlin klin. Wochschr., No. 34, 1886.

THE CHANGES IN THE MUSCLES.

Oppenheim[56] gives as the characteristic symptoms of this disease: tremor, muscular rigidity, which produces a peculiar position of the head, trunk and extremities, retardation and difficulty in active movements and a peculiar modification in gait. The last two are the result of the former, so that really we have two, muscular rigidity and tremor. According to the same author, even the subjective symptoms are due to the muscular rigidity and limitation of active motility. Cases have been reported without tremor, so that it would seem that the muscular rigidity and its peculiar manifestations is the one absolutely characteristic symptom. This rigidity is very different from spasticity, it is not under the influence of the will, is not increased by passive movement, nor is it affected by the mental state of the patient, and it is constantly, gradually progressive, all of which speaks for a muscular affection. Blocq[46] was probably (so quoted by Redlich[24] and by Raymond[57]) the first to formulate the theory of a myopathy as the anatomic basis of the rigidity. He found distinct anomalies in the muscles; irregular atrophy and hypertrophy of the fibers, and proliferation of the sarcolemma nuclei. Joffroy[35] had already noted similar changes in the muscles, and Borgherini[25] had observed "that in the muscle the connective tissue was increased, the muscle fibers were all somewhat delicate and some were intensely atrophied, showing vacuoles and increase in the number of sarcolemma nuclei." Burzio,[21] Redlich,[24] Pierret and Vessele,[58] Wollenberg,[1] v. Sass[17] and others found similar changes in the muscles, and by Skoda,[4] E. Leyden[59] and Ketscher[27] these changes were found combined with a fatty degeneration of the muscles. Dana[26] found a fatty degeneration of the muscle which he decided could not be due to neuritis, for the nerve supplying that muscle was normal. In Gordinier's[33] case the muscle was apparently not examined, as he makes no mention of it, and this unfortunately is true in many of the cases reported with necropsy.

Schwenn[44] described changes in the muscles in his cases similar to those previously described, but called attention to the fact that the changes were not the same in all parts of the muscle, but were at various places at various levels. He comes to the conclusion, on the ground of his own investigation, that the basic anatomic change in paralysis agitans is a severe progressive disease of the muscle which gradually involves the whole musculature. He calls attention to the fact that evident changes are found in the muscles during life, and cites Blocq[46] and Borgherini[25] as having found changes in the electric irritability of the muscles. Mendelsohn[60] observed an increase in the latent period in the diseased muscles. Schwenn[44] also noted the resemblance to myotonia congenita, "in which many specific changes in the muscles are found," and also that the most common etiologic factors affect the muscles, trauma, strain, excessive use, etc. Schiefferdecker[61] by his very careful pathologic studies, in which comparisons were made with normal control tissue and all the factors of postmortem rigidity, method of hardening, etc., were taken into account, concludes that

> Both myotonia congenita and paralysis agitans are diseases of the sarcoplasm and fibrillæ of the muscles. In paralysis agitans, however, there is also a disease of the muscle fibers in the muscle spindles, although the nerve fibers both within and without the muscle spindles are normal.

Idelsohn[45] describes his findings in the muscles as similar to those of Schiefferdecker,[61] increase in the number of sarcolemma nuclei, hyaline degeneration, swelling of the fibers with vacuolation, etc., and concludes that the anatomic lesion of Parkinson's disease is in the muscles.

I was enabled to examine muscular tissue from 8 of the 14 cases with necrospy; in one other case a piece of muscle was removed from the forearm of a patient in the service of Dr. W. G. Spiller at the Polyclinic Hospital. The patient (E. W.) was 62 years old and had had paralysis agitans about three years. The symptoms of the disease were typical, but otherwise the patient was in good health, and the muscle was removed by me for the purpose of this examination only. I know of but two instances in the literature in which muscular tissue has been removed from the living patient for this purpose: DeBuck and DeMoor,[62] quoted by Raymond,[57] and Sanna Salaris,[63] "Note di istologia patologica (per biopsia) sulla fibra musculare striata nel morbo di Parkinson." The original of these papers in each instance is inaccessible to me. In all I have examined the muscles from 9 cases of the disease and pathologic changes were present in every case.

A summary of the condition of the muscles is as follows:

Many of the muscle fibers were swollen, and in cross-section were round instead of having the normal polygonal shape. There was a marked increase in the number of nuclei within the fibers, many of which were smaller, denser and rounder than the normal. These nuclei were frequently in pairs or in long chains. In several cases the fibers showed atrophic changes, and in these cases, usually of long-standing disease, there was an overgrowth of the connective tissue. In many cases the fibers had a hyaloid appearance and the longitudinal striations were unusually well marked, and in many of the fibers there was a tendency to longitudinal cleavage. In one case trichina spiralis was found in the muscle and in this case, in addition to the above described changes there was an intense interstitial myositis and also a discoidal degeneration of the muscle fibers. Muscle spindles were hard to find in the sections from any of the cases, but in those examined the muscle fibers within them showed similar changes to those surrounding them. The nerve fiber within the spindle was normal, and the intramuscular nerves showed no degeneration when stained with the Weigert hematoxylin stain. These pathologic changes were not of the same intensity in all the muscles nor in different parts of the same muscle.

My findings in the muscle agree generally with those of Schwenn,[44] Schiefferdecker,[61] and Idelsohn,[45] and indicate a definite and probably a specific change in the muscles in paralysis agitans, though the latter can not be regarded as proven. Schiefferdecker[61] regards the lesions as different from those due to overactivity of the muscle. v. Sass[17] examined the muscle of a normal individual 93 years old as a control, and

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56. "Lehrbuch der Nervenkrankheiten," 4th ed., Berlin, 1905, II, p. 1313.
57. Article by Raymond: Nouv. Icon. de la Salpêtrière, January, 1904.
58. Thèse de Lyon, 1881. Quoted by Raymond, reference 57.
59. Arch. f. Psych. u. Nervenkrankh., vi, 1876, p. 293.
60. Arch. de Phys., 1880, p. 218.
61. Deutsch. Ztschr. f. Nervenheilk., 1904, xxv, No. 1-4.
62. Annals de l'Soc. Med. de Gand, June, 1899. Quoted by Raymond, reference 57.
63. Riv. di Patol. nerv. e. Ment., August, 1895, p. 383.

found decided differences between it and the muscle in paralysis agitans. In paralysis agitans the fibers were filled with nuclei, and the small, round, dark-stained nuclei were particularly increased. In the muscle of old age there was an increased number of spindle-shaped and large oval nuclei, but the small dark nuclei were absent.

In a case of paraplegia due to peripheral obliterating arteritis in which I examined the muscles of the legs, I found differences from those in paralysis agitans in the increase of interstitial tissue and in the predominance of the rod-shaped nuclei over the small round nuclei. The fatty degeneration of the muscle fibers found by Skoda,[4] Dana[26] and Ketscher[27] was found by the last named also in several patients with arteriosclerosis. I found it present in a case of triplegia following hemiplegia reported by Dr. Charles W. Burr and myself before the American Neurological Association, June, 1906, and in this case it was regarded as due to the lack of nutrition to the muscles from shutting off of the blood supply by an intense peripheral arteriosclerosis. There is not enough known of the pathology of the muscles to say that these changes described are specific in paralysis agitans, but they are co-existent and probably co-extensive with the symptoms rigidity and tremor, though it can not be definitely proven that they are the cause of these symptoms. By some, the changes are regarded as caused by the tremor; the constant contraction of the muscle. But in studying the pathology of disease of other organs of the body we usually attribute the functional changes observed to the lesion that is found if that lesion is adequate to explain the symptoms.

Can we explain the symptoms of the disease by the anatomic findings in the muscles? The onset of the disease is usually gradual, with a gradual progression from muscle to muscle and from part to part, though it follows no regular course, sometimes being hemiplegic, sometimes paraplegic. In this it resembles the rheumatic joint affections more than any other disease, and indeed it has been supposed to be due to similar toxin. Occasionally the onset of the tremor is sudden, but this is explained on the theory of a muscular affection in the same way that a sudden onset is explained by those who hold the opinion that the disease is due to overgrowth of the neuroglia in the cord, etc., and that is that the prodromal symptoms had gone unnoticed. The most characteristic symptom of the disease is the muscular rigidity, and on this symptom most of the other symptoms depend. In the course of the disease it gradually increases and extends in limits so as finally to involve all the muscles in the body except the unstriated. It is not spasticity; the resistance is the same whether the limb be moved quickly or slowly. It has something of the complete loss of life or elasticity that is felt when a lead pipe is bent. I have found a quantitative change in the irritability of the muscle to the Faradic current in several cases in which the disease was of long duration. "The electric irritability is little affected except toward the end, when there is a quantitative change" (Wollenberg). This, however, is no argument against a local affection of the muscles, as in the muscular dystrophies the electric irritability is equally little affected. The tendon reflexes are usually normal in both diseases, unless the muscles concerned in the reflex become implicated, and the cases in which they are exaggerated in paralysis agitans really prove nothing, since seniles without symptoms of paralysis agitans often show increased knee jerks. All the clinical evidence points to the rigidity as being due wholly to an affection of the muscles. Actual paralysis is very rare in paralysis agitans, and when it occurs is usually limited to one muscle, as in the case reported by Moncorge[64] of complete paralysis of the right serratus magnus.

Schiefferdecker[61] and others suggest that the pathologic change in the muscle spindles is the anatomic basis of the tremor. It is a very important point that the changes in the muscles in paralysis agitans differ from those found in myotonia congenita only in an involvement of the muscle spindles in the former and not in the latter. Sherrington[65] says that the muscle spindles are undoubtedly sensory end organs, and Schiefferdecker[61] quotes Baum[66] as stating that they are organs of muscle sense. Langerhans[67] comes to the conclusion that they are organs of muscle sense, and that they cause or regulate the muscle tone. As it is generally admitted that the tremor in paralysis agitans is due to a pathologic condition which affects the neuromuscular mechanism that maintains muscle tone, the lesion of the muscle spindles affords a reasonable explanation of the tremor. Another important point tending to prove that there is a relation between the tremor and the lesion of the muscle spindle, and one that I have not seen noted elsewhere, is that the tremor almost always begins in the muscle where the muscle spindles are most abundant, and does not affect those muscles which contain no muscle spindles. Both Millbacher[68] and Frankel[69] found the muscle spindles to be most abundant in the muscles that move the thumb. Batten[70] found them most abundant in the small muscles of the hand and in the biceps. They were not able to find any in the diaphragm or in the masseter muscles. Siemerling,[71] in a case of gumma of the base of the brain, described a rather doubtful muscle spindle in the inferior rectus muscle in one eye, but neither Millbacher, Frankel, Batten nor Sherrington could find any spindles in the ocular muscles, though Sherrington found tendon organs there. William Hirsch,[72] writing on paralysis agitans in Posey and Spiller's "The Eye and the Nervous System, Their Diagnostic Relations," says:

> To the tremor would apparently correspond nystagmus, but this symptom has never been observed in paralysis agitans. This fact furnishes another proof for the assumption that nystagmus is produced by some central lesion and not by a disturbance in the general muscular tonus, because if the latter view were correct we would be bound to observe the symptom at least occasionally in paralysis agitans.

Inferentially, therefore, the tremor in paralysis agitans is due to a disturbance of muscular tonus, which is not operative in the ocular muscles, and the only apparent reason why it should not do so is because of the absence of muscle spindles. M. Koenig,[73] Debove[74] and Galezowski,[75] writing on the visual or ocular symptoms of paralysis agitans, describe rigidity of the ocular muscles and difficulties in movement due to this rigidity, but do not describe any thing that corresponds to the typical tremor as it occurs in the extremities. Batten[70] states that he could find no muscle spindles in the intrinsic

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64. Lyon Med., No. 6, 1891.
65. Jour. of Physiol., 1894, xvii, p. 237.
66. Anat. Heft, 1900.
67. Virchow's Arch., 1897, cxlix, No. 1.
68. Deutsch. Arch. f. klin. Med., 1882, xxx, p. 304.
69. Virchow's Arch., 1878, lxxiii, p. 380.
70. "Brain," 1897.
71. Arch. f. Psych., 1888, xix, p. 401.
72. "The Eye and the Nervous System; Their Diagnostic Relations." Philadelphia, 1906, p. 477.
73. Bull. Med. 1893, p. 508.
74. Progrès Méd., 1878, No. 7.
75. Rec. d. Ophthal., February, 1891, p. 72; also Bull. Med., 1891.

muscles of the tongue. Forster[76] found them in the hinder part of the tongue, which muscles, when the two sides act in unison, protrude the tongue and draw it back. The usual tremor of the tongue in paralysis agitans on protrusion is a piston-like forward and backward movement, and thus here again the peculiar distribution of the muscle spindles bears an apparent relation to the muscles affected by the tremor. The tremor of paralysis agitans has certain peculiarities that are easily explained on the ground that it is due to an affection of the muscle spindles, and in much the same way as they are explained by those who hold that the lesions in the cord are responsible for the tremor. In either case it is admitted that the tremor is due to interference or a change in the impulses that maintain or regulate muscle tone, so that the tremor stops when the muscles are relaxed in sleep; or when a hemiplegia stops them completely on the paralyzed side; or when the impulse for a voluntary act supersedes, momentarily, the regular reflex.

Many of the symptoms of paralysis agitans are easily recognized as due to the muscular tremor and the muscular rigidity, such as the peculiarities in gait, the position, the facies, the ocular symptoms, etc. Other symptoms that are not so obviously due to the two primary symptoms are seen to be so on a careful analysis, thus Catola[77] comes to the conclusion that the salivation is due first, to tremor of the lips, cheeks and tongue; second, to rigidity of the same organs and of the muscles of the pharynx, with more or less complete interference with the movements of deglutition. The recumbent position of the patient permits the saliva to descend to the posterior part of the pharynx and so stimulates the reflex for deglutition. Other conditions often arise in paralysis agitans which are by some regarded as symptoms, but which might more reasonably be looked on as complications. M. A. Soques[78] has recently called attention to the syndrome of labioglossolaryngeal palsy occurring as a symptom of paralysis agitans, and quotes Bruns[78] as having found it in 4 cases in 74. There are not the characteristics of a true bulbar palsy, but rather a pseudo-bulbar palsy. Dejerine, in a discussion of this paper, considers the syndrome as a complication and called attention to the fact that many patients with paralysis agitans also have arteriosclerosis and are in a condition favorable for the production of a pseudo-bulbar palsy. The paresthesiæ, the sensations of heat and cold might well be considered as complications due to the age of the patient rather than symptoms of the disease. In an analysis of 219 cases, Hart[79] found sensations of heat in only 31, sensations of cold in 20, and both kinds in 20. Sensations of heat and cold are not at all uncommon in many people of advanced age.

It may be that the same factor which produced the changes in the muscles also makes itself felt in other ways, in producing a thickening or a loss of elasticity in the skin, for instance. Frankel,[80] in calling attention to the loss of elasticity of the skin in paralysis agitans, says "that perhaps the muscle fibers are altered by the same influence." A. M. Luzzato[81] found that in a case of paralysis agitans combined with a scleroderma, both were improved for a time by the administration of arsenic. A histologic examination threw no light on the pathogenesis of the condition, but he concludes that it was a double expression of one morbid state.

THE PATHOGENESIS OF THE DISEASE.

Two general hypotheses may be considered as to the underlying cause of the changes in the muscles: First, there may be a primary degeneration of the muscles themselves, an abiotrophy, affecting the muscles analogous to that in the muscular dystrophies. Beginning in a muscle frequently after some slight local exciting cause, it gradually progresses from part to part. It may well be that people are born with muscles which lose their elasticity more quickly than the muscle of other people, either by use or through other causes that we know little about. The property of elasticity of a muscle has been shown experimentally to be lost by overextension and is subject to various influences.

A second hypothesis is that there is a toxin circulating in the body which causes these changes in the muscles. The idea of a toxin as the underlying pathogeny of the disease has been widely held. Dana[26] says:

> Perhaps the primary infection in paralysis agitans is some autochthonous poison allied to that of rheumatism; at any rate there is no other preceding history that is so often obtainable as that of rheumatism, and there are many facts in the clinical history of the disease which suggest a relationship between paralysis agitans and that form of rheumatic manifestation which is known as rheumatoid arthritis.

Spiller[82] has called attention to the points of resemblance between paralysis agitans and rheumatoid arthritis.

The examination of the excretion in paralysis agitans has produced some results of interest. Gauthier[83] found an increase of phosphoric acid in the urine in cases of paralysis agitans which suggested to him that the muscular changes may be due to an excess of the same in the muscles. His conclusions were that

> The symptoms are due exclusively to the changes in the muscular system and derived from the muscular rigidity. This rigidity, the most important phenomenon of the disease, is produced in the muscles without the intervention of the nervous system and is due to an excess of phosphates.

Cheron[84] had called attention in 1877 to the increased amount of phosphates in the urine, but by him they were considered as affecting the central nervous system, and so producing the symptoms of the disease. G. Gurtler,[85] C. A. Ewald,[86] Giovanni Setti[87] and Decombrel[25] found no increase of phosphates in the urine. Researches in the contents of the urinary excretion in paralysis agitans have also been carried out by Mosse and Bauel,[88] who found an increase of the completely oxidized phosphates, but a corresponding diminution in the incompletely oxidized; and by J. Leva[89] and R. Bandeio,[90] who found it negative.

In poisoning by phosphorus (Siemerling,[91] also Langerhans[67]), the muscle fibers within the muscle spindles are affected, as well as those outside, which is similar to the effect produced in paralysis agitans. It may be well here to call attention to the remarkable immunity enjoyed by the muscle spindle in various

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76. Virchow's Archiv., cxxxvii, p. 121, 1894.
77. Rev. Neur., 1905, xiii, p. 138.
78. Article by Soques, M. A.: Rev. Neurol., 1905, xiii, p. 135.
79. Jour. of Nerv. and Ment. Dis., 1904, v, No. 31, p. 177.
80. Deutsch. Ztschr. f. Nervenheilk., 1899, p. 430.
81. Il Morgagni, 1904, p. 753, abs. in Rev. Neurol., 1905.
82. Univ. Penn. Med. Bull., May, 1904.
83. Lyon Med., 1888, No. 35-36.
84. Le Progrès Méd., 1887, No. 48.
85. Arch. f. Psych., xiv, 1888.
86. Berlin. klin. Wochschr., 1883, No. 32-33.
87. Arch. Ital. di clin. Med., xxxvi, p. 262. Quoted by Schwenn, reference 44.
88. Rev. de Med., July, 1889, p. 583.
89. Deutsch. Ztschr. f. Nervenheilk., 1892, ii, No. 1, p. 75.
90. Gaz. hebd. de Sci. Med., de Bord., 1905, xxvi, 291-293.
91. "Charite Annalen," 1889, p. 443.

nervous affections, even when the muscle itself is severely atrophied or even in primary muscle affections, such as the muscular dystrophies. Roth[92] found them normal in a case of alcoholism, a case of progressive muscular atrophy, and in a woman who died of inanition consequent on a pyloric stenosis. Siemerling,[93] in a case of spinal neuritic muscular atrophy, in which he found an intense atrophy of the muscles and a complete degeneration of the intramuscular nerves, found the muscle spindle "entirely unchanged." Blocq and Marinesco[94] found them present in cases of poliomyelitis and polyneuritis when there was total degeneration of all the other muscle fibers. Spiller[95] found them normal in a case of intense progressive muscular dystrophy with contractures, in which there was no other normal muscular tissue. Grünbaum,[96] in a case of pseudo-muscular hypertrophy, with great changes in the muscles, found that both muscles fibers and the nerve within the spindles were normal. V. Horsley[96] found the muscle spindles merely shrunken after division of the nerve in dogs. This immunity of the muscle spindle in degeneration of the muscle consequent on nervous lesions and in the ordinary muscular dystrophies is in marked contrast to the decided effect produced by toxic substances, but there is not sufficient evidence, and what there is is too contradictory to uphold the opinion of Gauthier that the degeneration of the muscles and muscle spindles in paralysis agitans is due to phosphoric acid or one of its compounds. The idea that it is due to some toxic substance, however, receives confirmation.

Under the head of circulating toxic substances may be classed defective or changed internal secretions. Fibrous changes in the ovaries or testicles are regularly found at necropsy in cases of paralysis agitans, but they show no differences from the changes of senility, which in all probability they are. The extirpation of the testicles or ovaries produces no symptoms in any way similar to paralysis agitans, and the injection of such substances as Brown-Séquard extract, on purely empirical grounds it would seem is, so far as I know, of no benefit in this disease. Moebius,[97] in 1883 (quoted by Raymond[57]) reported a case of paralysis agitans combined with Basedow's disease and opined that paralysis agitans was due to an alteration in some glandular secretion. Lundborg[98] reported a case of paralysis agitans combined with myxedematous symptoms, and at necropsy found atrophy and cystic changes in the thyroid, which led him to believe that the thyroid gland plays an important part in paralysis agitans. Langerhans[67] found that in cretins there was a fatty degeneration of all the muscles except the tongue, cricothyroid, thyrohyoid, and rectus abdominus muscles which was similar to the general fatty degeneration of the muscles seen in phosphorus poisoning and in which the muscles fibers in the muscles spindles also took part. Askanazy,[99] in a pathologic study of Basedow's disease with special reference to the muscle changes in the disease, found that the muscles fibers were atrophied and had undergone a fatty metamorphosis, the striations were lost and the fibers appeared homogeneous, there was vacuolation of the muscle fibers and proliferation and degenerative changes in the sarcolemma nuclei. The muscles fibers in the muscle spindles showed the same changes as those about them. He noted a marked tremor of the hands in his case. Castelvi[100] reported pathologic alterations of the thyroid in two cases of paralysis agitans. There are several facts against any change in the internal secretion of the thyroid gland operating as the cause of paralysis agitans. The symptoms which accompany marked disease or even total destruction of the gland are not similar to those of paralysis agitans; Alquier[101] has examined the thyroid and adrenal glands from cases of paralysis agitans and found not the slightest alteration. In the two cases in which I had examined the thyroid glands there was a simple colloid degeneration in each case, not accompanied by gross enlargement of the gland, and probably a senile change. Thyroid therapy has generally been barren of results.

The numerous cases reported of a combination of paralysis agitans with symptoms of myxedema or Graves' disease and the fact that the muscle changes observed by Askanazy[99] are similar to those in paralysis agitans lead to the conclusion that there is some intimate relation in their causes and as a logical result to an investigation of the parathyroid glands. The parathyroid glands have gradually assumed a position of great importance in pathology since their discovery by Sandstrom. They were at first supposed to be accessory or embryonic thyroids. Welch (cited by Richardson[102]) considers that anatomically the parathyroid glands resemble the anterior lobe of the pituitary body, and that unlike the thyroid the presence of a colloid material in the gland is retrograde or degenerative in its nature. Richardson[102] quotes Gley, an early investigator of the subject, as holding the opinion, supported by physiologic experiments, that the parathyroids are glands *sui generis* and have a specific function related to that of the thyroids. That the removal of the thyroids in one case and the parathyroids in another produces very different results is also proven. In a personal communication Dr. W. S. Carter, now of the University of Texas, Galveston, from his experiments performed on dogs while at the University of Pennsylvania, concludes that "the parathyroids are more important than the thyroids, that the acute nervous symptoms in dogs which follow total extirpation of both thyroids and all four parathyroids are due to the removal of the latter bodies and not to the former. Total parathyroidectomy without thyroidectomy produces tetany and death just as certainly as the total extirpation of both sets of bodies. On the other hand, extirpation of the two thyroids, leaving one or two external parathyroids with the circulation intact may cause transitory symptoms from the accidental injury to the parathyroids at the time of operation, but I have had such animals live for months in perfect health. The subsequent removal of the remaining one or two external parathyroids would then produce the characteristic tetany and death within a few days." These results are in accord with those obtained by other investigators.

Richardson[102] gives the acute symptoms in a parathyroidectomized dog as tremor, rigidity, convulsions, dyspnea, and death. With due allowance for the sudden onset and complete removal of the gland in these experiments compared to the more gradual destruction of the gland by a pathologic process, from all the descriptions given, the symptoms presented by a parathyroidectomized animal are very similar to those of paralysis agitans. In the picture of a monkey in this tetanic condition (v. Eiselsberg reproduced by Richardson[102]) there are seen many resemblances to the characteristic position of a patient with paralysis agitans: the head and back bent forward, the joints of the extremities in flexion, the general appearance of rigidity and even the ulnar deviation of the hands. So far as I know, Lundborg[103] in 1904 was the first to call attention to the resemblance between the symptoms of paralysis agitans and the effects of parathyroidectomy in animals, and he arrived at the conclusions that "paralysis agitans is probably a chronic, progressive hypoparathyroidismus." Berkley[104] also noted this similarity in symptoms and reports eleven cases of paralysis agitans treated with parathyroid extract, nine were benefited and he refers to one very early patient who considered himself cured. These results of Berkley assume more importance in throwing light on the pathogenesis of the disease when we recollect the uniformly discouraging results of treatment with the other glandular extracts. Neither Lundborg or Berkley had any pathologic evidence to support their conclusions.

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[92] Centralbl. f. die med. Wissensch., 1887, p. 129.
[93] Arch. f. Psych. u. Nervenkrankh., xxxi, No. 1-2, p. 105.
[94] Soc. de Biol., 1890, p. 398. Quoted by Batten, reference 70.
[95] Jour. Nerv. and Ment. Dis., October, 1897.
[96] Brain, Autumn, 1897.
[97] Memorabilien, 1883. Quoted by Raymond, reference 57.
[98] Deutsch. Ztschr. f. Nervenheilk., 1901, xix, p. 268.
[99] Deutsch. Arch. f. klin. Med., 1898, lxi, p. 118.

[100] Riv. de Med. y P Cirugia practicas, Madrid, 1903; abs. in Rev. Neurol., 1904, p. 141.
[101] Thèse de Paris, 1903; Rev. Neurol., 1904, p. 438.
[102] "The Thyroid and Parathyroid Glands," Philadelphia, 1905.

I was able to examine the parathyroid glands from two of my cases, and in the opinion of Dr. Allen J. Smith, professor of pathology at the University of Pennsylvania, they were both in a distinctly pathologic condition. In one there was some colloid material which, according to Welch, indicates a degenerative condition, but in both these cases there was a peculiar infiltration with fat, especially in relation to the blood vessels. This pathologic evidence of disease of the parathyroid in paralysis agitans, when considered together with the experimental evidence quoted and the therapeutic results of Berkley, suggests that the parathyroid glands play an important part in the pathogenesis of paralysis agitans.

CONCLUSIONS.

1. Paralysis agitans is not a neurosis nor is it senility.
2. The anatomic basis of the symptoms, muscular rigidity, tremor, and the symptoms dependent on them, lies in the affection of the muscles.
3. The disease itself is probably a general toxemia and there is suggestive evidence that it is due to alteration in the secretion of the parathyroid glands.

I have to thank Drs. W. G. Spiller, Charles K. Mills, Charles W. Burr, James Hendrie Lloyd, Charles S. Potts, D. J. McCarthy, T. H. Weisenburg, and J. H. W. Rhein for referring to me the pathologic material on which this research is based, and especially to thank Dr. William G. Spiller and Dr. Allen J. Smith for verifying the pathologic findings.

DISCUSSION.

Dr. D. J. McCarthy, Philadelphia, said that he does not agree with Dr. Camp in describing this condition as a purely muscular disease. While the theory, of course, of inelasticity of the muscles will hold good in certain directions, yet there are certain nervous manifestations which, he thinks, can not be explained by the condition of the muscles. The loss of elasticity, of course, will explain a decrease, but the reflexes are often increased, and it will not explain the tremor. It does not explain the sensory and trophic disturbances so often noted. The changes in the nervous system bear a more intimate relation to the disease than the changes in the muscles. In reference to Dr. Camp's statement that the disease is not one which occurs in the young, Dr. McCarthy recalled a case in which paralysis agitans developed before the patient, a man, was 30 years of age. The individual had worked in lead for many years from boyhood, and before the development of the disease he had extensive arteriosclerosis.

Dr. C. D. Camp, Philadelphia, said that the anatomic basis of the muscular rigidity and the tremor in paralysis agitans is in the muscles; as against this Dr. McCarthy has mentioned exaggeration of the knee jerks, but most observers are agreed that the knee jerks are generally normal in this affection. There is no reason why the same influence or toxin that produces the degenerative change in the muscles should not also produce secretory and other similar symptoms. The origin of this toxin is not known, but Dr. Camp called attention to the evidence which seems to connect it with the parathyroid glands, and to the very suggestive changes in the parathyroid glands found in his cases. The pathologic conditions in the central nervous system are the changes of senility; they are not constant in paralysis agitans, and they are found in old people who during life had none of the symptoms of paralysis agitans. It is generally agreed that the tremor in the disease is caused by some lesion in the neuromuscular mechanism that regulates muscle tone, but in sleep the muscles are relaxed and consequently the tremor stops. Muscle tone is increased on excitement, so is the tremor. It is evident that the cerebrum has a marked influence on muscle tone, but while such impulses probably originate there, the perversion which causes the tremor may be due to a lesion either in the spinal cord or in the muscles where they are received. There is no necessity for the perversion to occur at their origin; in order to act normally the impulses must be normally transmitted and received, but a lesion in the internal capsule by completely stopping all impulses naturally stops the tremor. This explains those cases in which a tremor affected all four extremities, but after the occurrence of the hemiplegia the tremor stopped on the paralyzed side.

ACUTE OTITIS MEDIA.*

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The various forms of otitis media depend not only on their varied etiology but also on their management and treatment. They depend also on the systemic condition of the patient as well as on the duration of the disease.

ETIOLOGY.

A few cases are the result of direct injury, but the greatest number are the result of a specific infection, and are usually secondary to some nasal or pharyngeal disease, such as catarrh, adenoids or Eustachian tube disease, which is usually secondary to nose or throat disease. Nasal obstruction is an extremely frequent cause of otitis media, because it interferes with the ventilation of the Eustachian tube, and stenosis of the tube means an inability of the middle ear to drain itself. By this means various bacteria, pathogenic and otherwise, gain entrance into the middle ear and set up an inflammation. Chilling of the body and ill advised baths, as river bathing out of season, is also a frequent cause of otitis media.

But besides the Eustachian tube there are two other ways by which bacteria may gain entrance to the tympanic cavity, namely, by the external canal through a perforated drum, and by way of the blood and lymph stream. The latter, however, is very rare, but sometimes occurs in syphilis. We assume and believe that every case of otitis media is the result of a bacterium of some kind. Bacteria may be found in any and all throats and noses, and yet if the Eustachian tube is healthy and properly performs its functions of ventilation and drainage, the middle ear is apt to escape injury, especially if there is no systemic disease to lower the local resistance. The systemic condition may influence the form of trouble as well as the progress and prognosis of the case.

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[103] Deutsch. Ztschr. f. Nervenheilk, 1904.
[104] Med. News, Dec. 2, 1905.

* Read before the Floyd County Medical Society.

Simple otitis media may result from any of the foregoing causes, and is known by the following pathologic conditions: swelling, redness, infiltration and exudation of the intra-tympanic mucous membrane and patches of broken down epithelium. The bony wall also partakes of this pathologic state. The exudate contains mucous, blood and sometimes pus and various bacteria and varies in color accordingly.

SYMPTOMS AND COURSE.

The important symptoms are paroxysmal pulsating pain in ear and face, worse toward evening; in children often accompanied by high fever, delirium and convulsions. On examination with the speculum or, what is better, Seigle's otoscope, we find the drum is red and bulging, if it is not badly retracted from former diseases. Especially is this true of its postero-superior-quadrant. As a rule, all the landmarks are obliterated except the short process which appears as a yellow spot. The hearing is rapidly impaired.

If the case runs a favorable course the pain and redness of the drum grow gradually less in three or four days, though the hearing may be unimproved, but recovery takes place in about four weeks. This condition is distinguished from myringitis by the greater impairment of hearing and increased tympanic distension. If it runs an unfavorable course it may last indefinitely.

TREATMENT.

In the acute simple otitis media this consists of alleviating the pain and treating the nose and throat with cleansing antiphlogistic agents, to facilitate drainage and ventilation to the tympanum by the Eustachian tube as soon as possible. The pain is best relieved by instilling within the external canal a 4 per cent. solution of cocain, preceding it with a douche of hot boric acid solution; having the patient lie on the opposite side to the one affected, and then applying heat and repeating the douche and cocain frequently if necessary. If the bulging of the drum and the pain increases after thirty-six hours treatment, then do a myringotomy and drain thoroughly, making the incision in the most dependent part of the bulged portion of the drum, which will usually be found in the postero-inferior-quadrant. Myringotomy can be done without pain after the instillation of a 10 per cent. solution of cocain with a 1-1,000 solution of adrenalin. If the drum is not incised it will finally rupture and slough with ragged edges and frequently does not close, leaving the ear exposed to the constant danger of infection. By relieving the intra-tympanic pressure and tension of the membrane by means of the incision the nutrition and reparative power of the drum are preserved, and, as any clean-cut wound will heal more quickly and surely than one made by sloughing, we shall, therefore, lessen the danger of permanent perforation. But more important than all, by early incision we lessen the danger of bacterial invasion of the mastoid cells with its consequent mastoiditis. The cavity should be evacuated and good drainage kept by aspiration and by douching with warm antiseptics. Hydrogen peroxid may be used as a cleansing agent and the ear mopped out with dry cotton until it is perfectly clean; then with a hand powder-blower fill the canal one-third full of boric acid and insert cotton. This treatment and dressing should be performed by the doctor or nurse, otherwise it is poorly done. When the discharge has ceased use 10 per cent ichthyol in liquid petrolatum instead of the powder and continue until the drum is healed, during which time the nose and throat must be constantly treated. We now begin with special measures to restore hearing, then after each nasopharyngeal treatment we practice Politzerization, which has for its special object free ventilation of the tympanic cavity. Do not depend on the family for any part of the treatment; if you do you will fail. If tympanic ventilation is interfered with by stenosis of the Eustachian tube it must be opened or closing of the drum will not take place, and then we must remove any and all naso-pharyngeal obstructions, such as adenoids, enlarged tonsils, septal spurs, enlarged turbinates, polypi, deviated septum, etc. If there is simply a Eustachian salpingitis we may have to resort to bougies. As these naso-pharyngeal abnormalities are the greatest cause of tympanic disease, as well as of many other troubles, it is far more expedient to remove them than to wait and only partially succeed in restoring the middle ear after it has been disturbed by these abnormalities. Every pathologic pharyngeal condition promptly treated as it arises will greatly reduce chronic middle-ear disease.

PROGNOSIS.

In simple acute otitis media the prognosis is good if the trouble is properly treated early and continuously. If it is neglected for two or three weeks it goes on to perforation, partial destruction of the middle ear, and may merge into chronicity. This, if it occurs, is troublesome to deal with and often involves the mastoid. In neglected perforative otitis media, which is apt to involve the accessory cavities and mastoid cells, we have a disease which is most serious, and yet parents, and sometimes physicians, will say, "Oh, the child will outgrow it, and you can't treat it successfully anyway." Why not say the child will outgrow a broken leg or a depressed skull or a cleft palate. It is nearly as rational. It is a formidable and difficult disease with which to deal, and owing to its intra-osseous location it becomes necessary to be persistent and aggressive and sometimes radical in its treatment, and often mastoidotomy is a conservative instead of a radical mode of treatment.

In cases of acute purulent otitis media and mastoiditis what are the purposes of opening the mastoid? First, to promote better drainage; second, to limit the extension of the infection; third, to remove necrosed bone and promote early healing. The indications for opening the mastoid in acute mastoiditis are: First, tenderness over the antrum, persisting for three days, after freely incising Shrapnell's membrane. Second, if the discharge from the ear suddenly grows much less while other symptoms remain, with an elevation of temperature, chills and sweats, denoting the opening up of the new channels and fields of infection. Third, a flow of pus too great to have been produced by so small a cavity as the tympanus, indicating invasion of the cells. Fourth, many surgeons regard a bulging of the postero-superior wall of the canal as a positive sign of mastoid disease and indicating interference; a few say it sometimes occurs with simple otitis media.

It seems rational to make it a rule to at least drain and remove necrosed bone in every case of true purulent mastoiditis, and although many cases recover without interference, it is certainly a long, tedious and dangerous route. To say the least, such patients should be under the immediate attention of a surgeon until recovery is complete. Like appendicitis, its progress is insidious and its ravages hidden to an ordinary observer, until the mastoid has been explored and if mastoid surgery fails, it is usually because it has been postponed too long or the exploration has not been thorough and some foci of infection have not been found. The way to success in otology is to never let an acute otitis become chronic.

As the general practitioner is apt to see the case first it behooves him to be vigilant and prompt in treatment and advice, so that no time be lost, for the earlier pathologic condition is much more amenable to treatment and yields a more pronounced success, while neglected cases are with us for a long time and have an uncertain outcome.

DIFFERENCES IN THE PHYSIOLOGIC ACTION OF THE SALTS OF AN ALKALOID.*

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Whether or not all the salts of an alkaloid, when the differences in their solubilities are excluded, have the same physiologic action is a question which is usually evaded in text-books on pharmacology and therapeutics. It is the general opinion that all the salts of an alkaloid, in the doses in which they are ordinarily administered, do have, aside from the local effect due to differences in solubility, the same action. Cushny,[1] speaking of the excessively bitter taste of quinin, says that it may be prescribed as a salt of tannic acid. This salt is exceedingly insoluble and is consequently almost tasteless. The pure alkaloid may be advantageously used for the same purpose and for the same reason. Where a rapid action is desired, a freely soluble salt—as the hydrochlorid, the bisulphate or the hydrobromate—is usually employed. Such salts as the above are the ones which are usually chosen for hypodermic administration. The only questions considered are whether it is sufficiently soluble and whether it is non-irritating.

Such statements are a fair example of the ordinary text-book descriptions of the different actions and indications for the use of the various salts of an alkaloid. It is not uncommon, though, for a physician to use one salt of an alkaloid to the exclusion of all others, because he believes he gets better results with it, while another doctor may be of the same opinion regarding a different salt of the same alkaloid. One point which the average physician may tend to ignore is that when a definite quantity of the salt of an alkaloid is given, unequal amounts of the alkaloid are administered. For example, when one-sixtieth of a grain of strychnin hydrochlorid is administered, more of the pure alkaloidal strychnin is given than when a sixtieth of a grain of strychnin salicylate is dispensed.

I have long been of the opinion that it is probable, especially with those alkaloids which are administered in considerable quantities, that there are different quantitative effects depending on the acid with which the alkaloid is combined.

TABLE 1.

Solutions Used.	C.C. of Oxygen Freed in					
	M/8		M/64		M/512	
	2 m.	5 m.	2 m.	5 m.	2 m.	5 m.
Sodium nitrate..........	0	0¼	0	0½	4	7
Sodium chlorate.........	0½	1	1	3	3	5
Sodium formate	1	2	1	3	3	7
Sodium chlorid	1	3	7	15	14	33
Sodium fluorid..........	2	4	4	9	4	9
Sodium bromid	4	8	9	18	13	31
Sodium sulphate	11	24	12	25	14	32
Distilled water	14	33	14	33	14	33
Sodium sulphite	19	35	14	31	13	34
Sodium acetate	26	53	30	55	25	48
Sodium hyposulphite	30	60	20	42	14	33
Sodium succinate	31	60	32	55	16	36
Sodium tartrate	42	60	33	60	14	35
Sodium valerianate	42	60	39	65	24	50
Sodium butyrate	45	55	37	52	35	50
Sodium oxalate	40	70	44	65	12	33
Sodium citrate...........	42	71	45	75	14	38
Sodium phosphate	40	70	55	..	20	35
Sodium carbonate	50	..	50	..	40	70

TABLE 2.

Solutions Used.	C.C. of Oxygen Set Free in							
	N/100		N/500		N/2500		N/10000	
	2 m.	5 m.	2 m.	5 m.	2 m.	5 m.	2 m.	5 m.
Strychnin nitrate ...	2	15	4	20	5	25	6	30
Strychnin chlorid ...	8	36	8	38	9	40	8	37
Distilled water	9	36	..	..	..	..	..	..
Strychnin (purum) .	..	..	11	42	8	36	9	37
Strychnin phosphate.	10	38	10	39	9	36	8	36
Strychnin citrate ...	12	43	13	40	11	47	8	38
Strychnin sulphate ..	18	56	10	35	10	42	9	38
Strychnin arsenate ..	20	58	11	44	10	43	10	37
Strychnin valerianate	24	49	28	60	17	55	15	60
Strychnin salicylate..	..	..	25	60	10	46	8	35
Strychnin acetate ...	35	70	29	58	13	41	9	36

TABLE 3.

Solutions Used.	C.C. of Oxygen Set Free in									
	N/100		N/500		N/2500		N/10000		N/25000	
	1 m.	2 m.	1 m.	2 m.	1 m.	2 m.	1 m.	2 m.	1 m.	2 m.
Caffein nitrate	..	..	..	..	1	6	5	18	7	25
Caffein sulphate	..	1	..	2	2	7	5	26	9	36
Caffein salicylate..............	..	2	..	6	6	30	8	35	9	37
Caffein bromid	..	1	1	5	5	25	7	30	8	32
Caffein chlorid	..	2	1	6	7	30	8	35	9	36
Caffein citrate	..	1	2	7	5	17	8	34	9	36
Caffein arsenate	1	2	3	7	6	32	7	33	9	36
Caffein benzoate	1	7	4	15	7	25	8	35	9	37
Caffein valerianate	2	12	6	26	8	34	9	36	9	37
Caffein (purum)	10	40	10	39	9	38	9	37	10	36
Distilled water	9	36	..	..	..	..	..	..	..	..

Apropos of some work[2] which I was doing with Nielson on the effects of various salt solutions on enzymatic and catalytic action, the various obtainable salts[3] of strychnin and caffein were also tried in the same way. In tables Nos. 1, 2 and 3 are given the results of a list of sodium, of strychnin and of caffein salts, respectively, on the splitting of hydrogen dioxid by a watery extract of kidney or pancreas. These tables are introduced for the sake of making a comparison of these results with those which are given in the experimental portion of the paper.

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* From the Department of Physiology of St. Louis University.

[1] Cushny: Text-book of Pharmacology and Therapeutics, 3d edition, p. 368.

[2] Nielson and Brown: Am. Jour. of Phys., vol. xii, 1904, p. 374.

[3] Brown and Nielson: Ibid., vol. xiii, 1905, p. 427.

METHODS.

The easily obtainable salts of the alkaloids morphin, strychnin and quinin were used. The solutions were made in fractional normal concentrations. By this method a solution of every salt of an alkaloid, of a certain designated concentration, has the same amount of the free alkaloid as a solution of the same concentration of every other salt of the same alkaloid. For illustration, a N/1000 solution of quinin sulphate contains the same amount of the alkaloid as an N/1000 solution of quinin valerianate, notwithstanding the inequality in the molecular weights of sulphuric acid and valeric acid. The calculations of the molecular weights were made from the formulas given in Merck's (1902) Index.

The solutions were tested on paramecia. These animalcules were selected because they could be obtained in a reasonably pure solution. They are skimmed from the top of the solution in which they have been growing and are placed in a vessel with its greatest dimension in the vertical direction. Preferably a small-mouthed flask is used. The organisms are thus obtained in considerable numbers in a single drop from the upper layers of the solution in this vessel. In this way other organic material in the liquid was allowed to settle to the bottom and be separated from the paramecia. The organisms are of such a size that they are easily seen under the lower power of a microscope, and, since when alive they are always moving, their ceasing to move is a reliable index of the toxic effects of the solution. A simple unicellular organism of this sort gives more accurate results than a more complex organism would, as the possibility of chemical reactions of the alkaloid with elements of the organism are less likely to occur.

Into a flatbottomed saltcellar of about 10 c.c. capacity were placed 5 c.c. of the solution to be tested. The vessel was then placed on the stage of a microscope under a low power. One, two or three drops of the paramecia, depending on the number of organisms in a drop, were then put into the solution, which was instantly stirred. The exact time of the introduction of the drop of paramecia into the solution was noted.

It was easy to see through the microscope when the death of the organisms occurred. The testing of all the solutions in one concentration was carried out with the conditions constant throughout. The paramecia were taken from the same culture, the same number of drops were put into each solution, and each test was performed the same day and as nearly at the same hour of the day as was possible. In the instances where the drug did not act too rapidly each member of a series of tests was carried out at the same time.

EXPERIMENTAL RESULTS.

The results obtained in the various tests are indicated by tables Nos. 4, 5 and 6, the data of which were selected from the results of the numerous experiments performed.

Table 4 shows that paramecia are not very susceptible to the solutions of morphin salts. An exposure of 24 hours to the salts, however, suffice to kill the major portion of the organisms in any one of the solutions, except that of morphin acetate. There is noticed that during the first two hours' exposure of the organisms to the solutions many more have perished in one solution than in another. The toxicity of the morphin salts in solution in N/100 concentration increase as follows:

The least toxic is the acetate, followed by the valerianate, ferrocyanid, tartrate, bromid, sulphate, phthalate and meconate, in the order named. By reference to the table the exact relation of one solution to the other can be discerned.

TABLE 4.

Solutions and Concentrations Used.	Percentage of Paramecia Dead.				
	2 hrs.	3 hrs.	7 hrs.	12 hrs.	24 hrs.
n/100 morphin acetate	0	2	5	5	5
n/100 morphin valerianate	5	40	90	98	100
n/100 morphin ferrocyanate	5	60	90	100	100
n/100 morphin tartrate	10	80	95	100	100
n/100 morphin bromid	20	40	60	95	100
n/100 morphin sulphate	60	90	98	100	100
n/100 morphin phthalate	80	95	99	100	100
n/100 morphin meconate	90	95	99	99	100

Table 5 presents some striking results. Paramecia were killed almost instantly when they were put into a solution of an N/50 concentration of strychnin valerianate, but lived for a period of twelve minutes in the same concentration of a solution of strychnin hyposulphite. The other salts of this alkaloid in solutions of the same concentration, when their relative toxicity for paramecia is considered, fall in between the two mentioned. A reference to the table reveals the position of each salt. In the N/100 concentration, the salts remain in the same order, and the only variations noted are that each requires a little longer time to produce the death of the organism. Strychnin iodide in N/200 concentration is fatal to the paramecia in three minutes, while strychnin salicylate, in the same concentration, is fatal in seventy seconds.

TABLE 5.

Solutions Used.	Number of Seconds Paramecia Lived in Concentration of	
	N/50	N/100
Strychnin valerianate	5 sec.	....
Strychnin acetate	5 sec.	30 sec.
Strychnin nitrate	45 sec.	60 sec.
Strychnin chlorid	65 sec.	80 sec.
Strychnin sulphate	70 sec.	120 sec.
Strychnin bromid	75 sec.	150 sec.
Strychnin arsenate	90 sec.	300 sec.
Strychnin glycerophosphate	110 sec.	480 sec.
Strychnin phosphate	140 sec.	900 sec.
Strychnin citrate	180 sec.	1200 sec.
Strychnin hypophosphite	720 sec.	....

Table 6 shows there is a wide variation in the toxicity of certain quinin salts, as, for instance, the salicylate and the dibromid. The former acts twenty-four and a half times (figures taken from column No. 3) as rapidly as the latter. The other salts experimented with fall in between these two extremes. The first, second and fourth columns, each representing experiments with paramecia from different cultures and at different times, show slight variations in the relative toxicity of certain salts, but there are no very wide discrepancies.

The changes induced in the paramecia by the alkaloidal salts are characteristic. The organisms which normally are oblong, soon after being put into the solution of a rapidly acting chemical, become nearly round or spherical. The protoplasm becomes coarsely granular and its refractive power for light is consequently increased in some places and decreased in others. This change simulates very closely the one produced in the same organisms when they are deprived of oxygen, as observed by Loeb and Hardesty,[4] and Budgett.[5] These changes come on quickly or slowly after introduction of the paramecia into the solutions, depending on whether the chemical killed the animalcule quickly or after a considerable period.

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[4] Loeb and Hardesty: Archiv. f. d. ges. Physiol., lxi, 1895, p. 583.

[5] Budgett: Am. Jour. of Phys., vol. i, 1898, p. 210.

TABLE 6.

Solutions Used	Time Paramecia Lived in Concentrations.			
	N/100 Sec.	N/200 Sec.	N/1000 Min.	N/1000 Min.
Quinin salicylate	..	..	8	..
Quinin citrate	..	..	9	..
Quinin valerianate	10	10	14	2
Quinin sulphate	..	30	16	1
Quinin ferrocyanid	..	..	16	..
Quinin iodid	30	45	19	2.5
Quinin lactate	30	37	20	4
Quinin phosphate	..	90	20	10
Quinin acetate	..	30	22	2
Quinin chlorid	30	30	23	2
Quinin bromid	15	10	23	2
Quinin hypophosphite	30	15	24	8
Quinin arsenate	..	45	35	1
Quinin sulphochlorid	120	180	82	23
Quinin dichlorid	10	10	87	30
Quinin ditartrate	..	450	97	32
Quinin sulphophenylate	150	540	105	32
Quinin disulphate	120	330	125	25
Quinin dibromid	..	120	196	33

It was a rather interesting fact that the paramecia of the same cultures and of different cultures varied considerably in their degree of susceptibility to any one solution. This is shown by the third and fourth columns of Table 6. In one instance an N/1000 solution of quinin sulphate killed the organisms in one minute, while in the case of paramecia from another culture sixteen minutes were required to destroy them.

The variations noted among the individuals of one culture were especially marked in case of those solutions which required a considerable period to produce their complete toxic effects. In those solutions which acted rapidly the variations in susceptibility of the organisms were scarcely noticed at all. For this reason those alkaloids whose salts were usually very soluble were used in fairly concentrated solutions. Many of the salts of quinin, however, are only slightly soluble.

EXPLANATION AND DISCUSSION OF THE RESULTS.

On first thought it might seem possible that the results are due to an error in making up the solutions, since such very small amounts of an alkaloid exist in a few c.c. of even the more concentrated solutions used. The solutions were all made, however, with great care. The fact that there are much wider variations in toxicity between solutions of two salts of the same concentration than there are between two widely different concentrations of one alkaloidal salt is conclusive evidence that the results are in no great measure due to any error in the making up of the solutions. For example, a N/100 solution of strychnin acetate is fatal to the paramecia in five seconds, while a N/100 solution of strychnin citrate kills the organisms in three minutes, and a N/200 solution of strychnin acetate requires only thirty seconds to produce the death of the organism. The latter solution contains just half the amount of the pure alkaloid in either of the two former and yet it kills the paramecia in one-sixth the time required by the strychnin citrate.

This is also noticed with many of the other solutions. That the reaction of the solutions is not accountable for the result was shown in the case of the quinin salts, where very careful tests of the reaction were made. Solutions of the other alkaloidal salts are practically neutral. The double salts of quinin are neutral, and yet considerable variation in the action of these salts is found. Most of the other salts of quinin are very slightly alkaline, and each has practically the same amount of alkalinity. Distinct variations in the toxicity of these salts is also observed. It is an interesting fact that the double salts of quinin are less toxic for paramecia than the others. This is noticed by referring to Table 6.

By a comparison of Tables 1 to 6, inclusive, some interesting relationships are revealed. For instance, sodium valerianate stimulates the splitting of hydrogen dioxid into water and oxygen by kidney extract very markedly; strychnin valerianate also has a decidedly accelerating action on the hydrolysis. None of the caffein salts increase the amount of oxygen given off from the peroxid of hydrogen, but caffein valerianate allows more than any other salt. The valerianates of quinin and strychnin are the most toxic of the salts of these alkaloids for paramecia. The acetate is found in each instance close to the valerianate. Strange to say, the valerianate and acetate of morphin, instead of being the most toxic of any of the salts, as is the case with strychnin and quinin, are the least toxic of the salts employed. The citrate stands close to the acetate and valerianate in every case except the strychnin citrate when used on paramecia. In this instance, instead of being very toxic, as would be inferred from its effects on the catalysis, it is one of the least toxic of the strychnin salts. The citrate of morphin was not worked with. Very likely other analogies would have occurred had the salts of the same acids been used in each instance. Further experiments must be done along this line with an idea of the comparisons.

SUMMARY AND CONCLUSIONS.

The acid with which certain alkaloids, strychnin, quinin and morphin, are combined alter decidedly the pharmacologic action of the alkaloid—at least in regard to their toxicity for paramecia.

The most toxic salts of strychnin and quinin are in some instances at least those which stimulate catalytic processes the most markedly. The salts of morphin with the smallest degree of toxicity, in some instances at least, are the salts of those acids, the sodium salts of which stimulate the catalysis the most markedly.

NOSTRUMS AND PROPRIETARIES VS. U. S. PHARMACOPEIA AND NATIONAL FORMULARY PREPARATIONS.*

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The title assigned to this article implies a contest or a trying, not, as I understand it, a test of the relative merits or values of the several classes of medicines, enumerated from a pharmacologic, pharmaceutic or even a therapeutic standpoint, but a test of their respective merits or values rated by their effects on the progress, utility and characters of medicines and pharmacy.

That proprietary medicines, some of them veritable nostrums, are in active competition with regularly authorized and open formula preparations for the patronage of physicians is abundantly proven by the oft appearing detail man, by the prodigious amount of mail received by physicians and by the teeming advertising pages of medical journals.

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* Read at a joint meeting of the Section on Clinical Medicine and Surgery of the Baltimore City Medical Society and the Baltimore Branch of the American Pharmaceutical Association, Baltimore, Nov. 16, 1906.

That these same proprietary and often times secret formula preparations have already won considerable favor with physicians is unmistakably shown by the figures presented here to-night, by frequently appearing statistics of a similar character and by the personal knowledge of all concerned.

USE OF PROPRIETARIES BY PHYSICIANS.

The use of proprietaries by physicians is not altogether new; fifty or sixty years ago it had hardly begun, but its gradual, rather rapid increase is shown by the results obtained from an examination of 1,000 prescriptions in 1859, 1,000 in 1879 and the same numbers in 1899 and 1905, respectively. The percentages of proprietaries presented in these different periods were, in order, .1 per cent. (1 in 1,000), 8 per cent., 18 per cent. and 21 per cent. As tabulated, these figures represent such products only as have no really legitimate excuse for existing and do not include prescriptions for definite chemicals, although such may have had restricted ownership. The figures may be advantageously used as a means of comparison, because, fortunately, they were compiled, consistently, by one person and because they came from the same location, where were the same class of physicians and patients throughout all the different periods; periods previous to the agitation, lately prevailing and still active. An examination of two series of 500 consecutive presciptions showed 21 per cent. of proprietaries in 1905 and 18 per cent. in 1906, a decrease of 3 per cent. It seems only fair to state that in these 18 prescriptions in a hundred, proprietaries did not always appear alone, but in a large number of cases were in combination or were used as vehicles (elixir of lactopeptin and Fairchild's essence of pepsin with other proprietaries of the same nature taking the lead). The frequent use of proprietaries, as vehicles, pure and simple, is significant and should make its impress on those in charge of the revision of the Pharmacopeia and the Formulary.

The reliability and consistent relationship of these figures is interestingly confirmed by an examination of the same numbers of consecutive prescriptions written in 1904 on the files of another store, located several blocks away, where different customers and many different physicians were concerned. Here, it appears, about the same percentage of proprietaries was used, 19 per cent., and about the same conditions regarding combinations and vehicles prevailed, but the percentage of physicians not using proprietaries, at all, was larger, 72 per cent., as compared with 57 per cent. and 64 per cent., respectively, in 1905 and 1906 at the other pharmacy. It may be interesting to learn that 125, 115 and 107 were the respective numbers of different physicians writing the several series of 500 each.

OBJECTIONS TO PROPRIETARIES.

At this point it may be very properly asked: What are the real objections to proprietaries, secret formula products, after all? There is really no great objection to them, *per se*, if no better knowledge of medicines than is had of them is required, or if something better is not desired. Indirectly, however, they are very objectionable; possibly most objectionable because they are, verily, in direct opposition to the liberal and benevolent principles on which true medicine and true pharmacy are based; because they are in direct opposition to real science and to truth itself, making whatever error that follows such objections a natural consequence; their use encourages or falsely rewards pretense and makes a market for wrongly or dishonestly appropriated current knowledge; their use affords no encouragement to true and advanced pharmacologic and therapeutic attainments and certainly makes impossible that often very desirable and special adjusting of remedy and dosage, that is reasonably consistent with the extremely precise methods employed in all other departments of medical and surgical practice.

The development of science has, as is well known, in a number of instances, proven the worth or falsity of prevailing empiric practices, and so the very latest developments may prove, with startling exactness, just why some private empirical compounds have been efficacious in many cases and strangely disastrous in others. This, it is ventured, will be found due to the presence of the supposedly secondary and what has heretofore been considered a mere pharmaceutic agent, which in Pharmacopeia and National Formulary preparations is known and may be reckoned with. But who will be able to estimate the action of the hidden agent in proprietaries, which often times is the very "trick" on which depends their commercial value. It is open to every physician to know that ammonium acetate in large excess and ammonium chlorid in considerable quantity are constituents of the well-known Basham's mixture. And who is prepared to say just now that the effect of ammonium chlorid on blood coagulation is entirely different from the effect of calcium chlorid? Yet, certain we are that ammonium chlorid is present. Few physicians, however, know that the most popular proprietaries, supposed to contain a combination of peptone or albumin with iron and manganese, also contain large quantities of citrates; quantities often much in excess of an amount actually needed to keep the so-called peptonate of iron in solution. The citrate, either of ammonium, potassium or sodium, is used; the agency of either one of these is necessary to preserve the combination of iron and peptone in solution and, seemingly, the smallest quantity of sodium citrate that is efficient is not less than 7.5 grains per fluid ounce. When it is remembered that much larger quantities are used in some of these proprietaries and that an ounce is directed to be taken at a dose, it can be readily seen that the effects of these alkaline citrates must be thought of; especially in view of their effect on blood coagulation. It may be further stated that when these citrates are not used, hydrochloric acid is employed and necessarily breaks up the organic combination and forms a simple solution of iron chlorid, mixed with a solution of peptone. The official elixir of iron, quinin and strychnin phosphates presents these agents as true phosphates held in solution by the presence of the secondary or pharmaceutic agents, sodium citrate and ammonium acetate, but no medical man has been informed that some of the private formulas, for proprietary elixirs of the phosphate of iron, quinin and strychnin produce, as has been repeatedly proven, elixirs of the chlorids of these substances. The National Formulary elixir of pepsin, bismuth and strychnin presents these remedies in the logical, slightly acid form, while the examination of private formula, proprietary elixirs of this kind often discloses the fact that the bismuth is held in solution through an excess of alkali at the expense of pepsin and with the possibility of it precipitating the alkaloid strychnin.

Recent publications by the Council on Pharmacy and Chemistry of the American Medical Association make confirmatory and often times surprising revelations and it appears that even though a manufacturer of unfortunate compounds may by intention be honest he is frequently mistaken, badly mistaken, not only in the pharmacology of his product but in its chemistry as well, as these same publications, to be charitable, make it plain that many of the proprietaries offered must be both owned and promoted by the veriest laymen, since these in their unfortunate and unbecoming ignorance use strictly chemical terms and graphic chemical formulas to describe a simple mixture. "Horrible examples" of the personnel of proprietary ownership and exploitation would be a show that would, in misfits and *mesalliances*, rival "the greatest on earth."

Uncertainty, unreliability, pretended originality and false claims of unusual potentiality are the really hurtful, harmful objections to these proprietary medicines which, because of these very characteristics, become veritable nostrums. The objections, from an ethical or professional point of view, so well known to all of us, while not, perhaps, directly destructive, are far reaching in their retarding effects on the advancement of pharmaceutic practice and on the integrity of pharmacists. Few men among us seem able to resist their seductive influences which so often tend and lead toward quackery.

I have in my possession two advertisements directed to the laity in lay publications, one that of a New York pharmacist of unusual scientific attainment and at one time the chief exponent of ethical pharmacy in the metropolis, the other that of a Baltimorean, a former retail pharmacist. Both take their products, originally presented to physicians for their sole use, directly to the laity and claim for their products the endorsement and patronage of physicians. Apparently, forgetting there ever existed anything like ethics and yet, knowing them as I do, I believe they were perfectly sincere and honest when they first presented their products to the medical profession. I believe the promoters of the hybrid-named, antagonist to pain proprietary which has now become a "family remedy" advertised to the laity were as sincere and as honest in the beginning. None of these would have been tempted by Pharmacopeia preparations, none could have gone to the laity with National Formulary products, and yet those demoralizing products are not one whit better than these.

The unfortunate, detracting associations which these proprietaries and many times nostrums make for medicine and medical men, are neither edifying nor helpful Look in the display windows or over the advertising lists of dealers in quack remedies and "patent medicines" and you will be unable to differentiate between the rankest of these and the proprietaries, regularly prescribed by many of our most reputable physicians. Your "favorite" proprietary prescription is often seen standing close beside Dr. Pierce's Favorite Prescription, with old mother Pinkham and Peruna's handsome belle doing the honors to both with equal deference. It is not in such company, it is our proud pleasure to note, that we find chaste and fair maidens, the inevitable offspring of our most creditable national standards.

IGNORANCE, INDOLENCE AND LUST.

While regarding medicine with reverent respect, may it not be said that even it suffers much from such associations and may it not appear that because the mother's or mistress' skirts have been touched at all the daughter's or the handmaiden's may have become sensibly soiled. The most hopeful moralist must be he who, in his philosophy, reduces the initial causes of evil to the smallest possible number. And he who believes all can be traced to three, ignorance, indolence and lust, sees promise in the possibility of lessening any of the three.

In this instance it may be polite to modify the terms and say that it was ambition, not lust, that has led all sorts and conditions of men to present to physicians for their patronage the multitude of proprietaries and nostrums now afflicting us; that it was want of thought and lack of special training, not ignorance, that made it possible for the exploiter to have his extravagant claims accepted and his impossible promises credited; that it was the physician's lack of time and love for facility, not indolence, that has led him to use ready-made and easily ordered proprietaries.

And on this same occasion and for the same polite reason it may be well to say that it was want of interest and lack of opportunity to equip himself, not ignorance, that prevented the average pharmacist from being able to impress physicians with his ability to meet their pharmaceutic needs in an up-to-date manner and equal to the promoter of proprietaries; it was love of ease and fear of exhaustion, not indolence, that has kept the pharmacist from selling official and semi-official products in competition with proprietaries.

It matters but little under what head of human weakness we may classify the causes already enumerated; in any event, they must be charged to individual shortcomings, from a higher viewpoint, inexcusable and as requiring individual correction. There are, however, other causes for present conditions for which, it may be said, individuals are not responsible, but which must be laid at the doors of organization, association and education: an insufficient number of official, acceptable and efficient vehicles; the insufficient teaching of materia medica and pharmaceutical chemistry in medical schools; the sacrifice of true pharmaceutical discussions and demonstrations to purely commercial questions in pharmaceutical societies; the lack of a distinct understanding between the manufacturer and his legitimate distributor, the retailer, whereby the scope of each might be defined and the beneficial possibilities of each might be furthered; a lack of general and enthusiastic interest in the construction of the two standards, followed by a want of familiarity with their contents by all concerned; the slow revision and publication of the Pharmacopeia and the Formulary; the lack of frequent supplemental publications of corrections, improvements and additions. These are some of the causes with which we must reckon in our several guilds and institutions of learning.

In this land of the free and of great personal liberty we may not hope to accomplish so much as has been done in Europe by the hard hand of the law, except from its educational power, but here it is from the kindlier offices of affiliation and fraternity, of encouragement and helpfulness from the stronger to the weaker, that we must look for betterment and for final salvation.

Water Supply of Damascus.—The *Lancet* states that the water supply of the city of Damascus, Turkey, is very unsatisfactory. The city is provided with water from a distant source, which, before it arrives for distribution at Damascus, runs through plains, valleys and villages, and in its course becomes contaminated by many and various impurities. In the city itself, the water receives many new impurities in passing from house to house, and this explains the prevalence of typhoid in the city. It is now intended to remedy this dangerous state of affairs. Water from the same source will be used, as that is perfectly pure, but a system of iron pipes will be provided and other general measures taken to make contamination impossible.

THE MODERN SURGEON: HIS BENEFICENT AND EVER-EXPANDING WORK.

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I have selected the descriptive term "beneficent" not so much in contradistinction to a class of work that might be considered ill advised, rash or meddlesome nor as an insinuation that improper motives occasionally sway the actions of members of the profession, but because I have been impressed by the happy results of surgical intervention as a life-saving measure, while, on the other hand, I have witnessed the direst disaster following the failure to resort to it. The opinion prevalent among the laity that a surgeon delights in the opportunity "to cut and to slash," as they express it, is not justified by the facts.

The last ten years have wrought a considerable revolution in this respect, since the doctrine of conservatism has been extensively preached. One can judge how radical this change is by the tone of many of the prominent articles in the late periodicals and the transactions of well-recognized medical associations. Take, for instance, the discussion at the meeting of the American Gynecological Society, last May, by such well-known specialists as Baldy, Goffe and others on the subject, "Is Gynecology Dead?" whereas previously the suspicion of overdone work, if any existed, was directed to this particular field. Then the general surgeon was justly jealous of the encroachments on his domain by the gynceologist.

My many years of uninterrupted devotion to the profession have begotten an abiding faith in its high purposes and aims; so that any rare instance of unnecessary interference on the part of the surgeon I class as one of those unfortunate events incident to all great movements.

While each separate branch of medicine has its attractions, and, therefore, its votaries and its advocates, the science of surgery ranks second to none, if, indeed, it does not have priority over all cognate departments. Its results are usually so prompt and ofttimes even brilliant that it is highly gratifying to the earnest surgeon and eminently satisfactory to the patient. While the internist must often wait and hope for results, the surgeon strives and brings them to pass. The most marvelous transformations in the appearance and well-being of any individuals that I can now call to mind have occurred in those desperate "stomach cases," in which a wan, emaciated, miserable individual, apparently on the verge of dissolution, on the third day after a gastroenterostomy will have an expression of contentment and happiness that will do any one good to see.

Surgery is both a science and an art. Only a few weeks ago some writer said that probably this art had reached its zenith. About eight years ago I ventured the same opinion in a paper prepared for the Mississippi Valley Medical Association, saying: "The art of surgery, the manipulative skill, the operative faculty, has probably reached its summit;" but since then I have had the good fortune to see the leading surgeons in both Europe and America at work, and I feel sure they are even more adroit and expert than at the time I wrote. I have also had the opportunity of comparing two of our leading surgeons with themselves for two consecutive years, and I am convinced that there has been an improvement even in their operative skill.

But the science of surgery is practically without limit. Possibly the next decade may open up another avenue of progress equal in importance to the period which evolved and almost perfected asepsis and antisepsis.

If any one accomplishment in surgery can be rated above another it is the ability to make a diagnosis both early and accurately. The importance of diagnosis can not be overestimated. So often, when a case is brought to him, the specialist is hampered by the advanced stage of the disease, owing to a failure on the part of some one to recognize the gravity of the situation. It should be the ambition of every physician to excel in this line, but this condition will be attained only by study and experience. The constant and habitual exercise of the sense of touch, especially as regards the internal organs —the dexterity in palpating and auscultating—should engage the earnest attention of all. One afternoon, in St. Peter's, I expressed to Hurry Fenwick my surprise at the readiness with which he made the diagnosis of diseased kidney. It was before the attention of the profession had been drawn so specifically to that region. His reply, "Why, only a little practice makes it easy," encouraged me to form a habit when going over a patient —even though I suspect nothing—to investigate carefully this particular organ merely to retain the "touch" that practice has enabled me to acquire. These early diagnoses do not simply redound to one's own credit and the good of the patient, but they greatly enhance the value of surgery generally. I am not prepared to go to such an extreme as to state that an exploratory incision for the sake of diagnosis is a reproach to a surgeon, because it is well known that even the most skilful can not tell exactly what he will find within the abdomen, but it is evident that each year makes it more akin to a reproach.

At first the surgeon had only a knowledge of gross anatomy, but finally this knowledge led "to the unfolding of minute anatomy and pathologic anatomy. On this foundation was erected the splendid structure of surgical pathology and bacteriology. Previous to this time surgery, like law, was taught and practiced largely by precedent. Surgical pathology and bacteriology transformed the old anatomic surgery. Along the line of pathologic physiology the next great advances in surgery will probably be made."

Surgical education in these days of progress is not complete without an extensive knowledge of practical pathology and surgical physiology as pertaining to glandular and lymphatic action. This fact is made more and more conspicuous in the principal clinics in the large centers. The simple fact that the small intestine carries only liquid stools and that the large bowel is the drying house, as it were, of the alimentary tract has already suggested some recent theories in the treatment of surgical diseases of the abdomen. Ochsner's brilliant results in appendicitis by keeping food out of the stomach and feeding by rectum led to special investigation and research by other observers, and it was decided that when full or even partly filled the small bowel immediately begins its excursions to and fro within the abdominal cavity — its vermicular movements — and thereby scatters infection broadcast; that when empty it is quiet and, therefore, not an element of danger. Surgery quickly takes advantage of this in that after an operation it advises covering the field carefully with omentum as a protection against the migratory movement of the small intestines, or to utilize some fixed portion of the large bowel—the sigmoid for instance— as a safeguard by placing it against the stump or field of operation. It is well when operating in the abdomen to take into consideration the facts that "granular matter and coarse débris are absorbed only through the lymph spaces at the diaphragm, while the fluids are rapidly absorbed by the peritoneum, that there are three cavities of the peritoneum to be drained, viz: the right and left flanks separated from each other by the spinal column and the pelvis separated from the flanks by the psoas muscle. Either flank holds more fluid and is an inch deeper than the pelvis. The body must be elevated to an angle of sixty or seventy degrees to drain properly by Fowler's position. The entire cavity can be drained by gravity by a lateral position."

The surgeon is forced to a thorough study and appreciation of the lymphatic system and the manner that infection travels through the glands. One of the most practical discourses along this line that I ever heard was from a surgeon of note while he was engaged in extirpating a large thyroid in a case of exophthalmic goiter.

In July I witnessed the fifty-second operation for goiter—probably one-half of them of the exophthalmic variety—that a noted surgeon had done since the beginning of the year. It seems that a nicety of discrimination is required as to the amount of thyroid tissue that is left.

There is another line of surgical work—as yet in the experimental stage—which in my opinion is of doubtful utility. It has some attractive as well as novel features. I refer to the transplantation of tissues as well as organs—a line of work now being prosecuted mainly by Garre, Payr and Pankow. A portion of a mother's thyroid has been successfully transplanted to the spleen of her child, and the kidney of a dog implanted into the neck of the same animal, while the renal artery has been united to the carotid, and the renal veins to the innominate veins without disturbing the renal function. Robert T. Morris has recently reported a successful case of ovarian grafting. Strange to say osseous grafts give very gratifying results, and it is not at all improbable that bone grafting will play an important rôle hereafter in the surgery of the extremities.

Page claimed that physical diagnosis is the "mathematics" of medicine, but when one undertakes to define surgery or even to confine it to certain limits there is but little common ground on which to agree. It is a less difficult task to enumerate some of the attributes of a surgeon which may prove germane to the subject. There are a few principles, however, that still hold good in this department, such for instance as: "When in doubt, wait." The wisdom of this can scarcely be questioned when one has not the ready acumen to decide. Another is: "Never operate unless confronted by an actual necessity." I would not take issue with this so long as it relates to major surgery. Minor operations are done every day when a positive necessity does not exist—under circumstances, for instance, as influence the comfort of the patient or for cosmetic effect. Again: "Save every particle of tissue possible." In order to emphasize this principle, Wyeth of New York while examining an injured hand in a clinic, remarked in an exceedingly positive manner: "Surgery does not carry with it the idea 'to lop off' but rather 'to build up.'" The thought struck me then that that is a very happy expression, but recently—since my mind has been engaged in the preparation of this paper—a negro woman came into my office, having traveled in a buggy about twenty-five miles, and volunteered the information that she had a "'lump' of some kind as big as her fist that hung from her privates." I at once thought of procidentia uteri or possibly an extruded uterine polyp, but imagine my surprise on finding an hypertrophied clitoris at least three inches in circumference at its origin, fully six inches long and ending in a bulbous-shaped mass about eight inches in circumference. This entirely concealed the vaginal orifice and shut in its secretions. The meatus urinarius was also beneath the mass. Consequently the odor was extremely disagreeable. As I threw a carbolized gauze around the tumor in order to examine it the better the thought went through my mind like a flash—if Wyeth were here now would he still say: "Surgery does not carry with it the idea 'to lop off'?" It struck me that this thing certainly was sufficiently "built up." And thus it is when one attempts to lay down a rule for another in as broad a field as surgery.

By the most imperative demands the surgeon of late days is forced to make incursions into the field of obstetrics. And when it is wisely, skilfully and successfully done where else can the God-given power of man more pre-eminently manifest itself? I have never yet gained my consent to claim Cesarean section as entirely justifiable in placenta prævia and other anomalous conditions, but there is a rare dystocia in which Cesarean section offers the only avenue of escape for either the mother or the child. I have in mind now an antepartum hourglass contraction in which a band of fibers, not Bandl's so-called ring, fully an inch in width, as firm as metal, encircled without compressing the child's neck at its juncture with the shoulders. No amount of anesthetic or efforts at manual dilatation would have any effect. Formerly in such cases the woman perished undelivered.

Whereas surgery, like law, was once taught by precedent, now a broader and ever broadening knowledge lifts one above the restrictions that pertain to mere work on gross anatomy, and gives more license—a license that will not be abused by the conscientious man—to the judgment of the individual operator. Surgeons are constantly having comparatively new problems to solve, facing rare conditions, for which there never has been a precedent, and what are they to do when so confronted? In my opinion, the conclusion of the whole matter is that a man of good judgment and discretion, possessing a sensitive conscience and governed by a high sense of moral rectitude, being thoroughly grounded in the present teachings of surgical science, has a right to blaze out a path for himself whenever the occasion arises. After all, in the final analysis, the chief elements in good surgery are simplicity and common sense.

CLINICAL OBSERVATIONS ON BLOOD PRESSURE IN ARTERIOSCLEROSIS AND BRIGHT'S DISEASE

WITH SUGGESTIONS CONCERNING THE THERAPEUTIC CONTROL OF PERSISTENT HIGH BLOOD PRESSURE.*

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The average systolic blood pressure is usually understood to be about 115 mm. of mercury when the estimation is made with a wide arm-band. It is practically impossible to fix an invariable standard for any physiologic phenomenon. In common with other physical processes, such as body temperature, respiration, urine excretion, etc., which are influenced by many conditions of every-day life, we find the degree of blood pressure likewise affected by a great variety of circumstances producing comparatively wide but transient fluctuations, especially in the direction of increase, so that it is almost impossible to speak of normal values for blood pressure. After making due allowance for these physiologic variations, experience would lead me to place the normal average limits of systolic blood pressure at from 105 mm. to 140 mm. Any persistent elevation above the latter figure may be interpreted as constituting hypertension.

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* Read before the Chicago Medical Society, Nov. 28, 1906.

Essential hypertension is a condition, which, if once permanently established and pronounced, becomes a factor of great importance to the welfare of the individual, inasmuch as it entails a lasting increase in circulatory resistance, with consecutive structural changes in the heart wall and degenerative defects in the arteries themselves.

FIRST SERIES.

The reports of blood pressure observations submitted herewith, concern only the variations in systolic blood pressure in certain cases of arteriosclerosis and chronic renal disease which have been under routine observations for considerable although variable periods of time. The blood pressure gauges used were Cook's modification of the Riva Rocci instrument with a 9 cm. arm-band, and the sphygmomanometer of Stanton. As nearly as possible exact conditions were duplicated at each application of the instrument. Physical repose and mental tranquillity were as far as possible secured. The great majority of the observations were taken with the patient in the sitting position; a comparatively few in the recumbent position.

I have had under observation during the past twelve months thirty cases of arteriosclerosis. Without exception these patients have sought relief from some functional or organic manifestation of the disease. Nine had prostatic hypertrophy; one cerebral thrombosis; one retinal hemorrhages; three choroiditis with visual defects; one angina pectoris; and a number have complained of dyspnea, precordial discomfort and cardiac irregularity.

In this series the average age was sixty-one years, and the average maximum systolic blood pressure 148 mm. In fourteen of the cases (47 per cent.) the blood pressure fell within the normal range. Sixteen cases (53 per cent.) displayed a systolic pressure persistently above the normal limit. Only six of the entire series (20 per cent.) showed a blood pressure which could be called significant—a positive hypertension. In brief, these six cases are as follows:

Case 1.—Male, aged 81, has "pipe-stem" arteries; dyspnea; chronic cough; cardiac hypertrophy, and a harsh basic systolic murmur. The blood pressure was invariably above 200 mm., and on one occasion 225 mm. The urine was rather scant and concentrated, and contained degenerative tube casts and albumin. I am not at all sure that the renal condition is not the cause of this man's hypertension.

Case 2.—Male, aged 76; colored; spare individual; preacher; marked calcification of all superficial arteries. There is great dyspnea and slight malleolar edema. Urine has a few casts; no albumin; maximum systolic pressure observed, 175 mm.

Case 3.—Male, aged 41; spare; no syphilis; has attacks of anginoid character. General fibrosis of palpable arteries, with indications of aortic atheroma. Casts present; no albumin; maximum systolic blood pressure, 175 mm.

Case 4.—Female, aged 79; nodular arteries; double senile cataract; chronic bronchitis; harsh basic cardiac murmur. Urine normal, except for casts. Blood pressure 176 mm.

Case 5.—Male, aged 77; prostatic hypertrophy; harsh basal systolic murmur; clanging aortic second sound; cardiac hypertrophy; no albuminuria; blood pressure 170 mm.

Case 6.—Male, aged 53; weight 131 pounds; syphilitic; fibrotic tortuous arteries; cardiac enlargement; basal systolic murmur; very reverberant second aortic sound; aortic dilatation; very dyspneic; no albuminuria; systolic blood pressure 200 mm.

The number of cases of arteriosclerosis included in the foregoing observations is not large, but the series has the distinct advantage of being made up of typical cases, each individual coming under treatment for some manifestation of arterial disease. A point of interest brought out by this investigation is the comparatively high percentage of cases (47 per cent.) of arteriosclerosis, in which the blood pressure was below 140 mm., a normal limit which certainly can not be called excessive for a group of individuals averaging sixty-one years of age. This result is confirmatory of the observations of Carter, Potain, Groedel, Dreschfeld and others. It would appear that thickening and hardening of the superficial arteries on which we base the clinical diagnosis of arteriosclerosis does not constitute sufficient cause for development of high blood pressure. We are not to conclude because the radial, temporal and other palpable arteries are sclerosed that high tension necessarily exists. The sphygmomanometer is absolutely essential to clearing up this important point, and it should be invariably employed as a means of diagnosis in every case of arterial disease. It is practically impossible for the unaided finger, no matter how skilled the observer may be in pulse reading, to determine with accuracy how much of the hardness and firmness of an artery is produced by high pressure of the blood within the vessel, and how much is due to thickening of the arterial wall.

The paradoxical absence of cardiac hypertrophy in certain cases of well-marked and even advanced arteriosclerosis, is explained now that we realize that the essential element of high blood pressure may not be present in any given case, and that the degree of sclerosis of the superficial arteries is no reliable criterion, either of the severity of alterations in visceral blood vessels, or of the degree of tension present. It is clear that some underlying factor not accessible to our present methods of investigation must be responsible for the occurrence of high blood pressure in arteriosclerosis. What this determining cause is, we are not yet sufficiently advanced in the knowledge of our subject to say with certainty, although the researches of Hasenfeld and of Hirsch supply an interesting and probably correct explanation. The contention of these authorities, strengthened by clinical and pathologic proofs, is that it is only when the vessels of the splanchnic area or of the aorta above the diaphragm are diseased that high blood pressure and cardiac hypertrophy develop in arteriosclerosis. Degeneration of the peripheral vessels alone does not appear to exert this influence. After all, this is no more than we might expect if we bear in mind the all-important regulatory position which the abdominal circulation bears to general systemic blood pressure. It is interesting to note in connection with the foregoing that each one of the six cases of my series that displayed positive hypertension (170 mm. or over) yielded the physical signs of atheroma of the aorta.

It is hardly necessary to urge the importance of carefully excluding chronic nephritis in every case of arteriosclerosis with hypertension. The frequency with which chronic renal disease is associated with cardiovascular changes is well known, and no factor is so potent as nephritis in the causation of high blood pressure. If a diagnosis of chronic interstitial nephritis can be made, it is not necessary to search further for the cause of high pressure. At the same time, it is to be remembered that greater care than ordinary is required to diagnose nephritis in cases of arteriosclerosis, owing to the fact that some degree of renal atrophy is almost always present as a consequence of the kidneys sharing in the general vascular deterioration. Casts are deprived of their diagnostic value since they are almost invariably present in the urine of the sclerotic individual. The presence of albumin and the quantitative urinary findings are of much greater value.

So far as I am aware, there exists no absolute clinical indication that will serve as a means of identifying cases of splanchnic sclerosis. Fraenkel and Hasenfeld have pointed out that corpulent persons of a sedentary mode of life are especially prone to the development of sclerosis in the abdominal vessels, thin individuals being less liable to excessive blood pressure. This observation seems to be borne out by clinical experience, yet it is manifestly impossible to establish corpulency and physical indolence as reliable criteria of the local distribution of retrograde vascular changes. Ophthalmoscopic examination may be of service by enabling us to detect changes in the retinal vessels in cases where the superficial arteries are free from gross indications of the disease, and resort should be had to this aid to diagnosis in all doubtful cases.

When the aorta above the diaphragm is seriously involved, the diagnosis is, as a rule, much easier. Alterations of the basal systolic heart sound and a clanging, reverberant quality to the second sound in the aortic area, will frequently be revealed by careful auscultation.

It is altogether likely that those rare and puzzling cases of cardiovascular disease with hypertension without commensurate involvement of the kidneys that come under observation may prove to be instances of splanchnic arteriosclerosis. In concluding this brief consideration of arteriosclerosis we may be justified in drawing the following empirical deductions from the information in hand.

DEDUCTIONS.

1. The ordinary clinical type of arteriosclerosis is not necessarily accompanied by high blood pressure, a large percentage failing to show this development.
2. When high blood pressure is met with in arteriosclerosis it points to the existence either of associated renal disease or sclerosis of the splanchnic vessels and of the aorta above the diaphragm—one or both.
3. If we are able to exclude chronic intertitial nephritis in such a case, splanchnic or aortic sclerosis is to be suspected.

SECOND SERIES.

The second series of observations that I wish to report comprises sixty cases of chronic Bright's disease. Only a résumé of the maximum records will be given, the full detail being reserved for a future communication.

Number of cases investigated, 60—male, 34; female, 26.

Average age, 51 years.

Average weight, 160 pounds.

Average maximum systolic blood pressure, 190 mm.

Average minimum systolic blood pressure, 165 mm.

Maximum systolic blood pressure recorded in any case, 285 mm.

Minimum systolic blood pressure recorded in any case, 110 mm.

The high average pressure in this series constitutes a marked contrast to the average recorded in the preceding group of arteriosclerosis, being 190 mm. in nephritis, against 148 mm. in arteriosclerosis. This furnishes proof, if proof were needed, of the almost essential position which renal disease occupies in the causation and maintenance of morbid hypertension. The permanent character of this symptom in chronic nephritis, and the extreme difficulty of influencing it by treatment, is indicated by the high minimum systolic pressure recorded in this series (165 mm.), despite a systematic effort to reduce it in almost every case by diet, hygiene and other therapeutic measures.

An interesting outcome of my study of these cases is the evidence forthcoming as to the relation existing between albuminuria and high blood pressure.

1. Number of cases without demonstrable albuminuria, 8. Average maximum systolic pressure in these cases, 200 mm.
2. Number of cases in which the albuminuria amounted to a trace only—too minute for accurate volumetric estimation, 29. Average maximum systolic pressure in these cases, 180 mm.
3. Number of cases in which albumin was present in the urine in appreciable amount, 21. Average maximum systolic blood pressure in these cases, 197 mm.

Average amount of albumin in volumetric p. c., 3.76 per cent.

Judging from these records it would appear that no constant ratio exists between the degree of blood pressure and the intensity of the albuminuria. In the foregoing series the highest average blood pressure was noted in cases without albuminuria.

Another point of interest to determine is the relationship between the quantity of urine excreted and the degree of blood pressure. Thirty-one cases were carefully observed in this regard, the urine being collected and measured in a routine way.

Average maximum blood pressure in these cases, 180 mm. Average daily excretion of urine, 1,554 cc.

From this it would appear that high pressure is not necessarily attended by a marked increase in urine outflow. Some detail of this observation is of sufficient interest to detain us a moment. Thus, in a case with a pressure of 285 mm., the urine equaled only 1,000 c.c.; another with a pressure of 265 mm. had a urine of 720 c.c. of urine. On the other hand, a blood pressure of 255 mm. with 1,280 c.c. of urine; one of 270 mm. with 1,000 c.c. of urine. On the other hand, a blood pressure of 255 mm. has coincided with a polyuria of 5,740 c.c.; one of 210 mm. with 2,400 c.c. of urine; one of 140 mm. with 2,400 c.c. of urine, etc. No fixed relation between arterial pressure and renal activity would appear from these statistics.

Chronic Bright's disease is essentially a disease of systemic scope involving the arteries, and the heart as well as the kidneys. Arterial hypertension is one of its salient features, a fact long known and now strikingly demonstrated by blood pressure readings with instruments of precision. A systolic blood pressure of over 200 m.m. is exceedingly common, and cases have been reported where it has attained the extreme degree of 300 mm. The highest record I have observed using a 9 cm. arm-band was 285 mm., in a young woman with enormous cardiac hypertrophy, who died shortly after of circulatory failure and uremia. Other high systolic pressures in my records in different cases are 270 mm., 265 mm., 260 mm., 255 mm., and 235 mm. Twenty-six of the series of sixty cases displayed systolic pressures of 200 mm. and over.

Cases do occur, however, which are not accompanied by hypertension. Eight instances of this character are included in my series, two of these being cases of secondary low blood pressure, where the heart had become dilated and was unable to sustain the circulatory load.

Notwithstanding these occasional exceptions, high blood pressure is so frequent and significant an accompaniment of contracted kidney that it constitutes one of the most valuable diagnostic indications of this disease. Urinary criteria are often obscure or may fail entirely, as we have been made aware by the researches of Emerson, Cabot and others. If the sphygmomanometer is used as a routine procedure in diagnosis, high blood pressures can not escape detection, and will put the observer on the alert. A systolic pressure of 200 mm. or thereabouts points with so clear a significance to the kidneys as to reduce to a minimum the possibility of these cases escaping proper interpretation.

THERAPEUTIC CONTROL.

It now remains, in fulfilling the title of my paper, to discuss the question of the proper management of high pressure cases. In inviting your attention to this aspect of the subject, I have a specific purpose in view, viz., the consideration of the limitations of drug therapy in the control of hypertension. I regard it as important to raise this question at the present time, owing to the increasing tendency to the use and I believe the unwise use of vasodilators in Bright's disease and other high tension disorders. In order to obtain a clearer view of the subject, a brief resumé of the clinical facts of the situation will be of service. All high blood pressure conditions are essentially characterized by the element of systemic toxemia; indeed, high blood pressure is primarily no more than a vascular reaction against the presence of toxins in the circulating blood. In Bright's disease this vascular reaction is perpetuated by the continuous character of the toxemia, and is subsequently enhanced by the uremia which results from advancing renal inadequacy. This chronic vaso-constriction leads to fibrosis of the arterial walls and impairment of their elasticity, so that the work of the heart is increased and the organ hypertrophies. Tracing the matter to its termination, we find that the permanent and progressive character of the peripheral obstruction and the limited possibilities of the heart for adjustment ultimately lead to cardiac failure; the ventricles dilate and the support of the circulation being thus impaired, secondary low pressure becomes substituted for primary high blood pressure. Progressive cardiac failure is, in theory at least, inevitably in store for every such case of cardio-renal disease.

A very different aspect is revealed if we regard the matter from the physiologic standpoint. That the extensive structural involvement and functional crippling of the kidneys must necessarily be attended with enlarged powers of circulation is obvious, since diminished powers of excretion can be compensated for only by increase in the force of the blood current in the glomerular vessels. When we consider that the energy of the heart's contraction is mainly expended in overcoming the resistance presented by the arterial blood pressure, we can easily see why, in high tension cases, the heart hypertrophies. The entire cardiovascular sequence may be regarded as a reaction of the organism against morbid influences, and as such may be looked on, within certain limits, as conservative and compensatory.

Clinical emphasis of this fact is furnished by the greater comfort and activity enjoyed by the nephritic with high tension and cardiac hypertrophy than his less fortunate brother with whom such compensation through some inherent fault of vitality fails to become established. A still more striking contrast is constituted by the misery of the stage of secondary low tension as compared with the comparative vigor and good functional health of the period of high tension. After observing so impressive a transition one almost feels inclined to endorse the statement of Broadbent, that "it is not high tension but low tension that is to be feared in Bright's disease." Notwithstanding the truth of such an assertion in the ultimate sense, a doubt of its entire validity is forced on one by the realization that most of the functional disturbances and pains of Bright's disease arise in consequence of high tension. To this factor also may be traced most of the fatal developments which complicate its course, such as apoplexy, angina pectoris, and the dreaded terminal heart failure. A consideration of all the clinical facts must, it seems to me, impress the observer with a due sense of the value of high blood pressure to the renal invalid, yet modified with a large reservation of doubt engendered by the capacity of this element to work the ultimate undoing of the patient.

High blood pressure is a friend to the nephritic patient, but one that needs careful watching, otherwise it may betray him into many a pitfall. This is exactly the attitude, in my judgment, in which we should approach the problem of the therapeutic regulation of blood pressure. We should be watchful rather than officious. It is to be remembered that high blood pressure is a compound of two conditions, viz., increased peripheral resistance and augmented propulsive power of the heart, the former existing as a reaction against toxemia, and the latter as a response to increased work. It is self-evident that the therapeutic control of the condition must first concern itself with reducing as far as possible the systemic toxemia present. The *indicatio-causalis* is disintoxication. Regulation of the diet, the fluid intake, the personal hygiene in all its details and stimulating, to a reasonable activity, all the accessory organs of elimination, must constitute the basis of the therapeutic regulation of high blood pressure in Bright's disease, and other disorders characterized by high tension. The details of these various procedures have been frequently and fully elaborated by eminent authorities and I confess myself unable to add anything of importance.

The temptation to employ active vascular medication when the sphygmomanometer has demonstrated a high blood pressure is great, and the question as to when and to what extent we are justified in resorting to such artificial means of lowering high tension is a difficult subject on which to dogmatize. I therefore submit the following propositions, with a due sense of their inadequacy, not as absolute rules to be followed in all cases, but as tentative suggestions for the medicinal treatment of hypertension as the outcome of my own experience:

SUMMARY.

1. Before proceeding with the exhibition of vascular drugs, the heart and circulation should be examined with the utmost care. The points of importance to be noted are the character of the heart tones, the relative degrees of hypertrophy and dilatation, the existence of gallop-rhythm, the pulse rate in both the upright and recumbent positions, and after activity. Both the systolic and diastolic blood pressures should be carefully estimated in the recumbent and the upright positions, and the degree of postural variation carefully noted, in order to determine a want of vigor in the ventricle. A rapid, irregular or intermittent pulse, the presence of galop rhythm, a mitral systolic bruit, inverse pulse and pressure record, all point to cardiac inadequacy in face of the high blood pressure, and may serve as indications for cardiac stimulation in place of, or in conjunction with, vaso-dilatation. Because the blood pressure is high, it does not

necessarily follow that vascular relaxants are indicated; it may be that cardiac tonics are more urgently needed.

2. Excessive blood pressure of itself does not constitute an absolute indication for drug treatment, nor does it serve as reliable ground for a bad prognosis. It is remarkable how well Nature accustoms herself to severe circulatory resistance, so that cardiac integrity is maintained and symptoms remain absent for long periods, with pressures of 200 mm., and even much higher. The writer has patients at present under observation whose blood pressure, covering a period of two and three years, has seldom been below 200 mm., yet they have enjoyed a good measure of activity and freedom from symptoms. One individual whose blood pressure has ranged from 200 mm. to 265 mm. for one year has remained practically free from symptoms. It is well to accent the point that because the blood pressure is high it does not necessarily follow that it must be reduced by drugs in order to insure either the patient's safety or comfort.

3. Active vasodilators (nitrites) may occasionally be necessary to meet emergencies, such as stenocardia, angina pectoris, apoplexy prodromes, etc.; under such circumstances they are perfectly justifiable and may be given with a freedom not at other times permissible.

4. Blood pressure may be reduced temporarily by vasodilator drugs, but it is very difficult to produce a permanent lowering except in the presence of a weak heart. This is easily understood when we remember that vascular pressure is a compound of ventricular propulsion and peripheral resistance. If you modify the latter in the presence of a strongly acting ventricle, the pressure will be maintained by the heart. Modify the peripheral resistance in the presence of a weak ventricle and the blood pressure will fall with a simultaneous increase in the pulse rate, due to inadequate efforts on the part of the heart to maintain pressure. It follows, therefore, that a material fall in blood pressure which is more than temporary, due directly to vasodilators, especially if accompanied by quickened pulse rhythm and not marked by improvement in the patient's sense of well-being, is apt to be unfavorable, being ominous of a weak heart.

5. A sustained high blood pressure (over 200 mm.), if accompanied by symptoms of disquieting character, may render a course of vasodilator medication advisable. The drug chosen should be slowly and cautiously introduced, closely watching its effects on blood pressure, pulse rate and subjective state of the patient. The sudden employment of full doses of an active vasodilator is to be condemned, as it may produce serious consequences to the patient's heart and nervous system. A fall of 10 to 15 per cent..is, as a rule, all that is necessary or judicious to accomplish by drugs.

6. The benefit derived from vasodilator medication can not be properly gauged by the blood pressure record. The patient's subjective comfort and more especially the pulse rate form a better index of the effect produced. The most favorable influence in my experience has been in cases where no manifest fall in blood pressure has resulted, but subjective disturbances have disappeared, and the pulse has diminished in frequency. I should say as the result of personal observation that the case which above all others will be best influenced by vasodilators is one in which the blood pressure is high (over 200 mm.), and in which no direct response to the drug in the pressure record is apparent, but merely the indirect response in pulse rate and bodily comfort, as above noted.

7. The employment of vasodilators in the late stages of Bright's disease with cardiac dilatation, dropsy, etc., is practically useless, and were it not for the fact that the vasomotor control of the peripheral circulation is too much disturbed to respond, they might do harm. The fact that the case was primarily one of high tension forms no excuse for continued reliance on these drugs under such circumstances.

103 State Street.

GONOCOCCUS-CONJUNCTIVITIS IN ADULTS AND INFANTS.

A REVIEW OF TREATMENT AND RESULTS IN ONE HUNDRED AND TWENTY-NINE CASES IN THE PHILADELPHIA GENERAL HOSPITAL DURING THE PAST SIX YEARS.*

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PHILADELPHIA.

The study of the following 129 cases of gonococcus infection of the conjunctiva, occurring in the services of Drs. G. E. de Schweinitz, C. A. Oliver, H. F. Hansell and J. W. Croskey in the Philadelphia General Hospital, covers a period extending from May, 1900, to July, 1906.

For a convenience and for more accurate study such a series would naturally divide itself into two groups:

1. Those in which the infection occurred subsequent to labor, or gonococcus-conjunctivitis.

2. Those in which the infection could be traced directly to birth, or conjunctivitis neonatorum.

In using the term gonococcus-conjunctivitis in preference to gonorrheal, I follow the suggestion of Holt, because it eliminates a factor which is wholly lacking in many of these cases. Of the 129 cases that came under observation, 72 cases could be included under Group 1, or gonococcus-conjunctivitis, and 57 under Group 2, or conjunctivitis neonatorum. Of these 72 cases of the former involving 106 eyes, 54 cases occurred in adults, 44 of which were males and 10 females, while the remaining 18 cases were among children and only 4 of these were of the male sex. The cause of this apparent influence of age on the frequency of this affection in the two sexes is obvious and will be referred to indirectly later on.

Among the adults there was a bilateral involvement in 19 cases and a unilateral involvement in 35 cases and, strangely enough, in the latter series the left eye was involved twice as often as the right, the actual numbers being 23 and 12. Among the children 15 cases were bilateral and 13 unilateral.

GROUP I, OR GONOCOCCUS-CONJUNCTIVITIS.

Positive reports of bacteriologic examinations were obtained in 48 cases, and, while in the remaining 24 no record of such an examination could be found, 16 of them had associated gonorrhea, which leaves but 8 partly unaccounted for. Of these a history of accidental infection from probably contaminated eyes was obtained in the cases of 2 female children and 1 female adult; one male adult had had two previous attacks of gonorrhea the last 6 months before his eye became involved, but stated he had no urethral discharge at the time; another male adult denied gonorrhea, but there was no record of an examination. In the remaining cases, two male adults and one male child, no data of any kind were recorded. It should be stated that over half of the records that failed to give bacteriologic data were filed before the present efficient laboratory system was instituted, and some of them were due to the failure of the resident to record results of such an examination.

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* Read before the Section of Ophthalmology of the College of Physicians of Philadelphia, Nov. 20, 1906.

On admission to the eye wards 42 of the 106 eyes were found to have some corneal involvement, while no data of the same could be found in 64. Sixteen of these 64 eyes that entered with clear corneæ subsequently developed some abnormalities in this structure, so that on discharge 48 corneæ had remained clear and 58 had undergone some change consequent to the gonococcus infection.

In those cases in which no vision was recorded and in which some corneal involvement had occurred, by knowing the site of the lesion and such remarks as "cornea much clouded," "macula near corneo-scleral junction, etc., a crude estimate of the probable effect on vision could be made. It should be stated that where the eye was lost or only light perception remained, such conditions were almost invariably recorded. By such procedure it was found that of these 58 eyes that suffered some corneal change, 8 were enucleated, 21 were blind or had but light perception, 10 had a moderate reduction of vision, while in 19 sight remained unimpaired or was but slightly affected. It is thus seen that where the cornea became involved it resulted in a practical loss of just 50 per cent. of the number of eyes affected.

If we follow out the 16 cases in which the cornea became involved while in the house, we find that 2 eyes were enucleated, 4 were blind or had but light perception, 3 showed a moderate reduction in vision and there was but slight or no impairment in 7 eyes. It may be stated that one of these 16 eyes had a peripheral ulcer that perforated as the result of a blow from the patient's thumb, but owing to the site of the lesion he recovered with some vision. It can thus be seen that in 6 of these 16 eyes, or 37.5 per cent., there was practically a total loss of vision.

It was rather interesting to trace out how many of these 72 cases of gonococcus-conjunctivitis were due to a probable autoinfection. As above mentioned, there were 44 cases among male adults, and, of these, 32 had a urethritis, while in 12 the records failed to state its presence or absence. Of the 4 male children involved there was no record of any associated gonococcus infection; 5 of the 10 cases in female adults had the clinical manifestations of a gonorrhea, while in the remaining cases no note was made as to its presence; 6 of the 14 cases in female children also had the clinical manifestations of a gonorrhea, bacteriologic examination verifying the diagnosis in 4 cases, while in one other a suppurating bubo developed. It is not likely that any one familiar with the conditions at Blockley would take exceptions to the conservative statement that probably 90 per cent. of the male adults treated for gonococcus-conjunctivitis could be shown to have an associated gonorrhea if proper measures were pursued. Also, that if carefully prepared smears were made from the cervix or from Bartholin's and Skene's glands in the female, fully 50 per cent. of those delivered at the maternity and who suffered from gonococcus-conjunctivitis would show some form of associated gonococcus infection. Such being the condition of affairs, these cases do not excite the same amount of sympathy as do the children that come under observation for gonococcus-conjunctivitis, where, if there is a vaginitis existing in the female, it is almost invariably one of accidental infection.

All of us are familiar with the increase in recent years of gonococcus-conjunctivitis in young girls, due probably to the increased frequency of vulvo-vaginitis in these children. While vaginitis or vulvo-vaginitis in children probably belongs more accurately to gynecology, nevertheless it has a distinct bearing on ophthalmology, and, in my opinion, deserves more consideration than has been accorded to it in the past.

A number of excellent papers have been written on this subject in recent years, among which may be mentioned one by Dr. Sara Welt-Kakels[1] and another by Dr. Emmett Holt.[2] As is now well known, this affection has a marked tendency to become epidemic in institutions for children and is exceedingly difficult to stamp out, probably more so than any of the so-called infectious diseases of childhood. Holt found that in the early years of his experience with this affection in the Babies' Hospital in New York that sterilization of the napkins was not sufficient. Subsequently all cases were isolated, given special nurses and separate personal utensils, wash rags and sponges were forbidden and a separate laundry established; but with all this they were not fully able to control the disease. It was not until bacteriologic examinations were made in all children applying for admission that they obtained some control over this intractable and markedly infectious condition. He states that during eleven years but 6 cases of gonococcus-conjunctivitis developed in the house, and 4 of these were among the 273 cases of vaginitis. It is also interesting to note that there were 26 cases of gonococcus arthritis, 19 of which occurred among male children; of these 19 cases but one had a demonstrable associated gonococcus infection and that was a conjunctivitis. Smears were made from the eyes, nose, mouth and urethra with negative results. One of these cases of arthritis without other demonstrable gonococcus infection was the probable origin of subsequent cases of vaginitis that developed in the same ward.

It is but fair to assume that what has occurred in the New York institutions has likewise been going on in our own city. Without any effort at investigating the true state of affairs, I know of three hospitals in this city that have had epidemics of this affection within the past six months, and one of these was compelled to refuse admission to all female children during a portion of the past summer. In Blockley since March 27, 1906, there have been 38 cases among 183 children without the development of one case of gonococcus-conjunctivitis. This is unquestionably due in a great measure to the rigid routine now in force, as may be illustrated by the following case: A child who had had a vaginitis for some time was discharged on the urgent demands of the parents, only to return a week or some ten days later with a well-developed gonococcus infection of the conjunctiva. Among the 14 cases of gonococcus-conjunctivitis in female children occurring in the present report, the records show that 11 were admitted to the eye service from outside sources. As to the 3 that were transferred from other house services, one had vaginitis and later developed a bubo, while in the remaining two no note was made as to the existence of a vaginal discharge.

I have dwelt more fully on this condition of vulvo-vaginitis in children because it seems to me that we can no longer look on a gonococcus infection of the conjunctiva as a condition which affects the eye alone, but must regard it as a possible origin of infection that may

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1. N. Y. Med. Jour., October, 1904.
2. Ibid., March, 1905.

jeopardize and mar the whole future usefulness and life of the individual so affected. While I appreciate the many difficulties that often attend the treatment in private practice of these cases of gonococcus infection of the conjunctiva, it seems to me that all such cases, especially where other children are in the house, must be treated with the same restrictions that one would institute in a case of any of the so-called infectious diseases. It also seems essential that the nurse in charge should be told of the increased susceptibility of the vaginal mucosa in children and be given definite instructions for guarding against a possible infection of the same. As can be shown by this report, and as would naturally be expected, the greatest amount of danger to the eye from a specific vaginitis does not arise among hospital cases, but in cases outside the same or where they have been discharged from these institutions before a definite cure has been established.

With a knowledge of this increasing prevalence of gonococcus infection in young girls, in my opinion, ophthalmologists would not be adopting a too radical procedure to have a vaginal examination made in these cases immediately on their admission to the general eye wards. This could be readily done at the time the child is bathed without in any way attracting the attention of the patient to the examination desired.

Among the 54 cases in the present series that occurred in adults, 6 gave histories of accidental infection, these being equally distributed between the two sexes. Of the males, one attributed the infection to a public towel, another to sleeping with a man who had a purulent discharge from the eye, and the third, the day before the eye became involved, had a foreign body taken from his eye by means of a handkerchief borrowed from a friend. Needless to say, all of these strenuously denied gonorrhea, and no record could be found of such an associated affection. As to the women, one on the day previous to her first symptoms examined the inflamed eye of a friend, another nursed a child whose eye became sore three days after birth, while the third case was probably infected by her husband who had an acute gonococcus urethritis at the time her eye became involved. This last case I sent into the hospital and it may have been an autoinfection, but, if so, her original infection was probably of recent date, for I was told she had none of the clinical manifestations of a gonorrhea one month before, at which time she was delivered of a healthy baby who failed to develop a conjunctivitis, and no instillation was used after delivery aside from boric-acid solution. By way of interest I may add that this eye showed a virulent infection and quickly ran a destructive course and was finally enucleated.

In reference to the children, as above stated, none of the 4 cases in males gave histories of an associated gonococcus infection. While in but 6 of the 14 females was there recorded a history of co-existing vagnitis.

GROUP II, CONJUNCTIVITIS NEONATORUM.

Taking up the 57 cases of conjunctivitis neonatorum, we found that 24 cases developed in the house and 33 were admitted from outside sources. These were pretty evenly divided between the two sexes, 27 being males and 30 females. Inasmuch as during the past six and a half years, which is the interval covered by the present series of cases, there were delivered, in the maternity wards, some 1,076 infants, it is evident that 2.2 per cent. of these children developed conjunctivitis neonatorum. Of the whole number of cases, 52 were bilateral and 5 unilateral, making the total number of eyes involved 109. Records of bacteriologic examinations were found in nearly all of these cases, 50 giving positive reports, 3 were negative and in 4 cases no note could be found of such an examination, although in one of these the father was known to have a urethritis and the mother a vaginal discharge. Of those cases credited with negative reports, one had but one examination made, was born in the house, developed symptoms two days after birth and had the clinical manifestations of a conjunctival gonococcus infection; another likewise had the clinical symptoms and only one bacteriologic examination, but was admitted from the street, while to the third these same conditions would apply, with the exception that this infant had, in addition, a vaginal discharge.

It is now the rule at Blockley to obtain three negative reports of at least 24-hour intervals before discharging the case, unless a premature discharge is demanded by the parent. This seems to be a good working rule, but that it is none too rigid may be shown by one case in which three successive negative reports were obtained, only to be followed by five positive ones, before further negative results were determined. Another case gave 6 successive negative reports and then a positive one, while numerous others showed two successive negative examinations that were followed by positive ones. At this point it may be well to refer to the above-mentioned premature discharge of these cases. The records show that at least 7 cases were discharged on the demand of the parent before an effectual cure had been established, and 4 of these gave positive reports on their last bacteriologic examination. It seems to me that it would be well to follow up these cases after their departure from a municipal institution, such as the Philadelphia General Hospital, and not allow them to pass from medical observation for days or weeks at a time, as is probably often the case, this interval being largely determined by the apparent condition of the eye. This difficulty could be overcome by direct communication from the hospital to the family physician, if they have a doctor acting in this capacity, or by having these cases visited by either the so-called district physician or the medical inspector in whose district the case resided, for it is well known that medical advice given to the majority of these patients on their departure from a hospital is woefully neglected and still more frequently absolutely unheeded. In several instances where these cases were referred to outside sources, probable serious consequences were averted.

On admission to the ward of these 109 eyes the cornea was clear in 95, while 14 revealed lesions of varying degrees of intensity. While in the ward, or on discharge, the cornea continued to remain free from any pathologic process in 84 eyes, showing that in 11 eyes corneal changes had occurred while they were under observation.

The probable effects on vision produced by the corneal changes in the 25 eyes showing such involvement at some time during their treatment was as follows: 8 were blind or had but light perception, 7 of these cases being admitted from the street and one from the house, while the remaining 17 cases had various degrees of impairment, several probably escaping with vision unaffected. Among this last number 14 were admitted from the outside and but 3 from house services. Concerning the 11 eyes that developed corneal changes while under observation, 4 were blind or had but light perception, 3 of these entering the ward from without and one from within the house, while 7 had some probable visual defect, 5 of these entering the institution from the street and two being transferred from other wards.

The mortality in the 57 cases above reported was high; 11 of them dying after varying terms of treatment as the result of associated gastro-intestinal or pulmonary lesions. In fact it may be stated that a large number of the infants that came under observation showed marked evidences of malnutrition, and in two instances the records showed co-existing evidences of hereditary syphilis.

TREATMENT.

Before referring to the specific treatment instituted in these two groups of cases, it seems appropriate to allude to a condition which frequently has a direct bearing on the ultimate result in these cases. In gonococcus infections of the conjunctiva where success or failure of treatment is usually dependent on the condition of the cornea, we should take some cognizance of one of the important factors producing a change in this structure. I refer to the excessive chemosis of the conjunctiva which is so common in this affection and which is very frequently the cause of corneal involvement by its impinging on this structure.

Probably every observer has seen cases of slight corneal haze clear up after incisions were made in a much chemosed conjunctiva. Such being the case, how easy it would be to attribute the saving of the cornea to medical rather than to surgical procedures. Hence I believe we should know in what cases scarification was used and how much of the success attained was probably due to this procedure. Unfortunately I could not find any data bearing on this important factor.

In analyzing this series I have drawn the percentages from the number of eyes rather than from the number of cases because it seems to be the more accurate, for the latter method would fail to state whether the cornea became involved in one or in both eyes and it would also probably cause other faulty conclusions as to the true conditions. The treatment sheets filed with the records show that argyrol was used routinely by but one of the four visiting chiefs. Such being the case, it is but fair to surmise that in the majority of cases the severe infections were treated with that preparation in which the attending surgeon had the most confidence. Within the past nine months I have had the privilege of hearing three of the visiting surgeons express their preference for nitrate of silver, and, judging from the frequency in which this silver salt was used by the other surgeon in attendance, he probably had the same preference.

In the cases about to be referred to, the patients were put to bed on their admission to the eye ward, appropriate treatment was instituted to correct any constitutional impairment and, needless to say, when any associated gonococcus infection existed, proper measures were employed to combat the condition. It also seems proper to allude to the faithful and efficient nursing which has been such a notable feature in this series of cases, and, in fact, is an essential factor in the proper management of the affection. Atropin and eserin were used in those cases in which they seemed indicated.

Group 1.—*Gonococcus-conjunctivitis.* In these cases cold was consistently used in the early stages of the affection unless there was some co-existing corneal involvement. Dr. Miles Standish states[3] that he would regard heat as preferable if the aim of the surgeon is to reduce swelling. If to affect further growth of the gonococcus, he refers to Kolle and Wassermann's statement that a growth of this organism is inhibited at the temperature of 86 F. Dr. Standish took the temperature of the conjunctival sac in a patient with gonococcus-conjunctivitis before the application of ice and found a temperature of 100 F. After the application of cold for 22 hours the temperature was reduced but 2 degrees; as a consequence he regards the application of cold as useless in inhibiting the growth of the organism. Dr. Weeks, in referring to this statement, stated that he had reduced the temperature of the conjunctival sac to 92 F. by the application of cold which was at least sufficient to retard or limit the growth of the gonococcus. Dr. de Schweinitz, in the last edition of his book, states that in a certain number of cases of gonorrheal conjunctivitis in adults, during the early stage, cold is not only most agreeable to the patient, relieving pain and irritation, but of distinct value in checking the inflammatory process and the movement of the bacteria.

In reference to the solutions used for cleansing, boric-acid solution was given the preference, with potassium permanganate a close second, while bichlorid solution, formalin and silver nitrate were each used in about an equal number of cases and would rank a poor third. It may be said that in association with these sterile water and physiologic salt solution were used in some cases.

THE SALTS OF SILVER IN GONOCOCCUS-CONJUNCTIVITIS.

The various silver salts used were the nitrate in 34 cases, argyrol in 20 cases, protargol in 2, nitrate of silver with argyrol or protargol in 9; no silver preparation was used in 5, and in 2 cases the treatment sheet was missing from the records.

To obtain any idea of the effects of treatment the only cases available are those which entered the institution with clear corneæ. Of these the records showed that silver nitrate was employed in 31 eyes, with subsequent involvement of the cornea in 8, or 25.8 per cent.; argyrol in 20 eyes, with corneal involvement in 4, or 20 per cent.; protargol in 4, with no subsequent corneal changes; nitrate of silver and argyrol in 6 eyes, with corneal involvement in 2, or 33 1/3 per cent.; no silver preparation in 2, with one eye developing corneal changes, or 50 per cent., and in the case of one eye that revealed corneal involvement the treatment sheet was not among the records. It is thus shown that 16 of the 64 eyes above enumerated developed some abnormalities in the corneal tissues. Among these nitrate of silver was used in 2 eyes that were enucleated, one that was blind or had but light perception, one that had a moderate reduction of vision and 4 that had slight or no impairment. So that among the 31 eyes in which nitrate of silver was used there was a practical loss of the eye in 3 cases, or 9.67 per cent. In the eyes treated with argyrol 2 were blind or had but light perception, one had a moderate reduction, while another had but slight or no impairment of vision. Here the practical loss of eyes would equal 10 per cent. In the 2 that suffered corneal changes when treated with nitrate of silver and argyrol one had a moderate reduction and another slight or no reduction of vision. There was slight or no impairment of sight in the one case with corneal change where no silver preparation was used, while the process involving the cornea in the eye where no treatment sheet could be found, resulted in a blind eye.

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[3] The Journal A. M. A., Dec. 17, 1904.

Standish[3] reports 32 cases treated with protargol with corneal involvement in 34 per cent. and 23 cases treated with argyrol with subsequent corneal changes in 30.5 per cent. He reports[4] an additional 29 cases treated with argyrol, so that in all he had treated 52 cases with this preparation with subsequent corneal involvement in 22 cases, or 42 per cent.

Standish, since the appearance of argyrol, has given the preparation a thorough trial and evidently still regards it as our best method of exhibiting silver in gonococcus infections of the conjunctiva, despite Derby's most interesting paper on the bactericidal properties of the various silver preparations now on the market. Derby,[5] in his laboratory experiments, used the *Staphylococcus pyogenes aureus* instead of the gonococcus owing to the difficulties attending the propagation of the latter by our present laboratory methods. He found that nitrate of silver in 0.5 per cent. to 2 per cent. solutions killed the culture in 2 to 5 minutes and that an exposure of 30 seconds to a 0.5 per cent. solution was sufficient to prevent its growth. Protargol in from 2 per cent. to 4 per cent. solutions killed in from 3 to 5 minutes, while a one-minute exposure prevented growth. Collargol in a 4 per cent. solution failed to prevent a growth after an exposure of an hour. Ichthargan and argentamin in weak solutions both killed the growth after an exposure of 4 minutes, but he adds that both are very irritating.

He states that argyrol's bactericidal properties are very weak and that a large series of observations gave a growth after an exposure of 1 to 2 hours to solutions the strength of which varied from 10 per cent. to 50 per cent. He calls attention to the experiments of Verhoeff and confirms his statements that if human blood serum be added to solutions of sodium aurate and protargol their bactericidal properties are destroyed. He also states that he found that the action of Lugol's solution and bichlorid solution of the strength of 1:1000 was much retarded by serum such as hydrocele fluid and bovine blood serum.

Group 2.—*Conjunctivitis Neonatorum.* Here I deem it necessary again to refer to the general nutrition of the majority of the cases that come under observation in the Philadelphia General Hospital, a factor which has no little bearing on the ocular results in these cases.

Inasmuch as the vast majority of these infants come from the lowest social strata in the city, poverty, ignorance and negligence are responsible for the advanced stages of malnutrition so frequently seen on their admission and renders a prognosis grave, not only from an ocular aspect, but from a systemic one as well.

In taking up the cases in this group we find that cold was used in the initial stages in the majority of cases, but not as consistently as in Group 1. For cleansing, boric acid was used in 36 cases, potassium permanganate in 14, formalin in 5 and bichlorid in 2 cases. Here, as in Group 1, sterile water and physiologic salt solution were used with the above in some cases.

THE SILVER SALTS IN CONJUNCTIVITIS NEONATORUM.

As to silver, the nitrate was used in 32 cases, argyrol in 8, nitrate of silver and argyrol in 9, the nitrate and protargol in 1 and no silver preparation in 7 cases. It is interesting to note the result in this last group, for these 7 cases treated without any silver preparation recovered with the cornea intact or at least no note of any lesion could be found on the records. Whether the result obtained in these few cases was influenced by the less amount of manipulation required, by the character of the infection or by the few cases reported, can not be determined, but probably all were contributing factors.

Referring again to those instances in which the eye was free from corneal involvement on admission, we find that 50 of these eyes were treated with nitrate of silver, with subsequent corneal involvement in 6, or 12 per cent; 14 eyes were treated with argyrol, in which but 1 developed corneal changes, or 7.14 per cent.; 16 with nitrate of silver and argyrol, with 2 showing corneal changes, or 12.5 per cent.; 2 with nitrate of silver and protargol, in both of which the cornea became involved, while in 13 eyes no silver preparation was used and, as above stated, none of these developed abnormalities of the cornea. Standish reports 50 cases treated with nitrate of silver with corneal involvement in 5.6 per cent.; 150 cases treated with protargol, with corneal changes in 2 per cent., and 201 cases with argyrol in which only 4 cases, or 2 per cent., developed some corneal abnormality.

In the 11 eyes that developed some change in the corneal structure while under observation, the treatment was as follows: With nitrate of silver one eye was blind or had but light perception, while in 5 there were varying degrees or no visual impairment. This gives a total loss of vision in 2 per cent. of the eyes so treated. With argyrol one eye became blind or a total loss of vision in 7.14 per cent. In the 2 eyes with corneal involvement treated with nitrate of silver and argyrol, neither resulted in a destruction of vision, while in the 2 treated with nitrate of silver and protargol the corneal changes were extensive and produced blind eyes.

In conclusion, it may be noted that at Blockley both the Credé method and the instillation of argyrol are used at the maternity. At the University maternity, argyrol has been consistently used during the past year or two, while at the Preston Retreat I have been told that argyrol was abandoned about one year ago and that the Credé method is now exclusively employed. At the Maternity Hospital the Credé method alone is used.

1928 Chestnut Street.

A CONTRIBUTION TO THE STUDY OF THE OPSONINS.

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While engaged in the study of the opsonins there arose the following questions which have not received appropriate consideration in previous publications and which, nevertheless, are deemed important:

1. What influence has the strength of the bacterial emulsion on the phagocytic index and the percentage of phagocyting cells?

To this end an emulsion of the *Staphylococcus aureus* of definite strength was prepared and progressively diluted; the serum and corpuscles came from a healthy individual. The results are shown in Table 1.

In this table it will be observed that the phagocytic index and the percentage of phagocyting cells are, generally speaking, in direct proportion to the strength of the bacterial emulsion. This influence of the varying

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[4] Ophthalmic Record, August, 1906.
[5] Boston Med. and Surg. Jour., Sept. 27, 1906.

TABLE 1.

No. of cocci per c.mm.	No. of cocci per leucocyte.	Percent. of phagocyting cells.
11,800,000	7.3	100
8,850,000	4.7	97
5,900,000	3.7	87
4,425,000	3.2	87
2,950.000	2.8	86
2,212,500	2.4	71
1,475,000	2.0	74
1,106.250	1.8	75
737,500	1.6	67
553,000	1.0	47
368,750	0.85	42
276,500	0.80	57
138,250	0.58	36
138,250	0.58	36
69,125	0.49	29

strength of the emulsion is further shown in Table 2, in which both the opsonic bacillary index (Wright) and the percentage index (Simon) are worked out:

TABLE 2.

No. of cocci per c.mm.	No. of cocci per leucocyte		Percent. of phagocyting cells.		Wright's index.	Simon's index.
	Patient's serum.	Pool.	Patient's serum.	Pool.		
3,750,000	2.54	3.15	87	82	0.80	0.94
1,875,000	1.68	1.90	68	70	0.88	0.85
937,500	1.26	1.36	58	65	0.90	0.89
468,750	1.02	1.78	50	45	1.30	1.11
234,375	0.73	0.71	37	33	1.02	1.05

2. What effect has the period of incubation on phagocytosis? To determine this point charged pipettes were incubated for varying periods of time at 39 C. The phagocytic index and the percentage of phagocyting cells were then determined as usual. The strength of the bacterial emulsion corresponded to 937,500 cocci per c.mm.

TABLE 3.

Period of incubation.	No. of cocci per leucocyte.	Percent. of phagocyting cells.
15 minutes.	1.36	65
30 minutes.	2.24	65
45 minutes.	2.80	87
60 minutes.	4.00	90
90 minutes.	4.01	90

The results show that with a long exposure both the phagocytic index and the percentage of phagocyting cells undergo a distinct increase, the maximum being reached in one hour. After two hours the degenerative changes in the leucocytes become so extensive that accurate observations are rendered impossible.

3. Does phagocytosis occur at room temperature, viz., from 13 to 15 C.? Pipettes were charged as usual and left for varying periods of time as indicated in Table 4.

TABLE 4.

Period of exposure.	No. of cocci per leucocyte.	Percent. of phagocyting cells.
One hour.	0.18	14
Two hours.	0.76	35
Three hours.	0.89	36
Six hours.	1.22	47

This shows that phagocytosis does occur, but that an exposure of fully six hours is necessary before the extent of phagocytosis reaches those figures which we usually see after fifteen minutes exposure at body temperature.

4. What effect has the number of persons composing the pool on the opsonic index? In determining the above question the sera of ten healthy persons were collected and mixed in equal proportions, thus giving ten pools, containing from one to ten sera. With these the opsonic index was determined, using an emulsion of the *Staphylococcus aureus*. The normal serum gave 56 per cent. of phagocyting cells, with an average number of cocci per leucocyte of 1.14.

Table 4 shows plainly the advantages of Simon's percentage index over Wright's bacillary index, which latter will vary to a greater extent if cells are included in the count in which maximal numbers of organisms are contained, which is frequently almost unavoidable, owing to the difficulties which attend the preparation of perfectly homogenous emulsions. With specially satisfactory emulsions the two indices practically coincide. It is apparent that Simon's index is thus a check on the bacillary index.

TABLE 5.

Pool.	Percent. of phagocyting cells.	No. cocci per leucocyte.	Wright's index.	Simon's index.
One person	62	1.24	0.91	0.90
Two persons ...	57	1.18	0.96	0.98
Three persons..	60	1.42	0.80	0.93
Four persons ..	56	1.16	0.98	1.00
Five persons ...	64	1.19	0.95	0.87
Six persons	71	1.52	0.75	0.79
Seven persons..	58	1.11	1.00	0.96
Eight persons ..	60	1.40	0.81	0.93
Nine persons ..	68	1.48	0.77	0.82
Ten persons....	71	1.52	0.75	0.79

If we interpret the finding in Table 5 in this sense, the variations in Wright's index are readily explained, and it follows that a simple or at most a double mixed pool is necessary for ordinary purposes, a conclusion to which I believe Wright himself has come.

5. What effect has the age of the culture on phagocytosis? An emulsion (a) was made from a 46-hours-old culture containing 2,350,000 cocci per c.mm., and a second emulsion (b) from a 42-days growth containing 3,380,000 cocci per c.mm. In the first instance the average number of cocci per leucocyte was 4.84 and the percentage of phagocyting cells 95, while in the second case the phagocytic index was 9.6 and the percentage of phagocyting cells 99. It follows that the aging of the culture does not lead to a drop in the phagocytic or percentage index.

6. What effect has boiling and the addition of preservatives to bacterial emulsions on phagocytosis? The above emulsion (a) was placed in boiling water for 30 minutes, after which the phagocytic index was 7.18 and the percentage of phagocyting cells 96. This heated culture was then preserved for 3 days with about 0.25 per cent. of lysol. The average number of cocci per leucocyte was now 2.81 and the percentage of phagocyting cells 77.

One portion of emulsion (b) was similarly preserved with thymol and the remainder with chloroform for 3 days. In the first instance the phagocytic index was 8.03 and the percentage of phagocyting cells 95, and in the second 8.43 and 98 respectively.

This shows that boiling, thymol and chloroform have no inhibitory effect on the opsonic values, so far as the usual technic goes, while lysol seems to produce a decrease.

7. How long do the opsonins remain active? In other words, how long can the serum be kept before examination using the small quantities which are usually taken?

The results show that the serum loses one-half of its opsonic power in 24 hours; after this there is practically no further loss in the following 24 hours. The value then rapidly drops, but, however, does not wholly disappear until after 5 days. It is to be noted that the serum was collected and kept in a sterile condition. (Table 6.)

How long do the corpuscles retain their capacity for

TABLE 6.

Age.	Phagocytic index.	Percent. of phagocyting cells.
Fresh serum	4.08	92
Twenty-four hours old.......	1.92	72
Two days old..............	1.90	70
Three days old..............	0.39	22
Four days old	0.39	19
Five days old	0.14	8

phagocytosis? In this instance also the corpuscles were kept sterile and fresh serum used in every case. (Table 7.)

TABLE 7.

Age.	Phagocytic index.	Percent. of phagocyting cells.
Fresh corpuscles	1.09	45
Twenty-four hours old	0.61	29
Two days old	0.30	18
Four days old	0.09	8

The results show that only fresh corpuscles can be used in opsonic work, and my experience has been that after six hours many of the cells are dead and that fallacious results are obtained if such cells are used.

9. How many cells must be counted in order to obtain a satisfactory result? Emulsions of various strengths were prepared, and both the bacillary and Simon's index determined for 25, 50, 75, 100, 150, 200, 300 and 400 cells respectively. The results are shown in Table 8.

TABLE 8.

A. Emulsion of 2,000,000 cocci per c.mm.:

Cells counted.	Wright's index.	Simon's index.
25	1.00	1.26
50	0.97	1.00
75	0.96	1.00
100	1.69	1.02
150	1.16	1.12
200	1.23	1.20
300	1.18	1.11
400	1.27	1.15

B. Emulsion of 666,666 cocci per c.mm.:

Cells counted.	Wright's index.	Simon's index.
25	1.85	1.18
50	1.32	1.16
75	1.03	1.00
100	1.25	1.02
150	1.30	1.02
200	1.12	0.97
300	1.13	1.04
400	1.06	1.00

C. Emulsion of 222,222 cocci per c.mm.

Cells counted.	Wright's index.	Simon's index.
25	1.20	0.60
50	1.62	1.14
75	1.75	1.27
100	1.75	1.26
150	2.21	1.60
200	2.15	1.70
300	2.00	1.62

D. Emulsion of 74,074 cocci per c.mm.:

Cells counted.	Wright's index.	Simon's index.
25	No index.	No index.
50	0.66	1.00
75	0.50	0.62
100	0.57	0.70
150	1.14	1.26
200	1.18	1.15
300	0.95	0.96
400	1.05	1.11

The results show that with weak emulsions the chances of error are greater than with stronger emulsions, bearing in mind that with too rich emulsions counting becomes difficult, if not impossible.

In these experiments, likewise, the advantage of Simon's index is at once apparent, although with the weaker emulsions it also becomes somewhat uncertain.

In conclusion I wish to express my appreciation to Dr. Charles E. Simon, at whose suggestion the above experiments were undertaken.

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Induced Hyperemia in Treatment of Acute Infections.—G. Fichera publishes in the *Policlinico*, xiv, 6, 1907, the results of extensive experimental and clinical research on the efficacy and the mechanism of Bier's stasis hyperemia. His article is illustrated and is accompanied by nearly 8 pages of international bibliography on the subject. His conclusions are to the effect that the hyperemia induced retards the circulation through the part, while the transudation and diapedesis impede the general invasion of the organism by the bacilli. At the same time as the medium becomes less favorable for them, they fall a prey to the migrating leucocytes as phagocytosis is exceptionally active under these conditions.

GONORRHEAL PROSTATITIS.*

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The constancy with which prostatitis occurs when gonorrhea invades the posterior urethra, and the persistent nature of that inflammation after the subjective symptoms, and the more evident of the objective symptoms, have subsided, give this condition the right to more consideration.

That a gonorrheal inflammation of the posterior urethra ever occurs without involving the prostatic ducts to a greater or less degree seems unlikely. Anatomically, there is little to invite a posterior urethritis to the exclusion of the prostate. The character of the epithelia, the scarcity of mucous glands, and the almost vertical direction of the canal, which is distended so much of the time with urine and made one with the bladder cavity, are factors against a theory that the prostatic urethra can be affected with a gonorrheal infection without the prostate participating.

Acute gonorrheal prostatitis—the division of this affection into the catarrhal, the follicular, and the parenchymatous forms—may well be accepted as expressing the clinical varieties, providing the tendency of one form to merge into another is appreciated.

CATARRHAL PROSTATITIS.

This form is by far the most frequent of the acute varieties. It is highly probable that with every posterior gonorrhea there is some involvement of the prostate and though it may extend but a short distance into the prostatic ducts and be relatively mild, it is obvious that its existence should be appreciated.

The symptoms of catarrhal prostatitis go hand in hand with the symptoms of posterior urethritis—the increased desire to urinate, the cloudiness of both portions of urine, and the characteristic small, round and comma-shaped shreds which so often appear. These filaments, when examined microscopically, are usually small plugs or casts made up of mucus, pus cells, cuboidal and cylindrical epithelia, and gonococci. The prostatic origin of these shreds is not difficult to prove. If after a portion of the urine is voided light digital pressure is made on the prostate, the shreds are squeezed into the urethra and carried out with the urine which is then passed.

The danger of manipulating the prostate during an acute inflammation of that organ is ever to be borne in mind on account of its tendency to produce not only an acute epididymitis but an extension of the prostatic involvement as well. The clearing up of the acute posterior urethritis is, I believe, seldom accompanied with a resolution of the catarrhal prostatitis. Its tendency is to go on to a chronic condition.

The diagnosis must usually be made by the urine, as examination of the gland by the rectum frequently fails to show any change in size or consistence or give any areas of tenderness.

FOLLICULAR PROSTATITIS.

This may be an extension of the catarrhal form or it may follow directly the onset of an acute urethritis posterior. The process of inflammation extends in a selective way along certain ducts toward the periphery of the gland, and usually in its upper part, there to establish, by purulent or cystic distension of the alveoli, the small nodules or tender areas detected by digital examination. The symptoms accompanying this phase of acute prostatitis are not unlike those of the previous variety—increased and usually painful urination, the pain intensified at the close of the act; both urines cloudy; and the comma-shaped shreds, which are seldom absent.

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* Read before the Section on Genito-Urinary Diseases of the New York Academy of Medicine, November 21, 1906.

Follicular prostatitis, like the catarrhal, tends to become chronic. The treatment during the acute stage consists in the treatment of the urethritis, by the avoidance of bodily exercise, by the avoidance of local manipulation of the prostate, and by the avoidance of constipation, and the institution of such measures as will tend to reduce the existing congestion and inflammation.

PARENCHYMATOUS PROSTATITIS.

In its milder forms this is clinically identified by the hyperemia or congestion of the entire gland. By the rectum the prostate is felt to be evenly swollen and smooth, and its consistence is elastic or edematous, though, from time to time, only one of the lateral lobes is found thus affected.

Although the organ is distinctly sensitive to pressure there is no sharp pain, but the patient experiences a sense of fullness in the perineum. Urination is made more difficult and painful and defecation is attended with pain and discomfort. There is no fever. The condition under appropriate treatment may subside in a few days and all subjective symptoms disappear or it may go on to chronic prostatitis or take on the progressive course which we recognize as the severer form of parenchymatous prostatitis, and which at times ends in abscess formation. Here we find a patient suffering with a painful sense of pressure and swelling in the perineum and rectum. Micturition usually becomes difficult and painful, though in some cases this is absent, while in other cases there is complete retention. Pain may radiate to the glans penis, to the thighs or across the back. Defecation may be very painful and erections and pollutions distressing. Fever may be present and accompanied by chills, though Casper had 21 cases which went on to prostatic abscess, and among them only four had a rise of temperature. On palpation the neighboring parts are found extremely sensitive, while the rectal examination of the prostate is exquisitely painful.

The gland is found swollen to twice or four times its normal size. It feels hot and is hard and tense, being sharply defined against the surrounding softer structures. Its surface is smooth, seldom irregular and one side only may be affected.

Notwithstanding the severity of the process, it may not go on to abscess formation, but, in from one to two weeks, the symptoms may subside and resolution take place. This, fortunately, occurs in the larger proportion of cases, which then go on to a chronic condition.

When suppuration does occur, the clinical picture usually becomes intensified. The pain on urination is increased, ischuria is common and the prostate becomes a pulsating and painful tumor. Rectal tenesmus is constant. The temperature rises, the tongue becomes dry, thirst is intense and the appetite gone; headache and backache ensue. Thrombosis of the periprostatic venous plexus, or in the prostatic veins themselves, may take place and go on to a typical occurrence of pyemia. It is usually not difficult to detect suppuration in the inflamed prostate.

Surgical interference is at this moment demanded. If it is delayed, the abscess usually empties itself, and most commonly into the urethra. The urine then becomes loaded with the products of suppuration, and the fever, the dysuria and the rectal tenesmus rapidly subside. It may be that the evacuation of pus is incomplete, and in this instance the disappearance of symptoms is delayed and the process may proceed to a chronic condition. Complications, such as infiltration of urine, gangrene, chronic septicemia, or fistula, at times ensue.

Next in frequency to the urethra as an exit for the pus, come the rectum and the perineum in the order given. In Segond's collection of 102 cases, perforation occurred 64 times into the urethra, 43 times into the rectum, 15 times into the perineum, 8 times into the ischiorectal space, 3 times in the inguinal region, twice through the obturator foramen and once each through the navel, through the ischiatic foramen, at the border of a false rib, into the abdominal cavity and into the space of Retzius. The after-results of prostatic abscess may be chronic suppuration, neurasthenia, impotentia generandi, stricture of the rectum, etc. It is to be borne in mind that besides the complications which not infrequently attend suppurative prostatitis the mortality is considerable. In the 102 cases of Segond's referred to above, there was a 34 per cent. death rate. This is, however, considered very much too high according to other observers.

The treatment of these severer forms of parenchymatous prostatitis is both general and local. The patient should be put to bed, a light diet given and the lower bowel kept empty. Urinary antiseptics should be given and warm applications or sitz baths prescribed. Early in the process the direct application of cold to the prostate by means of one of the instruments designed for that purpose is often apparently of great benefit. The severer pain and dysuria must be controlled by opium or its alkaloids. A complete retention of urine demands catheterization. With the breaking down of the process into abscess formation comes the necessity for surgical relief.

CHRONIC PROSTATITIS.

This condition assumes a degree of importance which the acute varieties cannot approach. On the score of infectiousness acute prostatitis is little to be feared, as the active and painful nature of the condition renders the individual practically incapable of sexual intercourse. On the other hand, chronic prostatitis, which is so often wholly devoid of subjective symptoms, is probably a fertile source of the infection of women. In this connection it is to be especially noted that the great majority if not all of the acute inflammations of the prostate pass on to a chronic condition.

To divide chronic prostatitis, of which the chief etiologic factor is the gonococcus, into pathological and clinical varieties is of little moment. Clinically, the disease gives little evidence that can be put down as surely characteristic of one or another variety, and pathologically we usually find, in the same prostate, changes belonging to various forms of inflammation. At the same time the fact is not to be overlooked that chronic gonorrheal prostatitis varies much in degree and in resistance to treatment.

Symptoms.—The majority of cases of chronic prostatitis run a mild course without subjective symptoms, the patients voiding perfectly clear urine. In others the symptoms are so well masked by the persistence of a urethritis that a precise diagnosis is difficult. In the remaining class, however, some of the characteristic symptoms appear: Disturbance of urination, the changes in the sexual function, abnormal sensations, referred pains, neurasthenia, suffering from pains across the back, down the thighs or in the testicles, constipation, pain before and after defecation, headache and mental depression. With some patients frequency of micturition, which may be attended with pain, is the most prominent symptom and to this may be added the sense of not having completely emptied the bladder. With other patients the disturbances of the sexual function seems to stand out as the chief difficulty, such as absence of normal sensation at the moment of ejaculation, pain with the seminal discharge, distressing and persistent erections at night, premature ejaculations and decreasing sexual ability. It is in these individuals that we most frequently see the best marked types of sexual neurasthenia.

Some authors hold that prostatorrhea is one of the chief symptoms of chronic prostatitis. The writer's experience coincides with those who consider prostatorrhea as an unusual occurrence in this condition. The combination of chronic prostatitis and cystitis is by no means uncommon. In these cases the treatment of cystitis without recognition of the prostatitis, and attention to it, proves very disappointing.

All cases of persistent urethral discharge or a persistent morning drop or those cases with a chronic and constantly recurring discharge, should be suspected and examined for prostatitis.

Diagnosis.—Although the subjective symptoms give a valuable clue to the condition, an exact diagnosis cannot be made without digital exploration of the prostate by the rectum and what is more important, microscopic examination of the expressed prostatic secretion.

A knowledge of how the normal gland should feel in the different periods of life is essential to the appreciation of size, configuration, consistence and sensitiveness of the diseased organ. The changes in prostatitis noted by palpation are many. The gland is usually larger than normal, although this is by no means always the case, for in some instances it is found markedly atrophic. Frequently one lateral lobe only is affected, or the organ may be very irregular in outline and feel as though it were made up of many lobes. Nodulation may be abundant or there may be but one or two nodes and these may vary in size, consistence and location, but they are usually about the size of a pea, hard, and situated nearer the upper part of the gland. The general enlargement of the prostate which results from a parenchymatous prostatitis usually gives an edematous feel to the organ, having lost its normal firm and elastic consistence, it becomes, as some authors put it, flabby, this varying much in degree.

The condition following the follicular form is varied. The gland, as a rule, is not so large as in the postparenchymatous condition, but is usually harder, while here and there distinctly soft spots may be felt and the nodules are few or many, localized or scattered, as the case may be. Where there has been suppuration with escape of the pus, involving the whole gland, or one lateral lobe, or as in the follicular variety, small areas, the characteristic changes of contraction and firm cicatrices result and give that sense to the examining finger. In other cases there is no change in the prostate that can be appreciated by digital exploration, and no degree of sensitiveness; in these cases the diagnosis depends alone on the study of the prostatic fluid. Pain on palpation of the prostate is generally a sign of disease, but by no means always, and painful areas are not infrequently found in prostates otherwise negative to the digital touch.

The secretion which is collected at the external urinary meatus upon digital compression of the prostate, after the urethra has been cleansed by urination or irrigation, consists normally of a thin, milky fluid, at times slightly viscid. Its specific gravity is but little higher than that of water, it is usually faintly alkaline to the litmus test, and consists microscopically of lecithin globules, varying in size and usually present in great numbers, and epithelia which are partly cuboidal and partly columnar. A few leucocytes are normally present and occasionally some red corpuscles. Hyaline bodies of considerable diameter and the so-called *corpora amylacea* are not infrequently seen.

The changes from normal which most commonly take place in the prostatic fluid are in consistence and color. It becomes thicker, often flaky and yellowish or greenish-yellow from the addition of pus. Under the microscope there are added to the field of lecithin bodies pus corpuscles in varying numbers, scattered or in clumps, depending on the extent or kind of inflammation. In like manner epithelia from the ducts and alveoli are added, and these in different stages of degeneration. Fat globules may be seen free in the field or in the epithelia or pus cells.

The *corpora amylacea* seem to be much less frequently seen in gonorrheal prostatitis. It is to be especially remembered that as long as the presence of pus cells can be demonstrated a pathologic condition exists. Gonococci may be found in the pus cells and the fact that we cannot find them is not proof of their complete disappearance.

Prognosis.—When is the danger of infecting others past? When is a chronic gonorrheal prostatitis cured? To these questions no clean cut answer can be given.

When the urine contains no more shreds or other abnormal elements, and the prostatic fluid is free from pus cells, and repeated search for gonococci with the microscope and by culture test fails, certainly we have no grounds on which to maintain that the patient is still afflicted with an infectious disease. But on the other hand, we cannot positively say that such individuals have become noninfectious.

After a few months or a year we find, in a large number of the cases, the presence of gonococci impossible of proof. Unfortunately, the mixed infection, which almost always complicates these cases, renders the task of clearing the prostatic fluid of pus cells exceedingly difficult, if not impossible. Although it has been stated that so long as pus cells remain a pathologic condition exists, yet experience has taught that these cases are by no means always infectious.

From the observation of 120 cases, von Notthaft has come to the following conclusions:

1. In the second half year after the infection there was 73 per cent. of the cases in which the gonococci could be proved to be present in the prostatic secretion. In the third half year this percentage fell to 50, in the fourth half year to 18, in the third year to 6. From the end of the third year no gonococci could be found in the prostatic secretion.

2. In the second half year there were other bacteria besides gonococci found in the prostatic secretion. In the fourth half year there were no cases in which a pure gonococcic infection could be demonstrated.

In a few patients from whom the writer made cultures the results were in accord with Notthaft's series so far as mixed infection was concerned, but in none of the writer's cases were gonococci found by either the microscope or culture, yet in five cases out of the eight, considerably over 50 per cent., the infection was less than 18 months old. In 7 out of the 8 cases there was a growth of *Staphylococcus albus,* and in two of these there was added a growth of *Bacillus xerosis.* In one case there was no growth.

The conclusions to be drawn are that there is difficulty in proving the presence of gonococci in these older cases of chronic gonorrhoeal prostatitis, and that other organisms play an active part in the bacteriology of this affection.

Treatment.—Where a urethritis exists, either anterior or posterior, therapeutic measures designed for the cure of this condition must be instituted. For the treatment of the chronically diseased prostate, massage of that organ by the rectum, constitutes the most important element of the treatment. The bladder should be filled with some such mildly astringent antiseptic as protargol, ½of 1 per cent. solution. In very many cases dilatation of the prostatic urethra, either by sound or dilator, is helpful in the treatment by virtue of the internal massage and stretching it exerts, especially on the mouths of the prostatic ducts.

Digital massage, to be useful, must be done in a systematic and purposeful manner. Starting at the external upper part of the lateral lobe, the massaging finger-tip works its way toward the median line of the gland, again it is carried to the external border, immediately below the previous path of massage, and again worked toward the center. This is continued until each lateral lobe has been thoroughly gone over. Then the finger is swept over the lateral lobes downward and toward the center, emphasizing the pressure brought to bear on the median line, that the secretion may thus better be expressed into the urethra. The patient then voids the solution which has been left in the bladder, which thus washes out the urethra and comes in contact with the recently emptied prostatic ducts, which as some think, may take up some of the solution on the principle of a sponge which has been compressed and is allowed to expand while in contact with a fluid. This massage has two distinctly beneficial elements. It empties the alveoli and their ducts of the perverted secretions which have accumulated, and it stimulates a more active circulation throughout the entire gland.

Again a warning against the danger of extending the process in massaging a prostrate in which there still exists any active inflammation.

The massage which is done very gently at first, should be repeated once, twice or sometimes three times a week, depending on the necessity of the case. A few weeks' period of treatment for the milder cases up to many months of treatment for the severer cases, is required. Besides massage. such measures as electricity or heat and cold applied to the prostrate may in certain instances be helpful. Medicinal suppositories as ichthyol, have a useful place in the treatment of prostatitis.

The advancement of the patients' general condition cannot be neglected and freedom from worry or other untoward influences must be secured. Favorable progress of the prostatitis is appreciated partly by the changes in the gland felt by the rectum, but more especially by the study of the prostatic elements microscopically. Improvement in subjective symptoms is unreliable.

Although the treatment is usually long and trying, taxing the patience of the physician and his patient, yet with well directed and conscientious care on the part of the physician and earnest coöperation on the part of the patient. the latter will be freed, in the greater majority of cases, from the danger of infectiousness and other consequences of chronic gonorrheal prostatitis.

TRAUMATIC NEUROSIS.*

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Traumatic neurosis is a nervous disease following injury, in which there is no demonstrable structural lesion of the nervous system. The symptoms are much like those of the common functional diseases of the nervous system, and may be spoken of as traumatic hysteria or traumatic neurasthenia. Commonly, however, we find symptoms of both of these disorders in the same patient and not rarely the clinical picture may not be that of either of them.

Litigation is a frequent complication which materially affects the clinical history. It, not rarely, warps the judgment of the physician, and may doubly influence the patient, the many attendant conditions disastrously affecting his nervous system, while the money dangling over his head leads him, consciously or unconsciously, to distort his symptoms.

The following cases are typical of a common form of traumatic neurosis, and a long period of observation gives special value to their study. I append some consideration of special points of interest relating to the disease.

Case 1.—Mrs. L., music teacher, aged 45 at time of injury, November, 1899.

History.—She was in a street car collision, a runaway car colliding with the one in which she was riding. A physician found her fifteen or thirty minutes later lying on the floor of the car, in a dazed condition, with several cuts on her face and forehead, made by broken glass. She was confined to bed for one or two months and invalided thereafter. Her chief symptoms, and those she still presented when I saw her, were of a neurasthenic type: Insomnia, restlessness, irritability, great sensitiveness, weak memory, lack of endurance, and incapacity for thought or action. In addition she was very weak on her feet, had little use of the right hand, and there was a certain immobility of the head, because its movement caused pain in the cervical spine.

Examination.—I examined the patient in February, 1901, fifteen months after the injury had been received. The examination was made at the request of her lawyer, as a suit for damages had been instituted. The marked objective symptoms were a right hemiplegia and hemianesthesia. The motor paralysis affected only the arm and leg, and not the face. The gait was characteristic of hysteria, the paralyzed limb dragging behind instead of presenting the outward sweep of ordinary hemiplegia. The sensory loss was of all qualities of sensation, touch, pain, temperature and muscular sense. In the face the anesthesia reached to the median line. On the extremities only a part was affected. On the arm the ulnar side was anesthetic, the radial was normal. On the leg the outer side was anesthetic. the inner was normal. The special senses were also affected; there was loss of taste and smell on the right side, deafness of the right ear, and amblyopia of the right eye. There was, also, anesthesia of the mucous membranes on the right side, and, still more striking, loss of the corneal, nasal and pharyngeal reflexes. For instance, strong snuff in the right nostril gave no response, while the same applied to the left caused immediate and violent sneezing. The deep reflexes, knee-jerks, as well as pupillary reactions and optic discs, were normal.

As this case was in litigation tests were made to determine the genuineness of the symptoms. That of the nasal reflexes has already been mentioned. The patient complained of great tenderness over the cervical spine and the genuineness of this symptom was proved by the considerable acceleration of the pulse, caused by pressure over the seat of tenderness. This is called the Mannkopf symptom. In the same manner one could demonstrate the feebleness of the patient, for a very little exertion caused considerable acceleration of the pulse. The latter was also a test of the genuineness of the anesthesia, for when I applied a strong current of electricity with the brush to the normal skin, the pulse was again accelerated, while the same, or even a stronger current, applied to the anesthetic skin did not affect the pulse.

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* Read before the Cincinnati Academy of Medicine, Dec. 3, 1906.

The deafness and amblyopia were tested by Ziehen's method. I tested the amblyopic eye, also, by placing prisms and opaque discs before the sound one. All these tests proved the genuineness of the symptoms.

The lawsuit was held about one year after the time of this examination. In the meantime the changes that had taken place in the patient's condition had been rather for the worse.

The litigation resulted in a large award for damages, which was paid at once. I saw the patient several times in the next few months, but there was little if any improvement during that time. I recently heard from her physician—she does not live in Cincinnati—and he said that the motor paralysis had entirely disappeared, perhaps had done so two years after litigation was over; but he could tell me nothing regarding the anesthesia.

I have no knowledge of the objective symptoms presented by the patient prior to the time of my first examination, but, from what I could learn, I have no doubt they were more marked when I saw her than at an earlier period. Probably her condition became worse after litigation had been decided on. She became rather worse during the year between the time of my examination and the time of the trial. Thereafter, in the course of about two years, many or all of her symptoms disappeared. There can be no doubt of the marked influence of litigation on the course and progress of the case. At the time of my examination it appeared to me that there was a tendency to exaggeration of symptoms and that there was more muscular strength than she cared to make manifest. But there are no simple tests of the genuineness of motor paresis as there are of sensory impairment. The motor paralysis has disappeared. It would be of interest to know if the same is true of the sensory paralysis.

CASE 2.—Mrs. W., aged 48 at the time of injury, July, 1901, was injured in stepping off a car at night into a broken street. She fell backward, striking the back of her neck. She first called in her physician three days after the accident. He found bruises over the left shoulder and arm, and that she was suffering with pain in the left side and back of the neck. I have no accurate knowledge of the further development of symptoms; but she had various nervous symptoms and was finally sent to the Bethesda Hospital. She was in the hospital from October, 1901, to May, 1902, part of that time having decided mental symptoms, but she was finally sent home much improved.

Examination.—I saw her about two years after the injury, at the request of her lawyer, as a suit for damages was about to be tried. She presented the appearance of health, but was restless, irritable and excitable. She complained, also, of being unable to attend to her duties as housekeeper, and of having a poor memory, and much pain. There was great tenderness over some of the cervical and lumbar vertebræ; her gait was feeble; the dynamometer indicated 60 as the strength of the right hand, and 26 as that of the left; there was loss of the sense of pain over the whole of the left side, narrowing of the field of vision, loss of smell in the left nostril, and loss of pharyngeal and nasal reflexes on the left side. The knee-jerks, Achilles tendon reflex, and pupillary reactions were normal.

The genuineness of some of these symptoms, tenderness, analgesia, nasal reflex, etc., were demonstrated in the manner described in the report of the first patient.

As the result of the lawsuit the patient was awarded a large sum for damages. The case was appealed, and eighteen months later a settlement was made for less than one-half the sum awarded her by the jury.

Later Examinations.—I had the opportunity to make two further examinations of this patient, the first a year after the trial, but before a settlement had been made; the other recently, one and a half years after the settlement. At the time of the first examination she had improved very materially, but she was still neurasthenic and the objective symptoms were still present, though less marked. At the last examination, while there was even a greater improvement, she still complained that she was not so well as before the injury, and that there was some tenderness over the spine, and a degree of hemianalgesia.

It will be remembered that the patient did not consult a physician until three days after her injury and that the marked nervous symptoms appeared at a later date. I do not know what influences may have played a part in the development of her disease, but we can not go far amiss if we attribute to litigation a part of the condition found when I examined her.

CASE 3.—Miss T., aged 28 at time of injury, April, 1900, was caught and dragged by a rope which happened to be hanging from a passing wagon. She did not lose consciousness, but was considerably bruised, especially over the left hip and knee. She suffered much, was confined to bed for several months, and since then had symptoms much like those presented at the time of my examination.

Examination.—I was called by her lawyer to examine her in April, 1902—two years after the injury—at the time of an impending suit for damages. Her condition was as follows: She spoke of her memory being poor and of getting the "blues" easily, though she enjoyed seeing her friends and was generally cheerful. She complained, also, of severe backache and occasional headache, of poor sleep and little appetite. Menstruation was frequent and profuse.

I found her with rather a weak pulse, tremulous lips and tongue and manifestations of a left hemiplegia and left hemianesthesia. The left leg was considerably paralyzed; the left arm was awkward in its movements, but without manifest loss of power. There was impairment of tactile, pain and temperature senses in the left arm and leg as well as loss of smell in the left nostril, and amblyopia of the left eye. The genuineness of these symptoms was demonstrated in the manner already mentioned. The knee-jerks and Achilles tendon reflex were normal.

A few days after this examination the trial was held, resulting in a large award to the patient. The case was appealed and payment was not made until nearly three years later. I had the opportunity to examine the patient several times after this payment was made. The sensory symptoms remained unchanged, while the motor paralysis was more marked than at the time of my first visit. My examination on these occasions was a hurried one, and no effort was made to test the genuineness of the symptoms.

Sixteen months after the payment had been made, while the patient was visiting friends in the east, all her symptoms suddenly disappeared—in answer to prayer, she says.[1] It was a case that was heralded by the papers throughout the land.

I do not think there is any doubt of the influence of litigation in the course of this case.

I wish to add a brief history of a case much like the preceding ones, but in which the question of litigation did not arise.

CASE 4.—Mrs. M., aged 66 at the time of the injury, February, 1901, while sweeping the snow from her front steps, slipped and fell to the pavement, a distance of some half dozen steps. Her daughter picked her up and assisted her to her room on the second floor. Her strength at that time evidently was much greater than it was some days later, when, as her daughter states, she was practically as I found her nine months subsequently.

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[1] A physician recently made an examination at my request and found no objective symptoms. The examination was, necessarily, a cursory one.

Examination.—When I examined her she presented a right hemiplegia and hemianesthesia, but the motor paralysis did not affect the face; and the sensory paralysis was not complete; there was impairment rather than loss of sensation, the leg being most profoundly affected. In addition, the patient had much pain in the extremities, which doubtless accounted somewhat for their impaired use.

I had the patient under observation for a number of months during which time there was no improvement in her condition. I saw her again recently, nearly six years after the injury. In the meantime she had very markedly improved. The pains and anesthesia were almost gone, though a trace of the latter remained. The grasp of the right hand was still feeble, and the dorsal extensors of the foot and the flexors and extensors of the toes were paretic.

It may appear from these cases that this disease is found chiefly in females, and, possibly, this is true. But the appearance is accidental in this instance. Of a list of cases I had selected for this paper, cases alike in the type of symptoms and duration of the disease, I was unable to trace the male patients, and do not know their present condition. I was unwilling, therefore, to include them in this report.

The cases I have just reported might be termed traumatic hysteria, though they, also, have a neurasthenic element.[2] Among the symptoms are the most characteristic stigmata of hysteria, hemianesthesia, contraction of the field of vision, etc. There were also pains of various kinds and local tenderness, as well as symptoms of a neurasthenic type, such as lack of endurance, hypersensitiveness, emotionalism, irritability, depression and self-concentration.

I have given the clinical histories somewhat in detail because they are rather typical of a fair proportion of cases of traumatic neurosis, at least of those of some degree of severity and persistence and which are common subjects of litigation. Naturally other clinical pictures are often presented. Among the cases of the hysterical type, while hemiplegic manifestations are the rule, paraplegia occasionally occurs, or the symptoms may be distinctly localized, or there may be spastic phenomena, such as tremor, contraction and spasm.

In cases of the neurasthenic type we may find any or all of the symptoms common to neurasthenia. Often there are but a few symptoms, localized pains and tenderness, which may be the expression of local injury, and change of disposition, the patient being sensitive, irritable and morbid. Again, there are other cases in which the symptoms are so grave, for instance those of epilepsy or insanity, that we must believe there are profounder changes than those ordinarily found in traumatic neuroses.

DIAGNOSIS.

In diagnosis the question that confronts us is not so much whether or not we have a case of traumatic neurosis, for its manifestations are likely to force themselves on us, as whether or not we have, in addition, organic disease of the nervous system. We should always look carefully for all symptoms of the latter, but, no doubt, organic disease is often present when its symptoms elude us. In case of litigation the question naturally arises, have we to do with real diseases or only with simulation?

Simulation is not rare, and yet it appears to be the consensus of opinion among neurologists who have carefully studied the subject, that too much has been attributed to it. It is believed that an entire clinical picture such as I have above presented is rarely, if ever, simulated, while single symptoms possibly may be.

In truth simulation is more likely to occur in those already ill, and, frequently, should be classed rather under exaggeration of symptoms, a phenomenon not rare in the sick, especially in hysteria, and which should not surprise us in this disease in which greed is offered such a tempting bait.

In the report of the first case I mentioned tests which may be applied when the question of simulation arises, and there are other tests for the same purpose. At the same time one must be careful not to be misled by such an examination. For instance, the Mannkopf symptom—acceleration of the pulse on pressing on a point of tenderness—is a positive proof of pain, but, at the same time, painfulness does not always accelerate the pulse.

PATHOLOGY.

There has been much discussion of the pathology of traumatic neurosis, but little has been actually established. The older conception, concussion of the spine, and the more common ones to-day, molecular changes and disarrangement of the nerve elements, mean little to us. The intracellular changes found in fatigue, and which may be the basis of hysteria and neurasthenia, as well as of traumatic neurosis, are still far from established in that pathologic relationship. It remains for the future to show whether or not there is some structural change in the nervous system in these cases. Arteriosclerotic changes are not rarely found, but very likely they are the result and not the cause of the disease, sometimes the result of long continued depressing emotions.

The pathogenesis is a more satisfactory subject to treat. Dana's dictum, physical bruising and mental shock, is pointed and, doubtless, correct. Mental shock is the most important factor. Football players and others accustomed to danger, or in a state of mental absorption at the time of injury, appear to be not prone to the disease, though they are not altogether immune. As predisposing factors to the disease a neuropathic disposition stands uppermost. Alcohol sometimes plays a part.

PROGNOSIS.

What is the prognosis of traumatic neurosis? Some figures of Putnam throw light on this question. They are based on the study of one hundred cases, with mainly hysterical symptoms, typical anesthesias, etc., in three-fourths of which the patients had instituted claims for damages. From three to twenty years elapsed between the time of injury and the final record of the case. Twenty-five per cent. of these patients remained more or less invalided. Sudden recovery was very rare. Knapp gives figures much less favorable than Putnam's. In not more than half of his cases did any improvement take place. In his array of cases the severer types of traumatic neurosis usually followed the severer injuries and vice versa.

The paraplegic type of traumatic hysteria has a less favorable outlook than the hemiplegic. Cases in which there is a marked mental element are also unfavorable, as well as those presenting decided vascular or cardiac changes.

Very frequently, however, the progress is influenced by extraneous elements, such as the environment and, above all, litigation. There are many things connected with litigation that have a decided influence on the patient's mind, such as the frequent examinations of physicians, the solicitous inquiries and advice of friends, the consultations of lawyers, the dread of the court, the desire for a financial award and anxiety as to the outcome, perhaps a sense of injustice done them that their demand for damages is not readily granted, and the like. Such influences tend increasingly to fix the patient's mind on his impaired health and to produce all the ill effects of suggestion, while the natural result of the anxiety and other depressing conditions is steadily to lessen his nervous force and to impair his general health. For all these reasons litigation usually retards the favorable progress of the disease or leads to a change for the worse. It is a common experience that the physician can do little or nothing for his patient until litigation is over, and this is the more unfortunate because prolongation of the course of a nervous case often adds greatly to the difficulties of a cure. Perhaps the strongest proof of the influence of litigation in traumatic neurosis is the fact that in various countries cases of the disease appear to increase according to the success of litigation. The disease has even been attributed to litigation. That the latter is, in general, a false view I need not state. My own interpretation of the apparent proportion of cases to the frequency of litigation is that the latter tends to increase and to prolong the disease in the given case which otherwise would frequently have escaped attention.

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[2] Cases 3 and 4 might be classed as simple hysteria.

TREATMENT.

The treatment of traumatic neurosis is, practically, that of hysteria and neurasthenia, and into that subject I need not enter. But I wish to consider some special questions which especially arise in the management of these cases.

In a symposium on traumatic neurosis at the 1900 session of the American Medical Association A. D. Bevan said that the medical attendant, more than any other factor, is responsible for the development and continuance of traumatic neurosis, and claimed that he had nipped such cases in the bud by what he, not inaptly, termed, brutal treatment, telling his patients nothing ailed them, forcibly putting them on their feet and compelling them to walk, and the like. While, in the main, I do not agree with his views, yet there are some practical and important lessons suggested by his severe strictures.

It is generally believed to-day that the main element in the production of this nervous disease is mental shock, and as a mental state lights up the disease it is scarcely to be doubted that other mental states have a powerful influence on either increasing and prolonging it on the one hand, or lessening or removing it on the other; hence the immediate and decided effect of the physician and the environment. If the acts and words of the physician and the environment are such as to cheer the patient, to inspire him with hope, to make him believe he will soon recover, all nervous symptoms may soon disappear, or at least be favorably influenced. If, on the other hand, the diagnosis of the physician suggests to him serious disease, and, in addition, the idea of litigation is thrust on him, his symptoms may increase and be indefinitely prolonged.

Let me speak briefly of a patient who has just left my hands:

History.—A man, with hysterical antecedents, received an injury to his head, evidently a slight one, but probably followed by a fright. He fainted and, according to his physician's account, was thereafter extremely emotional, complained of severe pain in his head, and was, at times, in a state of mental confusion.

He was sent to me ten days after he was hurt, with the statement that it was uncertain whether he had serious injury to his brain or not. He complained bitterly when I saw him; and he had, besides, a degree of left hemiplegia and left hemianesthesia. He stated that the latter, that is, a sense of numbness and weakness in the left side, came on the second or third day after the injury. He had, in the meantime, been among anxious relatives and friends. He was immediately removed from all such influences; and his further treatment consisted chiefly of encouragement and suggestion, with the assurance that he would soon be well. Before many days he returned to his home apparently in perfect health. One can scarcely doubt that with suitable cultivation of the symptoms, especially if litigation had been added, chronic invalidism might have ensued, in which respect the case is probably typical of much that does occur.

Do not misunderstand me. This was a mild case, and, therefore, such a rapid disappearance of symptoms was possible. Had it been a severe one, the result might have been different, at least so speedy a recovery could not have been expected.

But, nevertheless, the case serves as a text to my sermon, that the physician should constantly bear in mind the great influence of mental impressions on functional nervous disease, especially in a case of this kind. The physician should aim to remove the patient from depressing environment, particularly from among emotional and anxious friends; he should avoid saying anything unfavorable as to the outcome, but rather should give the most cheerful, hopeful outlook possible, and, above all, he should remember the disastrous effect of litigation, and if justice to the patient demands a lawsuit the latter should be kept in the background of the patient's consciousness so far as possible.

I wish to direct attention to only one other measure in treatment, and that is work. Oppenheim's statement that in mild cases work is sometimes curative, but in severe cases the patients should do little or no work, I think must be accepted as true. It would be fortunate, indeed, if when needed, work could more easily be found apportioned to the patient's working capacity. It is often thought that early return to work is a sure means of restoring health. Oppenheim says that too early resumption of work is an unfavorable factor in prognosis.

While writing this paper I saw a woman who suffered rather a severe injury eleven years ago, which was followed by nervous symptoms. Need compelled her to go to work—she is a saleswoman—soon after the injury. She is now suffering much as she did when I saw her nine years ago, and she attributes this to the fact that she had to return to work so soon, an opinion that is probably correct. There are many cases like hers, that is, people who are at work but still sufferers, and who yet are looked on by the world as in good health.

It would be interesting to know of the cases on which Bevan based his opinion of the value of "brutal treatment," how many of the patients are really well and how many have been injured by the treatment.

In deciding the question of work we should be guided by the character and needs of the case. In treating functional nervous diseases it is well to be guarded against extreme views, such as that rest treatment is always needed or that work is the only cure. A degree of rest is probably always indicated in nervous cases and complete rest in some instances, but by no means in all. On the other hand, diversion is usually essential, that is, something that will take the patient away from morbid thought, from self-absorption and from the possibilities of autosuggestion. For the latter purpose we rely on recreation, amusements and in some cases, most of all on work. Work counts especially when the patient has few resources within himself, or when he can not be interested in other things, and may be especially of value in traumatic neurosis through taking the thoughts away from litigation.

In deciding this question in a given case we should judge first of the strength of the patient by observing the effect of exercise on his pulse and breathing, often we shall be influenced by whether work is the one diversion that is effective in his case, and sometimes we are controlled by the patient's financial needs which may compel him to resume work sooner than his condition justifies.

Clinical Notes

ACCIDENTAL INOCULATION WITH THE VIRUS OF PLAGUE.

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Last fall, as the unfortunate result of the accidental contamination of the cholera vaccine with a culture of plague bacilli, a number of natives were inoculated with plague and several died. The occurrence makes of interest the following account of the work with the cholera vaccine.

For the last three years Dr. Richard P. Strong of this bureau has been working on a cholera vaccine which consisted of an extract of the killed, digested and filtered organisms, later modified to a mixture of such an extract with one obtained by shaking on a shaking machine the living organisms in distilled water and then filtering. Obviously this product is always carefully tested and is absolutely sterile and the health department has used it on about seven thousand persons in the Philippines. One-half of the prisoners in the government prison at Bilibid were vaccinated with this vaccine and one-half unvaccinated. The same was done in a number of villages in the surrounding territory. Needless to state, no bad results followed from these vaccinations. There is a moderate general reaction following the inoculation, but the local reaction is very slight. The reaction from vaccination with this cholera vaccine is not as serious as that which frequently follows the smallpox vaccination, yet a high blood immunity results.

Subsequent experiments in the town of Angat, where one thousand and seventy-eight persons were vaccinated, showed that after vaccination there were one hundred and twenty-two cases of cholera, one hundred and twenty-one of which were among the unvaccinated and only one among the ones vaccinated. In the prison we had no further epidemic of cholera after the vaccination, but no conclusions can be drawn because the cholera was stopped by sanitary measures. It may be stated, however, that since the vaccination we have had twenty cases of cholera, eighteen of which were among the unvaccinated and two among the ones vaccinated.

Dr. Strong continued his work on immunity against cholera by vaccination, as he was convinced that this means was one which would aid in the prevention of large epidemics in the future, since it is known that apparently healthy people frequently carry about in their intestines cholera spirilla, which are passed in the stools, and hence quarantine and sanitary measures can not always be considered effective safeguards against a cholera epidemic. Certainly the end sought for is a great one and the results satisfactory.

Last year, in a medical congress at Berlin, the method of vaccination by means of the entire organism and not by its extracts was advocated. Haffkine has urged the use of the living organism and believes that by its use a higher immunity can be obtained. Dr. Strong, of necessity to complete his argument, needed to make some vaccinations by this method, as he was convinced that it was not superior to the one generally employed by this laboratory, but, obviously, with such arguments in literature, others would come forward attacking his results. In employing the living organism it is necessary to use a 24-hour old culture owing to the fact that after this time changes take place in the culture owing to the formation of ferments, death of a large number of bacteria, etc., and consequently, while the method allows of every test as regards the purity of the cultures up to 24 hours before their use, after this time (when many cultures are employed) no satisfactory test of its purity can be made and no test on animals can be carried on, since the cultures must be inoculated 24 hours after their preparation. Inoculations had been carried on in Bilibid several days without accident. On the day of the misfortune twenty-four men were inoculated, but this was not compulsory. The history of this vaccination is about as follows:

The culture was carefully carried out and identified, and was known to be a pure culture of the cholera organism up to 24 hours before the time when the vaccination was made. A large number of tubes of cholera media were inoculated from these pure cultures and placed in the incubator. On the following morning the cultures were each suspended in one cubic centimeter of saline solution, the whole mixed, and inoculations, as was necessary, made immediately after the preparation of the suspension. It is supposed that some one placed a 48-hour virulent plague culture among the cholera cultures, the blue pencil marks which designated the culture having been erased from the glass by handling. This view is supported by the fact that on the afternoon of the day of inoculation a 48-hour virulent culture was missed from the incubator. It was known certainly that one of the five plague cultures prepared two days previously, as was shown by Dr. Strong's note-book, had been removed from the incubator, but it was not until two days later, when he wished to examine the opsonic index of five guinea-pigs, for each one of which a 48-hour richly-grown culture had been prepared, that the plague culture was missed.

It was proved by a technical committee of three physicians appointed by the governor-general to investigate the matter that a 48-hour richly-grown plague culture spread over the entire surface of the entire slant resembled some of the cholera cultures so strongly that they were unable to identify or to pick out such a plague culture by its gross appearance when it was placed among a number of the cholera cultures of the strain employed. It was also shown that a hanging-drop preparation and the stained microscopic one made from the mixed suspension of all the cholera cultures contaminated with the plague one (as used for the human inoculations) did not reveal the suspicion that the fluid was contaminated with plague bacilli, since no bi-polar staining organisms were visible and, evidently, the plague bacilli were in too small numbers or those present did not show any sufficiently distinctive morphology to separate them from the plemorphic cholera organisms in the saline solution. Nevertheless, this same suspension, in which plague bacilli were not detected by microscopic examination, when injected subcutaneously into guinea-pigs and a monkey, caused, after several days, death from plague infection. It has not been ascertained who placed the plague culture among the cholera ones after all possible tests of the cholera culture had been made. An investigation of the entire matter was pursued by the government prosecuting attorney at our request, and later the governor-general, in order to satisfy public opinion, appointed a committee of eight, six Filipinos, one American and one Englishman, three of which committee constituted a technical committee, for investigation.

While the serum division of this laboratory is also in charge of Dr. Strong, and while this division prepares our regular cholera vaccine, it must be clearly understood that the regular preparation of our cholera prophylactic had absolutely no connection with this matter and that the vaccine used by Dr. Strong on the day of the accident is entirely distinct from the preparation with which he is identified. The method used on the last twenty-four prisoners is the one which is best known by the names of "Ferran" and "Haffkine." It is perhaps unnecessary to add that the laboratory has prepared several million units of vaccine virus and several thousand doses of plague prophylactic which have been used (in addition to the cholera prophylactic) with good results and without accident.

A NEW NASAL DRESSING.

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OSKALOOSA, IOWA.

I think it will be generally admitted that the ordinary methods of packing the nasal cavities after operation are unsatisfactory. Packing with gauze is particularly so. It is difficult by this method to secure sufficient pressure in the proper place to control hemorrhage efficiently. By its capillarity the gauze acts as a drain, keeping up a continual oozing, which may even reach alarming proportions. It is continually getting down into the pharynx, causing retching and tempting the patient to remove it. Its removal is painful, interferes with healing and always occasions more or less secondary hemorrhage. The open method, with or without the application of collodion to the surfaces operated on, is dangerous and not to be considered as a routine measure.

The Simpson tampon of compressed absorbent cotton in various sizes is a fairly satisfactory dressing but for the difficulty attendant on its introduction or removal. It bends, swells rapidly on contact with the secretions of the nose, making it difficult to introduce and place properly. It clings to the injured surface most tenaciously, causing severe pain and making its removal in the mass practically impossible. When removed piecemeal shreds of considerable size are left adherent to the wounded surfaces and hidden away in nooks and crannies, where it is almost impossible to distinguish them from the wound surfaces when they are stained with wound secretion. Unless discovered and removed they keep up a constant irritation, prolong the healing process and contribute to the chances of infection.

To overcome these objectionable features I use the following method, which, it seems to me, solves the problem of nasal packing after most operations.

From a piece of sheet paraffin, or dental wax, as it is called, two splints are cut, conforming in shape to the Simpson nasal tampon and about 15 mm. (5/8 in.) longer than the tampon, and a piece is cut from a second tampon to fill in the extra length. The tampon is now placed between the two strips of paraffin, to which it is cemented by means of aristol-collodion. Any thickness desired may be had by varying the thickness of the Simpson tampon, either by splitting them or by using the different thicknesses in which they come. The completed tampon is now pushed into place, a procedure which is facilitated by the smooth waxy surfaces of the splints. Once in position the cotton rapidly absorbs moisture from the adjacent mucous membrane and, swelling, forces the paraffin plates against the septum and the outer wall of the nasal cavity. Under the influence of the body temperature the paraffin becomes pliable and is thus molded into accurate apposition with the wound surfaces, controlling hemorrhage and making an ideal non-irritating, protective dressing. When the time comes for its removal, which should be at the end of 48 hours, the tampon can be removed *en masse* easily and painlessly, there being absolutely no adhesion between the paraffin plates and the wound surfaces. Their greasy smooth surfaces offer no resistance to removal and they slip out without pain, hemorrhage or other inconvenience.

A spur or ridge of the septum may be removed coincident with the removal of a turbinate, without the slightest danger of synechia, if this dressing is used and a single plate of the paraffin replaced after the removal of the tampon, and worn until healing is complete.

In submucous resection of the septum it is an excellent dressing. Using a tampon in each nostril, any degree of firm equable pressure may be obtained and maintained as long as desirable, and they may be changed as often as desired without disturbance of the parts.

By placing the Simpson tampons in a letter press or between heavy weights to prevent their expanding, they may be impregnated with alcoholic solutions of aristol, iodoform or other antiseptics and allowed to dry before being placed between the paraffin plates, which also may be kept in an antiseptic solution, thus making an antiseptic as well as aseptic dressing.

A METHOD FOR THE RAPID DIAGNOSIS OF DIPHTHERIA BY THE GENERAL PRACTITIONER.*

FRANK M. WOOD, A.B., M.D.
CARLINVILLE, ILL.

The necessity for the early diagnosis of diphtheria is often painfully apparent to the general practitioner, as failure in that regard too often results in involvement of the larynx, especially in children, while this, in turn, frequently ends in the early demise of the child. I, therefore, offer this method to the profession, with the hope that it may facilitate the diagnosis of this disease:

It is necessary first to obtain a culture from the throat or nose of the patient by means of a swab of absorbent cotton or the platinum needle. A swab which is very convenient for this purpose may be made as follows: An ordinary test-tube is sterilized in the Bunsen or alcohol flame. A wire is bent with a loop at both ends, and made just long enough to fit the tube. One end of this wire is then wound with wick asbestos in the form of a convenient sized swab, the other end is wound with similar asbestos, so as to fit the top of the tube as a stopper, similar to the cotton stopper of the ordinary culture tube. The whole swab is then sterilized in the flame and placed within the tube, and is then ready for use. This swab tube may be carried in the overcoat pocket and used in any suspected case. Its chief advantage is that it may be used repeatedly, sterilizing it each time in a flame. I am indebted to Dr. Wright of the staff of the Calumet and Hecla Mining Company's Hospital for this method of preparing a universal swab, and wish to pass it on to others for what it is worth.

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* Read before the Macoupin County (Ill.) Medical Society, Jan. 15, 1907.

The next step in the process is to obtain some Loeffler's blood serum tube slants; these can be obtained from any of the reputable pharmaceutical houses and may be kept on hand for a reasonable length of time without contamination. They may be kept at the office or one may be carried in the pocket, as necessity demands.

The swab is rubbed over the suspected area of nasal mucous membrane, or tonsil or pharynx, and a smear made at once on an ordinary cover-glass or glass slide. The serum slant is inoculated by passing the swab gently over its surface, and the swab is then sterilized in a blue flame and replaced in its tube for future use.

The inoculated serum tube must be incubated for 12 hours; this can be easily done in the following manner: The tube is slipped in the inside vest pocket and kept next the body for twelve hours, the physician acting as his own incubator. At the expiration of that length of time if the diphtheria bacillus be present there will appear a yellowish-white glazy growth, with white colonies here and there, showing irregular edges and smooth surfaces. Smears from this culture are examined microscopically, the staining being done with Loeffler's alkaline methylene blue stain. If the characteristic bacilli with their long-beaded threads, clubbed ends and irregular-sized dots are found the clinical diagnosis of diphtheria is corroborated.

McFarland says: "Very few other germs found in the throat will produce so rapid a growth on this culture media." This I have found to be true, perhaps with one exception, and that is some varieties of the streptococcus; these, however, may be differentiated by the characteristic dew-drop appearance of the culture on the serum slant, when it first appears, and the chain-like structure of the coccus under the microscope. While waiting for the growth to develop the smears made directly from the throat may be examined microscopically, and if suspicious bacilli are found it will help to confirm the diagnosis.

The advantages of this method are: the necessity of waiting from 24 to 48 hours or even more is obviated.

The general practitioner becomes expert in identification of the diphtheria bacillus.

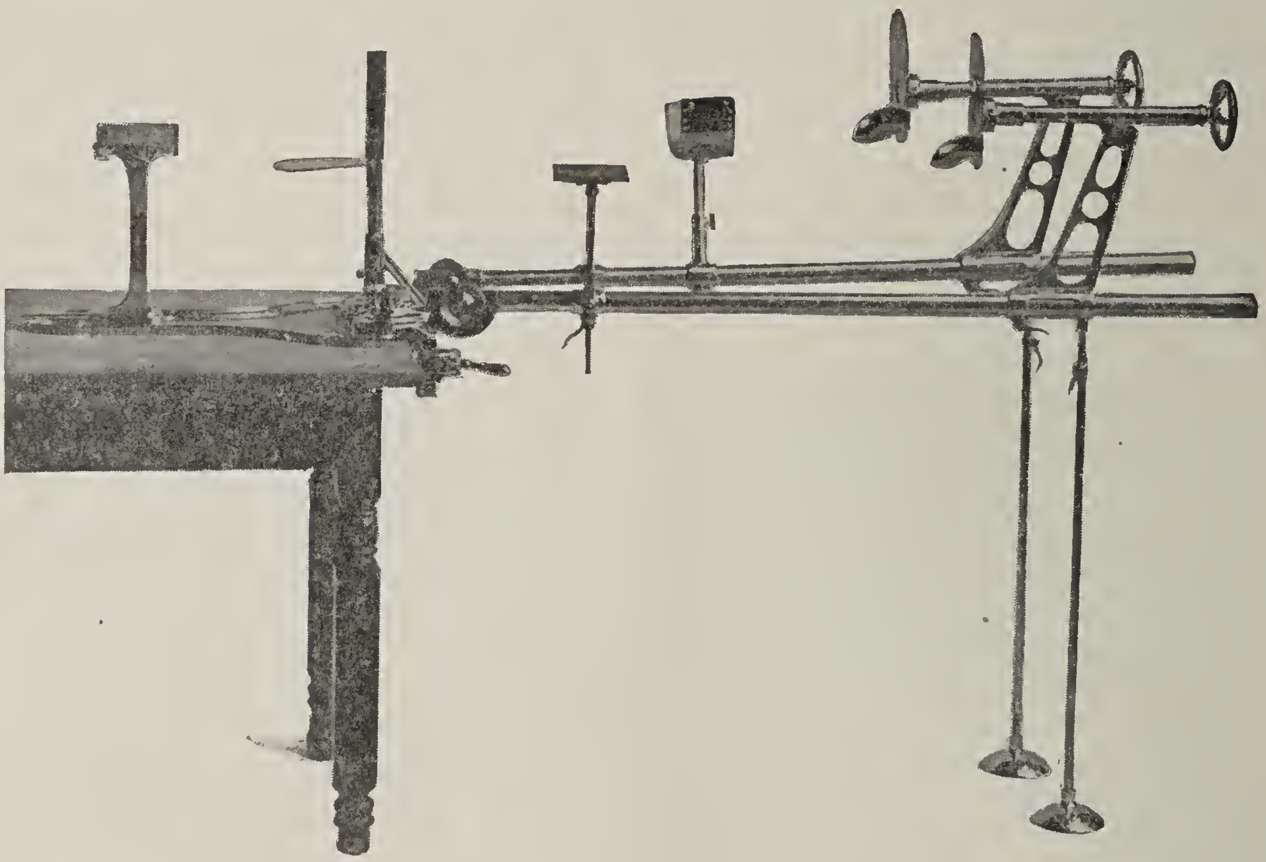
The practitioner may also keep a check on his diagnosis by sending specimens to the state laboratory for diagnosis.

IMPROVED FRACTURE APPARATUS.

CHARLES H. LEMON, M.D.
MILWAUKEE, WIS.

The apparatus here shown is the result of combined effort on the part of Dr. Frederick T. Mueller of Chicago and myself, with the assistance of Mr. S. George Hubbell of Milwaukee, a mechanical expert, who carried our ideas into effect. The purpose of the machine is to enable the surgeon to reduce a fracture of any of the long bones of the lower extremity and hold the fractured ends in apposition while a permanent set is made by a plaster cast. It is used also in various orthopedic operations.

To facilitate the reduction of fractures the patient is placed in a horizontal position on the machine, the feet being separately fastened to the foot rests on the ends of the long rods, the sacrum resting on the horizontal plate supported on the vertical post, which latter comes between the legs and touches the pubic arch. The shoulders of the patient rest on the support at the free end of the main frame, which is attached to the table, while the head rests on a box or on pillows placed on the table.



The two upright supports seen on the horizontal rods are to support on one side the sound knee and on the other the site of fracture so as to prevent backward bowing, the extremities being kept in even planes. In order to facilitate adjustment of fragments and to overcome distortion of proximal fragments such as occur in fractures of the upper third of the femur, the two long rods may be adjusted to any angle the human leg can be placed in. These rods are attached by their proximal ends to the main frame of the apparatus by friction-discs, which permit of universal joint movement.

The extension of the legs is made by screws attached to the hand wheels seen on the foot brackets. These screws pull the body toward the foot rests until the pubic bone impinges firmly against the vertical post in front of the horizontal plate on which the sacrum rests. Additional extension can be made on either leg as desired until the bones are accurately adjusted. It will be seen that no movement of the fragments is possible after being once adjusted until the screw pressure is released.

The plate for supporting the site of the fracture may be tilted by means of a hub on the fixture so that in supracondylar fractures of the femur relaxation of the gastrocnemius muscle may be effected and the leg brought to the double inclined plane position by elevating the supporting plate by means of the small hand wheel which turns on the threaded vertical portion. The horizontal rods may be raised or lowered from the horizontal plane and abducted or adducted, or these movements may be combined. The foot brackets slide on the horizontal rods so that the machine is quickly adjusted to fit a large or small person.

These machines are manufactured by The Badger Appliance Company of Milwaukee, Wis.

HOLES IN THE MESENTERY WITH HERNIATION OF THE INTESTINE.

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These anatomic curiosities, due to defect of development or subsequent alteration in structure, seem to attract little attention; nevertheless, they are of scientific interest. Holes in the mesentery are apparently of great infrequency and with few exceptions no references to them are found in the literature nor attempts to explain their origin. In the mesogastrium (the omentum) they are not infrequent. It is probable that the same conditions which cause them in the omentum lead to their formation in the mesentery. They are seldom found in the upper part; the nearer the cecum the more numerous and the larger they become. Traumatism with laceration, the breaking down of caseous glands, and emptying of serous or chylous cysts may give origin to them, but the most frequent situation for their location being proximal to the cecum, suggests defective arterial supply and gradual absorption as the more logical explanation for their existence. Anastomosis of the ileocolic branch of the mesenteric artery, with the intestinal branches, is sometimes so incomplete that it is often impossible to inject this area. These holes in the mesentery, when due to laceration, are jagged and irregular, but when due to gradual absorption of the constituents of the tissue the edges are even, rounded and not cicatricial. Through these foramina herniations of gut may occur, causing strangulation.

Case 1.—J. D., a railroad hand, aged about 45, was seen at the Bayonne Hospital through the courtesy of Drs. Sexsmith and Abbott.

History.—The man had been ill three days with symptoms of appendicitis; temperature was 102 F., pulse over 100. There was general abdominal tenderness, focusing at the cecum; the abdomen was hard and tympanitic. The man vomited contents of the stomach and upper intestine. The general condition was bad.

Operation.—An incision was made through the sheath of the right rectus. General peritonitis was present as evidenced by seropus and flakes of lymph between the intestinal coils. In the cecal region a hole was discovered in the mesentery at the terminal end of the ileum, close to the cecum, with smooth margins and regular outline about two inches in diameter. Through this, from above, passed a coil of small intestine for a distance of over two inches. It was not adherent to the margins of the hole, but was held in place by the tip of an ascending gangrenous appendix. In other words there was intraperitoneal herniation of a knuckle of gut through the hole, the herniated portion being held in position by agglutination to the tip of the appendix; the appendicitis was subsequent to the former condition.

Case 2.—E. E., aged 10, entered Christ Hospital, Jersey City, Jan. 5, 1907, and was seen through the courtesy of Dr. Franklyn.

History.—For five days the patient had had obstipation with tympany, but no rise in temperature. There had also been colic and green vomit. The condition was bad. Examination proved negative.

Operation.—The abdomen was opened through the sheath of the right rectus. There was a considerable quantity of intraperitoneal fluid. The coils of small intestine were much injected and roughened, but there was no lymph deposit. Meckel's diverticulum was pear-shaped, with a two-inch pedicle, three-eighths of an inch in diameter, and very firm; there was also a cyst-like enlargement at the periphery one and one-half inches in length. The diverticulum looped over and herniated through a small hole one-quarter of an inch in diameter, in the base of its own mesentery, on a direct line with its origin. The cyst-like expansion protruded on the side distal to the loop and was anchored by its enlargement. Through this loop several inches of small intestine were herniated proximal to the origin of the diverticulum. The hole in the mesentery was stretched by artery forceps, the diverticulum was withdrawn and, including the loop of intestine, liberated.

SOME OBSTETRIC EXPERIENCES IN CHINA.

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There is no way of estimating the mortality from childbirth in China, but it must be very large. Ignorant midwives attend most of the cases. A physician is rarely sent for, and when he comes, so far as I can learn, he is not supposed to examine the patient, but merely feels her pulse and writes a prescription for the particular complication from which she is suffering. A woman in labor is considered unclean, and ordinarily a Chinese doctor would not be willing to pollute himself by coming in contact with the discharges from a labor case. Among the higher classes, especially, the relatives of a puerperal woman will not come into her room until a month after her delivery. She is taken care of by midwives and female servants. The result of such neglect can easily be imagined.

PLACENTA PRÆVIA.

One of the first obstetric cases I saw after coming to China was a case of placenta prævia at about the sixth month. The patient had been having pains for several days, and on examination I found the os dilated to two inches in diameter and the placenta presenting. Miscarriage was apparently inevitable. At that time I had no hospital or room of any kind in which I could put an in-patient. As the woman had come from a distance, I advised her to rent a room near by and let me attend her. As she was suffering a good deal of pain, I gave her a hypodermic injection of morphin, and then she and her husband got on their boat, he promising to come for me as soon as he succeeded in renting a room. I did not see them again for two days, when they both appeared at the dispensary and informed me that the miscarriage had taken place shortly after she got on the boat. The woman said she was feeling all right, and they insisted on going back home. They were loud in their praises of my skill (?), as the morphin had relieved her pain almost immediately, and, as she thought, had brought on labor, which was painless. At the time I saw her there was very little hemorrhage, though, as I recollect, she gave the history of having had severe hemorrhage some time before I saw her. This woman made a good recovery, though after she returned home she had an attack of fever, which they said was malaria.

TRANSVERSE PRESENTATION.

Another one of my earliest cases was a transverse presentation with prolapse of the arm. After a good deal of manipulation I succeeded in pushing up the arm and changing the position to a vertex. Then I applied the ordinary McLane forceps at the superior strait and delivered without any particular difficulty. The child was a large, healthy boy. The woman appeared to have an irregularly shaped, though not contracted pelvis. She gave the history of having borne one child previously, which also presented transversely; the attending midwife had delivered the child in sections, probably beginning by pulling off the arm. The woman has not borne any children since.

ECLAMPSIA.

One morning early I was called to see a patient who had been brought to the door on a boat. She was in a deep stupor and could not be aroused. It was evidently a case of eclampsia. Labor pains had ceased and the os was dilated enough to admit two fingers. The patient's friends and family were extremely anxious for her to be delivered as quickly as possible, even if the child had to be mutilated. That is, they insisted that I act in the interest of the woman, without regard to the child. The patient was a primipara and the child seemed to be large, so I felt that haste was necessary if the woman's life was to be saved. After dilating the cervix as much as I could with my fingers, I reluctantly proceeded to do a craniotomy. As soon as the child was delivered, the people said that they had to go. I urged them to stay and let me do what I could for the woman, who was still in a stupor, but they insisted on leaving, as they had hired out their boat for a trip that day and would lose the money if they did not appear on time. I managed to pour a large dose of magnesium sulphate down the woman's throat at the imminent risk of strangling her, and then they left. Some days afterward they came back and reported that the woman was entirely well, and they seemed very grateful for what I had done.

Some months after this I was called to see another case of eclampsia, this time in a multipara. This woman also was in a deep stupor. Labor had not begun, but as she had a roomy vagina and pelvis, I found no particular difficulty in performing manual dilatation of the os and delivering immediately with forceps. The child was alive and healthy, but, in spite of all I could do, the mother continued in her unconscious condition and finally died.

CRANIOTOMY.

One day I was called to see a case of difficult labor several miles out in the country. As the messenger who came for me said that the child's head was visible, I did not take my craniotomy instruments with me. When I reached the patient I found a case of contracted pelvis with the child's head above the brim. The fetal heart was very slow and barely audible. What they had taken to be the child's head I do not know, unless it was the swollen and discolored external genitals, or possibly a blood clot. I was in a quandary. However, after soaking my penknife in a carbolic solution for a while, I succeeded in perforating the head with it. Then by using my McLane forceps as a cranioclast, I reduced the size of the head enough to accomplish the delivery. The patient made an uneventful recovery, and I have seen her a number of times since.

PODALIC VERSION.

A little over two years ago I was called to see the most difficult obstetric case that it has ever been my lot to attend. The patient lived about 5 miles out in the country. I was called at night and my Chinese assistant and I went in a boat. We found the patient in a straw-thatched hovel with a dirt floor, lying in a dark corner on a pile of straw. It was a transverse presentation, and the child's arm had been broken by the midwife's efforts at delivery. The patient was in an exhausted condition, her lips were parched and dry and her pulse was 120. The doubled-up chest of the child was jammed down into the pelvis and the arm was prolapsed; the uterus was contracted so firmly on the rest of the child's body that it was impossible to push the prolapsed arm or the chest up above the brim. I had no bone forceps with which to cut the ribs and cause the chest to collapse, so the alternatives left to me seemed to be decapitation and podalic version, both of them about as difficult and dangerous under the circumstances as one could well imagine. I have never had any leaning toward decapitation. The thought of a trunkless head inside of a firmly contracted uterus is not, to my mind, a particularly enviable condition to treat. Podalic version, if it were possible, seemed to offer the best chances of a quick delivery, which was the great desideratum, considering the condition of the patient. I decided that the danger of rupturing the uterus or otherwise injuring the soft parts by manipulation was more than overbalanced by the greater danger of leaving the woman undelivered, so I determined to use a good deal of force, if necessary. To get my hand and arm past the child's doubled-up chest as it lay in the pelvis seemed a physical impossibility, and so I thought it was going to be when I first tried it. Gradually, however, I worked my arm up in spite of the great pressure until my fingers came in contact with the child's feet. When I tried to grasp a foot, I found that I could not, as my fingers were numb from the pressure. I tried again and again without the slightest success. As the numbness was increasing, there was nothing to do but to withdraw my arm. After waiting a while, I tried again. About this time my assistant informed me that the patient's pulse had increased to 140, so feeling that I must not lose any time, I made a desperate effort and succeeded in grasping a foot firmly enough to exert a little traction. Then I got a better hold and exerted more traction, and as a result the mass that had seemed hopelessly wedged in the pelvis began to move upward. It was not long before I had a foot out, and of course the rest was easy. I was surprised at the marked effect of moderate traction on the foot in making the impacted chest go back into the uterus, in spite of the fact that the uterus was in a state of tonic contraction. This patient also made an uneventful recovery.

DELIVERY OF MORIBUND PATIENT.

A little more than a year ago I saw a case of twins that illustrates the influence of Chinese superstition on foreign medical practice. One child had been born the day before I was called and was living. The second child, much the larger of the two, was still in the uterus. It was evident from the degree of maceration and the odor that the child had been dead for some time. As the mother was almost moribund, I told them that I did not care to undertake the case. I told them that the patient would probably die during delivery or soon after. They replied that they realized the woman's desperate condition, but that they wanted her delivered, living or dead. Their extreme anxiety to have her delivered was due to a belief of the Chinese that a pregnant woman who dies undelivered is doomed to continue carrying the child in the next world. After receiving their assurance that I would be free from responsibility for the death of the woman, I proceeded to remove the putrid fetus. Labor pains had ceased entirely and the breech was presenting. On account of the large size of the fetal head and the rigidity of the maternal tissues, I had to apply forceps to the after-coming head. The patient died a few hours after delivery.

UTERINE INERTIA.

Chinese women seem to be subject to uterine inertia. It is not surprising that this should be the case in women of the higher classes, who have bound feet and who take practically no exercise, but I have been struck with its frequency even in hard-working women with natural feet. Often after the os is half dilated the pains become feeble and ineffectual and the labor drags on hour after hour, making scarcely any progress. Making these patients walk around or giving them quinin seems to have very little effect. In a great many cases, however, rupturing the membranes early (i. e., when the os is about half dilated) seems to have a remarkable effect in stimulating the pains. I have done this so often lately and with such uniformly good results, that the conviction is constantly being strengthened in my mind that, after the os is dilated to about two inches in diameter, the "bag of waters" rarely serves any useful purpose and often makes the pains ineffectual.

Recently I attended a multipara with marked uterine inertia. The os was dilated to about two inches and she seemed to be making no progress. The pains were very feeble and seemed to have scarcely any effect on the dilatation. I ruptured the membranes, and the pains increased enough to dilate the os to about three inches, and then there was no further progress. The pelvis was roomy, the child's head was small and there was no rigidity of the cervix, but still the head refused to descend. I applied the forceps and, though the traction used was very slight, the head came down without the least difficulty and delivery was soon accomplished. I think I have never used such a small amount of traction in a forceps delivery.

Though my obstetric practice is not large, there is a steady increase, which shows that the Chinese here are beginning to realize the value of foreign methods in this branch of medicine. In looking over my records I find that in about ten years of hospital work here there have been 14 forceps deliveries, 4 craniotomies, 2 transverse presentations, 1 cephalic version, 1 podalic version and 1 premature labor for hyperemesis gravidarum.

During 1906 I had 12 cases, more than in any previous year. Several were in wealthy, influential families.

China is making rapid strides toward civilization, and Western medical science is destined to be an important factor in the process. A large number of medical books have been translated into Chinese by medical missionaries and more are constantly being translated. There are several medical schools in China, and we hope to see a medical magazine in Chinese established at no very distant date.

LIGATION OF THE BLEEDING VESSEL IN THE HEMORRHAGE FROM DUODENAL ULCER.

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PITTSBURG, PA.

In view of the present diversity of opinion concerning the advisability of direct ligation of the bleeding vessel in ulcer of the stomach and duodenum, the following case is reported:

Patient.—Mrs. F., aged 26, was seen in consultation with Dr. W. N. Humphrey, Oct. 8, 1906.

History.—She had been married eleven years and had had one miscarriage at third month; no children. Her general health was good until three years ago, when pain began in the right side of the chest radiating to the back. It was more or less constant and always greater after eating. Some foods caused more distress than others. There was vomiting at irregular intervals, and she was usually worse before the menstrual periods. The patient never vomited blood until Oct. 2, 1906, when a very severe hemorrhage occurred. This was quickly followed by a second and third attack on the same day. On October 3 another severe hemorrhage occurred and a large quantity of blood was passed from the bowels. No further bleeding from the stomach occurred until October 8, although blood continued to be present in the bowel movements during this interval. In the afternoon of October 8 another hemorrhage occurred. At this time I was called and found the patient's condition to be critical, as denoted by a rapid pulse and extreme pallor. All treatment, medicinal and otherwise, having been administered without any effect on the hemorrhage, operation was advised. Early the following morning, before being removed to the hospital, another hemorrhage occurred, leaving her in such serious condition that the ambulance surgeon feared to convey her to the hospital. The picture presented on admission was one seen in cases of extreme hemorrhage: Pulse weak and rapid, extremities cold, mucous membranes blanched. The continuation of medicinal treatment seemed unwise. For the following twenty-four hours the woman was stimulated and given injections of normal salt solution. At the end of this time her condition was somewhat improved, and in view of the persistently recurring hemorrhages, ligation of the bleeding vessel seemed the only safe treatment.

Operation.—On October 10, under light ether anesthesia administered by Dr. Stuart, an incision was made in the median line. Careful examination of the external surface of the stomach and duodenum failed to reveal the location of the ulcer. The stomach was then opened by an incision through the anterior wall at the pyloric end. An ulcer was found in the duodenum just below the pyloric ring. It was of the mucous variety and was situated so close to the ring that external palpation did not reveal its location. The ulcer was transfixed and ligated with catgut and the peritoneal surface reinforced by mattress sutures. The opening into the stomach was closed and a posterior gastroenterostomy with no loop was performed. It was necessary to administer considerable stimulation throughout the operation, but the patient rallied well and made a good recovery. There has been no further hemorrhage and she is now free from pain and eats everything without distress.

The diagnosis as to the definite location of the ulcer was uncertain. While large quantities of blood coming through the bowel and the peculiar location of pain seemed to point to an ulcer of the duodenum, yet it seemed somewhat doubtful that such large quantities of fresh blood would pass backward so quickly into the stomach. It was evident, however, that it was located near the pylorus. The indications for treatment remained the same in either case.

A CONVENIENT METHOD OF OBTAINING CLUMP-FREE EMULSION FOR OPSONIC WORK.

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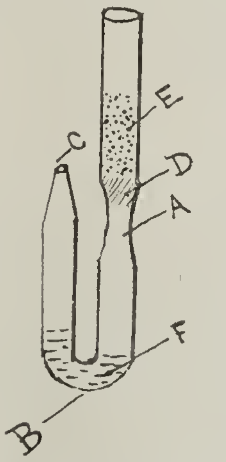
MONROVIA, CAL.

While studying the specificity of opsonins last summer in Professor Wright's laboratory I sought for a method of quickly separating organisms from the liquid in which they are suspended, centrifugating alone requiring from thirty minutes to one hour. The following device was used with splendid success: A constriction (A) is made in a piece of small-caliber glass tubing; the tubing is then bent on itself (B), terminating in an opening (C). Moist filter paper fiber (D) (conveniently made by scraping filter paper with the edge of a knife) is placed against the constriction and packed firmly. Into the long arm is placed the liquid (E) to be filtered and the device is placed in the centrifuge.



Working with staphylococci, I obtained practically bacteria-free filtrates (F) in ten to fifteen minutes from thick suspensions of staphylococci in normal sera. The filtrates showed scarcely any opsonin, and stained specimens practically no organisms. Similar centrifugo-filtration of tubercle bacilli required but eight to ten minutes, since the fiber need not be packed so firmly.

The device, however, has a more practical application. When a bacterial emulsion presents many clumps which resist ordinary mechanical means of division a clump-free filtrate may be obtained by this method suitable for opsonic work in twenty or thirty seconds—only a few turns of the centrifuge. If, however, this first filtrate contains clumps it is easily taken from the device by introducing a capillary pipette and again filtering. I find that repeated filtration through loosely-packed fiber is more certain than a single filtration through tightly-packed fiber, since in the latter case the filtrate-emulsion is likely to be too thin. Two or four filtrations may be accomplished in as many minutes.

AN IMPROVED TRACTION SHOE.

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The successful treatment of Shaffer's foot, invariably, and of flatfoot, frequently, depends on the elongation of the gastrocnemius muscle. Compensation in the former condition, by means of a higher heeled shoe, and splinting the deformed foot with steel arches, in the latter condition, are measures which generally give relief, but of themselves are not curative.

An active foot, with limitation of dorsal flexion, must suffer from the alteration of its mechanics. The changed disposition of the superincumbent weight and the abnormal points of resistance due to the restricted movements of the lever-arms, must, inevitably, cause such disturbances as result from pressure, i. e., corns, bunions, callosities, "ingrowing toe-nails" and Morton's toe and an alteration, or a tendency to an alteration, in the relations of the tarsal bones. Whether the foot becomes what is known as flat, or presents a higher arch than formerly, depends on the amount of limitation of dorsal flexion and on the strength of the plantar tissues which serve to maintain the normal medio-tarsal joint.

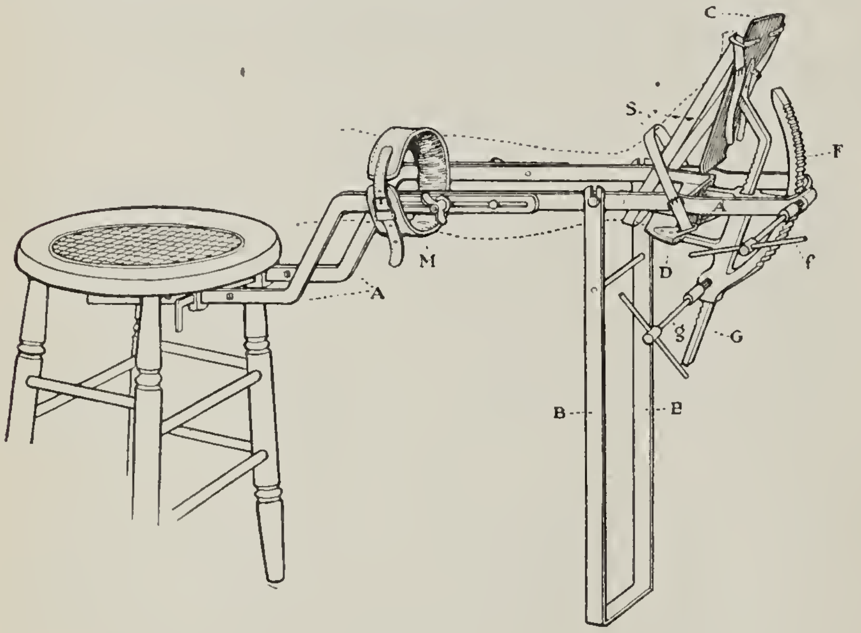


Figure 1.

Every examination of an extremity should include an examination of all its joints. Examination of the ankle joint will often determine the cause of a thigh, leg or knee pain which, erroneously, has been considered rheumatic, neuralgic or neuritic. A painful flatfoot having a shortened gastrocnemius may often be relieved by restoring normal movement to the ankle joint, even without any further attempt at restoring the arch. When a neglected Shaffer's foot has resulted in a flatfoot an artificial arch alone can not be expected to cure. The prolonged use of steel arches is seldom necessary and must be productive of atrophy of the small muscles, ligaments and fasciæ of the foot.

The apparatus in general use for stretching the post-tibial muscles is the traction shoe devised by Dr. Shaffer and presented to the profession about twenty-five years ago. With this machine any desired force can be applied. From a therapeutic standpoint it is unqualifiedly successful. The force is the resultant of two forces, one applied in an antero-posterior direction through a strap passing behind the heel and called the heel-strap, and the other a force applied through a strap passing over the neck of the astragalus and called the astragalar strap. This resultant pulls the calcaneum downward and forward in an arch whose radii are from a center passing through the astragalus just below the external malleolus; the traverse axis of the ankle joint. In very resistant cases, however, the force exerted by the astragalar strap is such as to cause considerable discomfort

In the apparatus presented herewith the astragalar strap is not brought into use until the gastrocnemius is well stretched, and then a momentary hyperextension is obtained by the use of an antero-posterior ratchet exactly similar to the one in Shaffer's shoe.

The machine consists of two lateral bars, a stand and a foot-piece. The lateral bars A, A, are joined at their distal ends in a U shape piece. Their proximal ends are bent so as to pass beneath the chair, where they are secured by a draw-pin which passes through a socket screwed to the bottom of the chair-seat. The continuity of these lateral bars is interrupted just below the calf-band M, and the ends, overlapping, are held by thumb screws. Thus these bars may be shortened or lengthened as desired. The stand B, B supports the machine. It is detachable. The foot-piece consists of a foot-plate C and a heel-cup D. The foot-plate is joined to the heel-cup through the ratchet bar G, passing through the sheath E, which is secured to the bottom of the heel-cup. The entire foot-piece is riveted to the lateral bars at j, j, and by means of the ratchet F can be moved about the axis passing through j, j. The arc of the ratchet F is constructed on the radius jF.

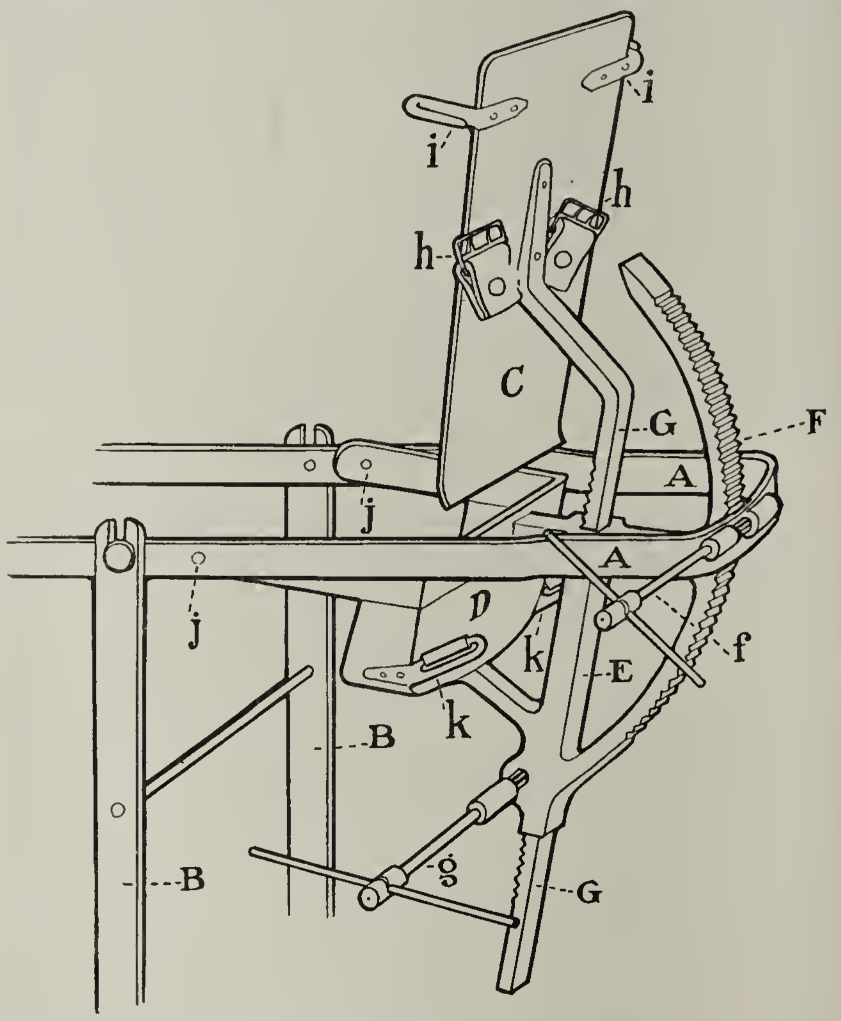


Figure 2.

To the bottom of the foot-plate are riveted two buckles h, h, which secure the heel-strap. This strap passes behind the heel, forward on both sides of the foot, over the hangers i, i, projecting upward from the front of the foot-plate and backward to the buckles. On each side of the heel-cup are pulleys, k, k, through which the astragalar S is roven. The strap crosses over the ankle opposite the head of the astragalus, from one pulley to the other, and is doubled back and one end passed through the buckle sewed to the other end.

The method of application is as follows: The patient is seated in the chair, the heel placed in the heel-cup D, and the lateral bars A, A are adjusted by means of the thumb screws to the exact length of the limb with the leg fully extended. It is necessary that the axis of the ankle joint should pass through the axis of rotation of the foot-piece j, j. The heel-strap assists greatly in obtaining the alignment of these two axes. While fitting the apparatus the foot-piece should be plantar flexed to an angle affording an easy position for the foot. The last thing to be done is to fasten the strap of the calf band. This prevents the patient flexing the knee as the strain comes on the gastrocnemius.

Traction may now be started. Using the key f, the ratchet F is made to pass forward and around the axis j, j. Everything on that foot-piece will move through arcs whose radii extend from the common center. The foot is thus moved, forcibly, about the ankle joint. When the tautness of the tendo-Achilles, as ascertained by palpation and the sensation of the patient, warns one that full flexion is obtained, the astragalar strap is applied and a momentary hyperextension produced by means of the antero-posterior ratchet G. Those familiar with Shaffer's traction shoe will recognize in this part of the treatment the copy of that shoe. Furthermore, it should be mentioned that Dr. Shaffer, by means of a worm and screw, also altered the angle of flexion and extension of the foot-piece.

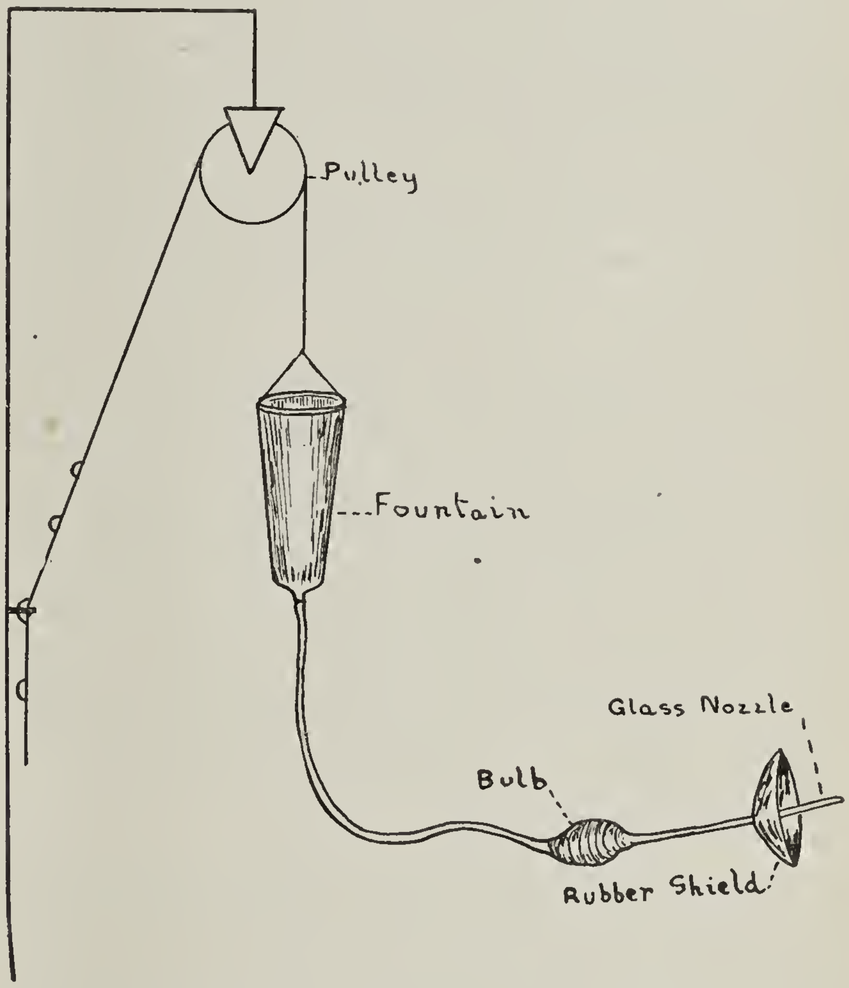
A NEW PRINCIPLE IN IRRIGATION OF THE URETHRA WITH INSTRUMENT.

J. H. BACON, B.S., M.D.
PEORIA, ILL.

I have been using a new principle in the treatment of gonorrhea, and the results seem to me to be good. The difference between my method of treating gonorrhea and that of those who use irrigations is not medicinal but mechanical. Instead of using only the force of pressure from gravity for irrigation of the urethra, I have added a bulb to the irrigation tube, and by intermittent pressing obtain an intermittent or rather a rhythmic pressure. The value of this kind of pressure over simple pressure was brought to my mind by seeing the blood vessels pulsate in the thigh of one of my patients while I was irrigating and remembering that the blood will not continue to circulate if the pressure is steady. It is only when the pressure is rhythmic that the blood will pass through the capillaries. Now, if we use Nature's method we must use rhythmic pressure in irrigating if we wish to have the fluid penetrate deeply into the lining membrane of the cavity irrigated. If the urethra were a flat surface the treatment would be simple and cleanliness could easily be maintained, but being an elastic tube it is more difficult to give it the very essential cleaning.

I use a quart glass fountain that can be raised or lowered at will. At the bottom it is connected with six feet of rubber tubing. Into this tubing about one foot and a half from the distal end is fitted a valveless rubber bulb the size of an atomizer bulb. A long, blunt glass nozzle is attached to the distal end of the tube, over which a half of a hollow rubber ball is placed in such a manner as to protect the hands of the operator from escaping fluid returning from the urethra. The bulb is used without valves so that the pressure used can not rise much above the fountain head without being regurgitated into the fountain. This protects the bladder from being invaded if the fountain is not raised more than two to two and one-half feet above the level of the urethra. All the apparatus can be readily and cheaply set up in the office, and yet be efficient.

When a patient presents himself in the early stage with a thick discharge showing the intracellular diplococci he is instructed to keep the bowels loose, drink freely of water, abstain from alcohol, coffee and spiced food, avoid excesses of all kinds and get abundance of sleep. Internally he is put on 15 grains of hexamethylenamine and 3 minims of oil of sandalwood three times a day. Sometimes I have given Lafayette's mixture in conjunction, with hexamethylenamine with good results. The urethra is irrigated four times a day with warm normal salt solution for the first week. The irrigating fluid is changed to 1:5000 potassium permanganate the second week and 1:1000 silver nitrate the third week, and this continued till cure is established. I hold the case cured if after one weeks' intermission no gonococci are found.



The irrigating fluid is heated to about 125 degrees Fahrenheit, the fountain maintained at two feet above the level of the urethra and the meatus and first half inch of canal washed out after the patient has urinated. The nozzle is then more firmly pressed into the urethra and the bulb pressed quickly and softly at the rate of about 80 to 90 to the minute. The urethra is seen to pulsate with each compression of the bulb at the same time there is some escape of fluid around the nozzle. The fluid penetrates deeply into the follicles and glands of the mucosa, the nidus of the infection and one can often see little yellowish white specks of pus that are jarred loose and swept out in this pulsating stream of fluid which would have remained in place for days and maintained the infection. In my experience the duration of an infection can be shortened from one to two weeks. This same principle of rhythmic pressure can be used with advantage, I believe, in abscess cavities, the rectum and colon, the pericardium and joints.

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SATURDAY, APRIL 13, 1907.

THE RELATION OF CHLORIDS TO EDEMA.

Although several writers had previously suggested the possibility of edema being due, at least in certain conditions, to the presence of abnormal quantities of sodium chlorid in the tissues, yet general attention was first called to this possibility by the observations and writings of H. Strauss in Germany and of Widal in France in 1902 and 1903. These clinicians observed a striking correlation between the elimination of chlorids and the development of dropsy in certain cases of nephritis, and brought forward evidence to support the hypothesis that in nephritis the ability of the kidney to excrete sodium chlorid is decreased, and that the retention of this salt in the body causes a corresponding retention of water to dilute the salt to that degree of concentration which is compatible with the normal osmotic pressure of the blood and tissue fluids. Many clinicians adopted the suggestions of Strauss and Widal as to the treatment of edema by reduction of the chlorids in the food, and soon the literature of all countries was filled with reports on this subject, describing results and giving conclusions greatly at variance with each other. The first excitement having passed, it is now safe to analyze the various reports that thus far have been submitted, and to attempt to draw conclusions with some hope that they may be reasonably correct.[1]

In the first place, the reports of many competent observers leave us no choice but to conclude that in nephritis, particularly of the parenchymatous type, retention of chlorids often occurs; yet in some typical cases with edema it may not be possible to demonstrate such retention. Also, patients may show a distinct chlorid retention for some time, and then, without evident reason, the retention may cease. Furthermore, in some cases of interstitial nephritis retention may be as marked as in the parenchymatous forms, and this retention is not always associated with edema. In certain cases of nephritis, the edema will be found to vary directly with the degree of chlorid retention, as in the striking instance reported by Widal and Javal, in which it was possible to cause the edema to appear and disappear almost at will by varying the amount of the chlorids in the diet. In other cases, however, even the most careful reduction of the chlorid intake will not appreciably modify the edema, while in perhaps the largest number of cases the amount of edema may be reduced by this means, but not always strikingly or constantly. In other words, the weight of evidence indicates that retention of chlorids frequently is an important feature in the edema of nephritis, but it is not always possible to demonstrate its relation to the edema. Apparently the power of the kidneys to eliminate chlorids varies from time to time, just as the excretion of albumin and the presence of casts may vary. Probably one important reason for our inability to demonstrate a clear relation between chlorid excretion and edema lies in the great power of the body to retain fluid without the development of edema; for example, in one case of nephritis it was observed that feeding salt led to a marked retention of water, but edema did not begin to appear until the patient's weight showed that twelve pounds of water had been accumulated in the body. This power of retaining water without manifestation of edema makes it impossible to establish a close parallelism between the chlorid excretion and the edema, especially when the cases can not be studied very accurately for long periods of time.

Some observers have thought that the primary trouble in nephritic edema is the retention of water, to which the retention of salt is secondary; but the weight of evidence here seems to be that the chlorid retention is primary and the water retention is secondary. The retention of the chlorids seems to depend entirely on the inability of the kidneys to excrete them. Apparently the retained chlorids are held in the tissues throughout the body, for many analyses have shown a retention of chlorids in the tissues—the so-called histo-retention. The amount of chlorids in the blood is not, and can not be, greatly increased, for water must always accumulate to keep the osmotic concentration of the blood not far from normal. Why and how the chlorids accumulate in the tissues in excessive amounts is one of the unsolved problems.

There seems to be no tendency on the part of those who question the general importance of chlorid retention in the etiology of edema to deny the facts brought forward by Widal and others, which show that in at least some cases this retention is the cause of the accompanying edema. The chief question is: How often does edema depend on chlorid retention, and how often is this factor absent or of minor importance as compared with the other possible causes of edema that may be present in nephritic patients? The answer to this question can not possibly be given on the strength of the information afforded by the discordant reports that are to be found in the literature, but it seems safe to say that chlorid retention is an important factor in a very considerable proportion of nephritic edemas. Chlorid retention has also been observed in some cases of dropsy in heart disease, and with some edemas occurring in patients with acute inflammatory disorders, but here it is not so well established that the observed chlorid retention is more than can be explained as due to the retention of the fluid in the edematous parts.

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[1] A full bibliography of this subject will be found in the résumé by Martin Kaufmann, Centrbl. f. d. gesamte Physiol. u. Pathol. des Stoffwechsels, 1906, vii, 497.

In any case, however, the treatment of renal dropsy by "dechloridization therapy" seems to be warranted on several grounds. In the first place, of course, comes the indication that in many cases edema is relieved by this means; the amount of chlorids excreted on a chlorid-poor diet being much in excess of the amount taken in, such a diet soon leads to removal of the retained chlorids and with them the retained water. Secondly, there is considerable evidence that chlorids may act injuriously on the diseased kidneys; indeed, excessive quantities of sodium chlorid may cause albuminuria even in healthy individuals, which observation suggests the possibility that the use of oversalted foods may be an important factor in the production of nephritis. It seems to have been commonly found that nephritic patients kept on a chlorid-poor diet show a decreased amount of albumin in the urine, while administration of chlorids causes it to increase. Furthermore, there is abundant evidence that there is no danger in reducing the intake of chlorids to as low a figure as can be done by a carefully selected diet. To reduce the chlorids to such a reasonable minimum, say from 2 to 3 grams a day, no very difficult procedures are necessary, for in eggs, unseasoned meats and unsalted butter we have foods that are nearly salt-free, while the salt content of milk is very low. Bread without salt, fresh water fish, potatoes, rice, fresh vegetables, fruits and chocolate offer a considerable variety of salt-poor foods that make the regulations of a dechloridization diet not intolerable to the patient. It may be added that Widal insists on repeated weighing of the patient, in order to keep track of the degree to which the water is being removed during the treatment.

THE MEDICAL STAFF AND THE HOSPITAL.

The importance of hospitals to the community is now so universally acknowledged that it needs no comment; the organization of hospitals, on the other hand, and the proper relationship which should exist between the medical staff, the administrative officers and the public is a matter which has been treated in this country in far too haphazard a manner. Every hospital trustee, every superintendent and every member of a hospital staff should read the admirable discussion of hospital organization which has recently appeared from the pen of Dr. Goldwater[1] of Mount Sinai Hospital, New York City.

Goldwater's article discusses seriatim, in a clear and forcible manner, the medical staff in relation to the needs of the patient, in relation to medical education, in relation to hospital economy, and in relation to the rights of its members. It is not the place here to cover the entire ground passed over in this article; let it suffice to call attention to some of the salient points, particularly those which refer to details of administration differing from those currently in use in this country. The stress which is laid on the importance of having the admission of patients under the control of mature medical men of good judgment, rather than under inexperienced junior house officers, strikes us as well worthy of attention. We would not like to say how much of the popular prejudice against many hospitals is due to tactless handling of applicants for admission, particularly of rejected applicants. There is little doubt that an unfavorable first impression is often prejudicial to the hospital's interests, and too often the entering patient is subjected to the attentions of attendants who seem to have the unhappy knack of acquiring the flippant callousness and disregard for other people's feelings which are often associated with ticket sellers and second-class hotel clerks. Regarding the care of the patient after admission, Dr. Goldwater emphasizes several points, none more worthy of emphasis than the necessity of visits at regular stated intervals by the attending staff. The quotation from Osler to the effect that the physicians should not only make their visits at stated hours, but should also stay stated hours, is one which could be well heeded by many hospital visiting physicians.

The suggestions regarding the house staff show that, from Dr. Goldwater's point of view, most American hospitals are wofully undermanned in this particular. We fully agree with the writer in this, as we do in his view that each interne should have both a medical and a surgical service to obtain proper breadth of view. The rule that no interne should be promoted to a higher grade who has not shown fitness in a lower one is on the books of far too few of our hospitals.

Two points of especial value are those relating to the family physician, and to the patient during the period of convalescence. Dr. Goldwater suggests that the family physician of a ward patient should have every encouragement to visit his patient in the hospital, not to advise the regular staff, but for the effect on the welfare of the patient. We thoroughly agree with this, and hope that the narrow spirit which has heretofore prevented it in many hospitals will soon disappear. The suggestion that the patient's future be discussed during convalescence, and that the hospital should keep in touch with various charitable institutions which may harbor and protect the patient from the necessity of too early work, is of great value and is too often not considered in routine hospital work.

The discussion of the relation of the hospital to medical education is brief. The keynote of the remarks on this subject lies in the statement that the reason why teaching hospitals are at present so expensive is that only a few hospitals realize their responsibility in this direction. If all hospitals regarded teaching as a necessary and legitimate part of their functions, the number of students assigned to each institution would be so small that practically no extra expense would be incurred. This is certainly the case so far as the large cities are concerned, for hundreds of charity beds in cities like New York and Chicago are never adequately used for teaching purposes. Dr. Goldwater's paper also contains many pertinent remarks concerning the private ward system, the necessity of presenting the economic side of hospital affairs to the medical staff, and the representation of the medical staff in the affairs of the hospital.

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[1] Am. Jour. Med. Sci., April, 1907.

THE RELATIVE VALUE OF CULICIDES.

Disinfection for the prevention of yellow fever and malaria having practically resolved itself into mosquito destruction, the scientific study of culicides has assumed much interest and importance. Investigations in this direction are being made by the United States Public Health and Marine-Hospital Service.

Passed Assistant-Surgeon Francis of that Service some time ago reported that the fumes of pyrofume, a liquid derived by fractional distillation from pine wood, are deadly to *Stegomyia fasciata* and *Culex pungens*.[1] Mosquitoes placed in cages on the floor of a room containing the fumes from 265 cubic centimeters of this liquid per 1,000 cubic feet of air space were found dead after one hour. While in this proportion pyrofume is not injurious to metals, fabrics, paint and colors, it has been found that in greater amounts it softens varnish and leaves a deposit on surfaces. Its inflammable nature will also render it objectionable as a culicide until a generator is devised that will evolve the gas without danger.

Francis has more recently reported a series of experiments on the culicidal properties of camphor-phenol and of sulphur.[2] The camphor-phenol was made as follows: The phenol crystals were liquefied by placing the bottles in boiling water; the liquid was then poured into a pan and weighed, and to the hot liquid was added an equal weight of gum camphor, which became dissolved after standing a few hours.

In these experiments great care was taken artificially to protect the mosquitoes in such a way as to simulate the conditions which ordinarily aid the mosquito in escaping the effects of harmful gases. As a result of forty-two experiments on 10,000 mosquitoes he concludes that the fumes of camphor-phenol possess no powers of penetration, that they diffuse poorly, and that they are diminished in efficiency by low temperatures. Mosquitoes show a tendency to recover from the effects of this agent, and varnish is softened when the fumes are strong—an evident disadvantage in the treatment of furnished houses and cabins aboard ships.

Twenty-four experiments with sulphur confirmed the value of this agent so long used in quarantine practice. Small quantities of sulphur proved effective in tests demanding all the necessity for penetration and diffusion likely to be found in practical fumigation. Unfortunately, the fumes of sulphur are in a measure destructive, otherwise it would meet all the requirements of a gaseous culicide. The well-known poisonous effects of hydrocyanic acid fumes are sufficient to discourage their use in actual practice, and in view of these studies it appears that we must, for the present at least, continue to rely on sulphur as the most efficient insecticide.

MAJOR KEAN AND THE SANITARY TRIUMPH IN CUBA.

One of the incidents connected with the relations of this country to Cuba, of which Americans can be justly proud, is the improved hygienic conditions that resulted when the United States assumed control after the Spanish-American war. The Army of Occupation found very insanitary conditions. The administration and management of almshouses, asylums, orphanages and hospitals of all sorts and sizes had fallen into a chaotic condition throughout the island. Some of the institutions had means but only a few inmates; others were almost without money to keep the unfortunate inmates from actual starvation and yet were crowded with patients. There was a lack of system everywhere.

General Wood cast about for men to bring order out of chaos; the conditions demanded men above the average, who understood the needs of such institutions, and with a faculty for organization. Major J. R. Kean, surgeon, U. S. Army, was one of those selected. His work in putting the organization of the institutions of Cuba, especially the hospitals, on a sound and scientific basis was of great value and was mentioned in flattering terms both by the Military Governor and the Secretary of War. The result was a brilliant success; a symmetrical and well-organized system. While this work of Dr. Kean was appreciated at the time by those who were in a position to know what was going on, it attracted very little public attention.

At that time the general hygienic conditions also were in a deplorable state; Havana was one of the most filthy and most unhealthy cities of the world. When it was turned over to the Republic of Cuba it had become one of the cleanest and healthiest, considering the latitude. Similar work went on under American officers all over the island. One of the men to whom special credit was due for the improved conditions was Major Kean, who, as chief surgeon under General Fitzhugh Lee, had charge of some of the most important functions connected with the cleaning up of Cuba.

When the American Army of Pacification was sent to Cuba last October it was found that conditions had deteriorated under the independent Cuban régime; yellow fever was prevailing in the island, a dozen cases being in Havana alone. Thus our troops were endangered by a disease which, while not regarded seriously by the Cubans, might result most disastrously to the soldiers. The provisional government being essentially military in character, it fell to the Medical Department of the Army to supply an officer to take charge of the sanitary affairs. The Secretary of War selected Major Kean, and to him and to his assistants must be given credit for the splendid results which followed. Our news columns have shown week by week a gradual decrease in the number of yellow fever cases reported, Havana having not a single case since January 1, and the island itself being free from the disease. Since January 10 there has not been a case of yellow fever among the enlisted men, and only one officer contracted the disease. This task also required intelligent, faithful and persistent effort, and Major Kean and his assistants furnished it. Working under the difficulties of a strange language and an ignorant population intensely conservative in its habits of life, they have accomplished a task that is a credit to the country and to preventive medicine.

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[1] Public Health Reports, xxi, No. 26.
[2] Public Health Reports, xxii, No. 14.

It is a pity that such work should go unrecognized by the general public, for it is certainly as praiseworthy as any incident connected with our relations with Cuba. Probably if what might have resulted were a known rather than an unknown quantity; if it were known that certain thousands of soldiers would have been disabled by sickness, and that a definite number would have died had these essentials of preventive medicine not been carried out, the public would show its appreciation and would acknowledge its debt for such work to the men who did it and to preventive medicine in general.

THE BUSINESS SIDE OF MEDICINE IN CANADA.

The failure on the part of the medical profession to take due thought of the practical and material side of its work has often been noted. A Canadian writer[1] recently made the statement, based on the experience of a medical friend, that through indifference and want of cooperation many physicians in the larger cities are living "very near the edge of want and ordinary comfort." That this is relatively true in the United States will be doubted by no one who is well acquainted with the personnel of the profession in the large centers of population, and apparently the same conditions obtain among our northern neighbors. The conclusion follows that we are negligent in our duty to our families, not only so far as present necessities are concerned, but also for the future. This is all the more apparent when we consider the universal tendency toward organization and the confederation of common interests now going on in all lines of industrial and professional life. These conditions in the medical profession are largely the result of indifference and, as the writer says, we have, through indifference, "the establishment of osteopathy, chiropractic, etc. Through indifference we hang on the walls of our offices dazzling chromos of 'patent-medicine' companies. Through indifference we take journals—called medical—whose almanac character is easily noticed. Through indifference, Eddyism and other delusions interfering with medical practice are allowed. Too much study do we give to phagocytosis and opsonins, tubercle bacilli and the *Stegomyia fasciata* and too little to materia medica." And it might be added, too little study do we give to those problems of medical economics on which the future success of the profession depends. It is evident that the same practical problems are confronting our professional brethren in Canada that we have before us here. It is also evident that many physicians are beginning to ask the reason for existing conditions and are making efforts to determine the best means of remedying them. Such signs of the times are encouraging and lead to the hope that the renaissance in medicine, which so far has been confined to its scientific achievements, may also extend to the economic conditions that are at present presenting such perplexing problems.

STEGOMYIA CALOPUS, THE YELLOW FEVER MOSQUITO.

We are informed that "*Stegomyia calopus*" has been adopted by the Public Health and Marine-Hospital Service and by the Bureau of Entomology, Department of Agriculture, as the official name of the yellow fever mosquito. In the matter of nomenclature this insect has undergone many vicissitudes. Among the names by which it has been known, *Culex fasciatus, Culex calopus* and *Stegomyia fasciata* are the most familiar. The mosquito since recognized as responsible for the spread of yellow fever was originally classified as a culex and received over a century ago the title *Culex fasciatus,* a name previously bestowed on an insect not identical with the one in question. The term *Culex calopus* was proposed somewhat later, and with the recent transference of this mosquito to the genus *Stegomyia* the name *Stegomyia calopus* resulted.

Medical News

DISTRICT OF COLUMBIA.

Graduation Exercises.—The graduation exercises of the United States Naval Medical School were held in Washington, March 30, when diplomas were given to a class of 28 by Assistant Secretary of the Navy Newberry. The principal address was made by Dr. J. Chalmers Da Costa, Philadelphia, and addresses were also made by Surgeon-General Presley M. Rixey and Medical Director John C. Wise, U. S. Navy, president of the faculty of the school.

Illness of Major Carroll.—Major James Carroll of the Medical Department of the Army, who was promoted from the grade of first lieutenant to that of major by special act of Congress in the last hours of the recent session, as a reward for his distinguished services as a member of the yellow fever commission in Cuba, has been quite ill at his residence in Washington for the last two months. Major Carroll is suffering from a continued fever of an obscure character, and while he has not at any time been in a dangerous condition, his continued illness has caused more or less uneasiness to his friends. At the present time he is improving and it is hoped that he will soon be able to resume his duties.

ILLINOIS.

Personal.—Dr. Max F. Clausius, Palatine, has removed to Norwood Park.——Dr. Nelson K. McCormick, Normal, has been appointed medical director of Brokaw Hospital, Bloomington.——Dr. Fred Rose, Columbia, was seriously injured by the accidental discharge of a shotgun while hunting recently and was taken to Henrietta Hospital, East St. Louis.

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[1] Sprague (J. S.): Medical Thoughts, Facts, Fads and Fancies, Canada Lancet, February, 1907.

Railway Surgeons Meet.—What will be known as the T., P. & W. Railway Surgeons' Association was organized at Peoria, April 1. The organization expects to be affiliated with the American Association of Railway Surgeons. The visiting surgeons were the guests of Dr. Elmer M. Eckard, surgeon-in-chief of the Toledo, Peoria & Western Railroad.

Chicago.

Gift to Charity.—The Chicago Women's Aid Society at its recent meeting donated $1,000 to the Michael Reese Hospital for use in the children's ward.

Interne Examination.—As a result of the examination of the 96 students at the Cook County Hospital recently, 44 students passed the required grade. Fifteen of the successful applicants will be appointed internes in June.

Deaths of the Week.—For the week ended April 6, 686 deaths were reported, or 58 less than for the preceding week, and 26 less than for the corresponding week of last year. This is equivalent to an annual death rate per 1,000 of 16.97.

Increase in Deaths.—The greatest increase in death causes for the first quarter of 1907, as compared with the corresponding period of last year, was from pneumonia, with a total of 1,860 deaths, or 552 more than in 1906; scarlet fever, with 220 more; tuberculosis, with 120 more, and heart diseases, with 156 more.

Mortality of the Quarter.—During the three months ended March 31, 9,104 deaths were reported, equivalent to an annual death rate of 17.52 per 1,000, an increase of 22.2 per cent. over the death rate for 1906 for the same period, which was 14.34 per 1,000. Among the principal death causes were pneumonia, 1,860; consumption, 1,014; heart disease, 690; Bright's disease, 582, and violence, including suicide, 545.

Pure Food Show.—It is announced that the first World's Pure Food Show will be opened in the Chicago Coliseum November 19 and will continue for one week. The test committee for the exhibit will consist of Dr. Harvey W. Wiley, Washington, D. C.; Drs. John H. Long, Ralph W. Webster, Archibald L. Hoyne and Joseph F. Biehn, of Chicago; Prof. Julius Stieglitz of the University of Chicago, and Dr. James A. Egan, secretary of the State Board of Health.

March Mortality.—During March 3,065 deaths were reported, or 602 more than for the corresponding period of last year. Pneumonia caused 657 deaths; consumption, 366; heart disease, 241; Bright's disease, 188; violence, including suicide, 177. Deaths from scarlet fever diminished, as compared with last month, from 142 to 87; those from diphtheria from 51 to 32; those from typhoid fever from 33 to 21; those from influenza from 36 to 28, and those from measles from 32 to 18.

MARYLAND.

Hospital Report.—The report of the Washington County Hospital, Hagerstown, for its first year, showed that the receipts were $16,245, and the disbursements $12,542. There were 106 patients admitted, of whom 75 were surgical and 31 medical cases. There were 72 operations performed, and 17 deaths occurred during the year, equivalent to an annual death rate of 16.03 per 1,000.

Baltimore.

Mosquito Question.—The city council ordinance for the prevention of breeding of mosquitoes will become operative May 1. The carrying out of the ordinance is in the hands of the health department and $10,000 has been placed at its disposal.

Tuberculosis.—The University of Maryland Nurses' Alumni Association gave an entertainment April 5 for the support of tuberculosis nursing among the poor. A committee has been appointed to study the tuberculosis situation in the state and to supervise the expenditure of the $10,000 recently raised for this purpose.

Illegal Practitioners.—On the testimony of the State Board of Medical Examiners the grand jury is said to have found presentments on the charge of practicing medicine without a license against James E. Creevy, R. Crowley, Robert H. Darrah, D. Romeo and Pasquale Romeo. It is said that the law is constantly being violated by medical students and druggists.

Personal.—Dr. J. M. T. Finney spoke at the last of the men's meetings, held at Belair, Harford County, March 31. ——Dr. Stephen H. Watts of Johns Hopkins University has been elected professor of general surgery in the University of Virginia and director of the University Hospital.——Dr. L. Ernest Neale was operated on for appendicitis at St. Joseph's Hospital, April 5.——Dr. Lewis M. Allen was elected vice-president, and Dr. Gordon Wilson, a member of the executive committee, at a recent meeting of the Society of Virginia University Alumni in Maryland.——Dr. William H. Welch lectured on tuberculosis and its problems at the Johns Hopkins Medical School, April 4.——Dr. Frank Bressler sailed for Jamaica, April 3.——Dr. Harry W. Plaggemeyer has been appointed interne at King's County Hospital, Brooklyn, N. Y.

MISSISSIPPI.

Communicable Diseases.—The secretary of the State Board of Health reports the state to be in an exceptionally healthy condition. The smallpox contagion has abated in many communities, where it was reported during the winter. The disease is still present in mild type in a few localities in the delta.

Hospital Staff.—The following physicians have volunteered to give their services to the King's Daughters Hospital, Gulfport: Emergency surgeons, Drs. Hunt and Robert W. Shipp; female medical ward, Drs. Henry S. Capps, A. L. Morris and Barnes; male medical ward, Drs. Crawley, Heard H. West and W. T. Hutchins; female surgical ward, Drs. Charles LeBaron, Charles A. Sheeley and Mathis, and male surgical ward, Drs. Robert A. Anderson and Edward C. Parker.

Commencement.—The first annual commencement exercises of the Mississippi Medical College, Meridian, were held March 30, when a class of 22 received diplomas. Dr. William W. Hamilton, president of the faculty, presided; Dean Nathan L. Clark gave a short historical review of the institution; Mr. Edwin McMorries, president of the board of trustees, awarded the diplomas, and Dr. W. T. Lowry, president of the Clinton (Miss.) College, delivered the annual address.

Society Meeting.—At the annual meeting of the Attala County Medical Society, held in Kosciusko, March 18, the following officers were elected: President, Dr. Edward C. Coleman Kosciusko; vice-president, Dr. Charles F. Carnes, Kosciusko; secretary-treasurer, Dr. John H. Portwood, Kosciusko, and censor, Dr. Thomas F. Turner, Smyrna. The question of fees for life insurance examination was discussed, but final action was deferred until after the meeting of the state association.

MISSOURI.

Emergency Hospital.—An emergency hospital in the basement of the city hall of Kansas City was opened to receive patients March 30. The hospital equipment consists of two wards, one with eight cots for men, and one with four cots for women, and an emergency operating room.

Pasteur Institute in St. Louis.—A Pasteur institute, for the free treatment of hydrophobia, has been established at the city bacteriologist's office in the City Hospital. Dr. Downey L. Harris is in charge of the institute, for the use of which five rooms have been assigned.

Medical Branch of University Offered to Kansas City.—The curators of the Missouri State University met the mayor of Kansas City and a special council committee, to discuss the establishment in Kansas City of a medical branch of the university, and proposed that the medical administration of the municipal hospitals of the city should be given to the medical department of the university, which would take off the hands of the city the burden of maintenance of hospitals, so far as drugs, surgical supplies, doctors, nurses and attendants are concerned.

Personal.—Dr. David T. Bailey, Trenton, has been appointed physician of Grundy County.——Dr. Francis R. Anthony, Maryville, has succeeded Dr. Kearan C. Cummins, Maryville, as physician of Nodaway County.——Dr. Claude C. Crowley, Richmond, county physician, has been elected secretary of the Ray County board of health.——Dr. Julius H. Weinsburg, St. Louis, was shot and seriously wounded by his son, March 18.——Dr. Hugo M. von Starkloff, St. Louis, sustained severe contusions of the hip in a collision between his buggy and a trolley car, March 20.

Society Organized.—Dr. William T. Elam, St. Joseph, councilor for the seventh district, met the physicians of Andrew County at Savannah, March 20, and assisted in the reorganization of the county medical society, with 15 charter members. The following officers were elected: President, Dr. Elijah C. Bennett, Bolckow; vice-presidents, Drs. John C. Hosher, Rosendale; Sumner S. Beever, Amazonia; Ernest H. Carpenter, Helena, and Walter C. Myers, Rea; secretary-treasurer, Dr. Clarence O. Jefferies, Savannah, and delegate to the state association, Dr. Elijah C. Bennett, Bolckow. Dr. Charles Wood Fassett, St. Joseph, read a paper on "The Benefits of Medical Organization."

NEW YORK.

Gift to Sanitarium.—John D. Rockefeller and Anson R. Flower have each given $12,500 to the Lake Kushaqua Sanitarium for Sick Working Girls, in the Adirondacks, and this gift will rid the institution of debt.

For Syracuse Hospital.—It is announced that Mrs. Russell Sage has given $5,000 toward the permanent endowment fund of the Hospital of the Good Shepherd, Syracuse, to be used for the maintenance of a free bed in the hospital.

Medical Club Election.—At the annual meeting of the Utica Medical Club, March 14, the following officers were elected: President, Dr. Andrew Sloan; vice-president, Dr. William S. Nelson; secretary-treasurer, Dr. William H. Beattie, and trustees, Drs. Morris J. Davies, William J. Schuyler and Edwin Van D. Gazzam.

Reception to Mueller.—On March 30 the Albany County Medical Society gave a reception in the rooms of the Albany Historical and Art Society in honor of Dr. Frederick Mueller, professor of medicine in the University of Munich. During Dr. Mueller's stay in Albany he was the guest of Drs. Henry L. K. Shaw and Andrew MacFarlane.

Personal.—Dr. Roswell Park, Buffalo, is taking a trip to Cuba.——Dr. William R. Campbell, Niagara Falls, was operated on by Dr. Carlton C. Frederick, Buffalo, for cancer of the liver, March 21.——Dr. H. John Hunter has been elected health officer of Ilion.——Dr. Joseph E. Vigeant, Red Hook, was seriously injured at Elizaville, March 14, while attempting to board a train in motion.

Site for State Hospital.—A bill has been introduced into the legislature authorizing the state lunacy commission to select lands for a site for a state hospital for the insane in the southeastern part of the state, the lands selected not to comprise more than 1,000 acres. This commission is to report to the legislature of 1908 in respect to the lands selected, giving reasons why they are desirable.

Quarantine Hospital.—In a report made to the health commissioner of Buffalo by Dr. Francis E. Fronczak, assistant health commissioner, he states that he finds the hospital in very good condition and ready to care for any smallpox patient who might be sent there, but says he can not see why this expensive hospital should be continued at such a cost to the city without a single smallpox patient, when there is such a great and immediate need of a hospital to care for individuals suffering from other infectious diseases. During the year ended March 31 there were reported to the board of health 2,963 cases of measles, 618 cases of scarlet fever, 530 cases of diphtheria and 287 cases of varicella and many other communicable diseases, but only one case of smallpox, and that of a very mild type.

Bills in the Legislature.—An act regulating cigar making has been introduced by Mr. Gluck, which provides that it shall be unlawful for any person making cigars to place any cigar or the materials composing it in the mouth, or to touch them with the lips during and as part of the making.——An act to amend the public health law in relation to the adulteration or misbranding of food or drugs, provides that the term "food" shall include every article of food and every beverage used by man; that the term "drug" when so used shall include all medicines for internal or external use.——A bill amending the code of criminal procedure and designed to do away with the now famous hypothetical question in cases where the sanity of the defendant is at issue has recently been introduced in the state assembly.——On April 4 the assembly amended the so-called medical unification bill, which provides for one board of medical examiners. Under the original bill it was contended that surgery might be practiced by osteopaths.

Pollution of Ice.—Dr. Porter, state health commissioner, in a paper on the "Pollution and Self-Purification of Ice," published in the monthly bulletin of the health department, states that a bill will be introduced into the legislature giving the department supervision over the business of harvesting and distributing natural ice. He shows the ways in which ice may be contaminated and also that about 50 per cent. of the bacteria in the ice would perish from exposure to the cold, and that many bacteria would be so lowered in vitality as to be incapable of producing disease. He said the real dangers are those incident to handling and distribution, to surface pollution due to flooding the ice in order to get a thicker crop, etc. The Empire State Ice Association, which has just held a convention, protested against the impression that the ice taken from the Hudson was impure and unfit for domestic use. It was stated that New York City, which used the greater part of the supply, had the lowest death rate from morbific germ diseases of any city of considerable size in the country. A report by Dr. Jackson was criticised because the samples analyzed were from cakes of ice from which the surface had not been planed.

New York City.

Personal.—Dr. Gordon Lindsay, senior surgeon at Bellevue Hospital, has been removed to Minturn Hospital, critically ill with diphtheria.—Dr. and Mrs. Thomas L. Stedman sailed for Europe on the Holland-American steamship *Noordam*, April 3.

Internes Ill.—Dr. Horace W. Frank of Bellevue Hospital is seriously ill with blood poisoning, due to an infection received during an operation.——Dr. Marcel W. Sherwood, interne at Bellevue Hospital, was removed to the Minton Hospital, March 28, seriously ill with diphtheria.

Pneumonia and Tuberculosis.—According to the winter report of the Health Department, pneumonia has succeeded tuberculosis as the chief death cause. During the three months from Dec. 8, 1906, to March 9, 1907, the deaths from pneumonia in Greater New York were 4,519, while those from tuberculosis numbered only 2,496.

Bequests.—Daniel Vincent, who died in St. Vincent's Hospital March 20, bequeathed $35,000 to the Society of St. Vincent de Paul.——By the will of the late William C. Egleston St. Luke's Hospital will receive $100,000. The will also gives $20,000 to St. Mary's Free Hospital for Children, and $15,000 to the New York Institution for the Blind.

Jubilee of Dispensary.—The fiftieth anniversary of the German Dispensary was celebrated by a dinner at Hotel Astor, March 16. This function concluded the dedicatory exercises of the new Ottendorfer Dispensary. More than 300 physicians and surgeons on the staff of the German Dispensary and German hospitals of New York were present. Dr. Pius Renn was toastmaster and souvenir medals were distributed to the guests.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended March 30, 434 cases of tuberculosis, with 221 deaths; 419 cases of measles, with 5 deaths; 379 cases of scarlet fever, with 17 deaths; 311 cases of diphtheria, with 41 deaths; 120 cases of typhoid fever, with 15 deaths; 54 cases of whooping-cough, with 9 deaths; 26 cases of cerebrospinal meningitis, with 20 deaths; and 70 cases of varicella, a total of 1,815 cases and 328 deaths.

Typhoid on the Croton Watershed.—There have been six cases of typhoid fever in the Italian camp at the Cross River dam, which is under process of construction, ten at Katonah and one at Bedford, where sewage flows into the city's water supply. A comparison of the number of cases of typhoid fever in this city for the week with the corresponding week of last year shows a notable increase in the number of cases, and every effort is being made to protect the water supply. An experimental filtration plant has just been put into operation at Jerome Park reservoir and the results will be noted daily.

Mayor Appoints Milk Commission.—The recent discussion over the problem of securing a pure milk supply for the city has resulted in the appointment of a milk commission by the mayor. The following men will serve on the commission: Drs. D. J. Bryant, former president of the board of health; T. Mitchell Prudden, Rowland G. Freeman, L. Emmett Holt and Abraham Jacobi. The work of this commission will be entirely independent of the board of health or any other city department. Any ordinance passed by the board of aldermen will have to receive the sanction of this commission before the mayor will give his signature.

NORTH CAROLINA.

Personal.—Dr. W. H. Smith, Goldsboro, has removed to Philadelphia.——Dr. James McKee has been re-elected superintendent of the Central State Hospital for the Insane, Raleigh, and Drs. Edwin B. Ferrebee and Charles L. Jenkins, assistant physicians, for a term of four years.

Date of State Society Meeting Changed.—The committee of arrangements of the Medical Society of the State of North Carolina, at a recent meeting, changed the date of meeting from May 28 to 30, to June 11 to 13, at Morehead City. This will allow the members to attend the meeting of the Surgeons of the Southern Railway at Washington, May 28 to 30; the Tri-State Medical Association at Norfolk, June 2 to 4, and the American Medical Association at Atlantic City, June 4 to 7.

State Hospital Commission Organized.—The State Hospital Commission, recently created by the legislature, met in Raleigh and organized by electing Charles A. Webb, president, and Dr. J. W. MeNeil, Fayetteville, secretary. The commission has arranged for the purchase of 1,200 acres of land adjacent to the Central Hospital, Raleigh, with the idea of making extensive additions to the institution on the colony plan. Large additions of land will be made to the institutions at Goldsboro and Morgantown. The legislature has placed $500,000 at the disposal of the commission for the improvement and extension of the state's facilities for the care of the insane.

OHIO.

New Journal.—A new monthly medical journal, called the *Diagnostician*, has made its appearance in Cincinnati.

Hospital Notes.—The report of St. Anthony's Hospital, Columbus, for 1906 shows that 1,085 patients were treated during the year, with 64 deaths, one-half of which were due to tuberculosis of the lungs.——The new hospital at Warren is nearing completion and will probably be dedicated in June. The building has cost about $40,000. Miss M. E. Surbray, Akron, has been appointed superintendent of the hospital.

Epidemic Diseases.—Chagrin Falls reports at least 200 children ill with measles, and that the public schools have been closed on this account.——Dr. Charles O. Probst, Columbus, secretary of the State Board of Health, visited Castalia March 25, to investigate the epidemic of cerebrospinal meningitis. Thirteen deaths have occurred in and near Castalia and one new case was reported April 1, making 18 cases in all.——One death from cerebrospinal meningitis is reported in an adult in Toledo.

Personal.—Dr. Albert E. Griffin, Columbus, who was recently operated on for appendicitis, has been discharged from the hospital.——Dr. John L. Davis, for many years medical director of the Union Central Life Insurance Company, Cincinnati, has resigned to accept a similar position with the Pacific Mutual Life Insurance Company, San Francisco.——Dr. George W. McCoy, interne at the City Hospital, Cincinnati, has been appointed resident physician at the Manhattan Eye and Ear Hospital, New York City.——Dr. Augustus C. Schwartz, city health officer of Tiffin, has been elected physician to the Seneca County jail for one year, vice Dr. A. M. Campbell, term expired.——Dr. James F. Heady, Glendale, has been elected professor of medical economics in the Miami Medical College, Columbus.——Dr. Katharine R. Moses, in charge of the female department of the Cleveland State Hospital, has resigned.——Dr. Edwin Reinert, Columbus, has been appointed a member of the board of public safety.——Dr. Harry E. Weleh has been re-elected health officer of Youngstown.——Dr. Arthur E. Osmond, resident physician at the City Hospital, Cincinnati, has resigned.

Society Secretaries to Meet.—The Ohio State Medical Association has arranged for a convention of the county society secretaries of the state to be held at Columbus, April 25, for a discussion of the work of county secretaries and for devising methods to facilitate and increase the effectiveness of the secretaries' work. A program, lasting throughout the day, is to be opened by an address of welcome by Dr. Frank Winders, secretary of the Ohio State Medical Association. The following papers will be presented: "The Relation of the Secretary to the Society and the Profession," Clyde E. Ford, secretary of the Cleveland Academy of Medicine and the Cuyahoga County Medical Society; "The Relation of the Secretary to the Council," T. W. Rankin, Columbus, councilor of the Eighteenth District; "The Relation Between Local and District Societies," J. S. Rardin, Portsmouth; "How the Secretary's Work May be Made Easier," Carrie Chase Davis, Sandusky, secretary Erie County Medical Society; "My Plan for the Struggle," Nelia B. Kennedy, Findlay, secretary Hancock County Medical Society; "What Can a Secretary Do to Secure New Members," John B. Donaldson, Lorain, secretary Lorain County Medical Society. During the noon intermission lunch will be served at the Neil House. The afternoon session will be opened by an address on "Medical Legislation," by Charles A. L. Reed, Cincinnati, chairman of the Committee on Medical Legislation of the American Medical Association. John B. Donaldson, Canonsburg, Pa., secretary of the Washington County (Pa.) Medical Society, will read a paper on "The Secretary and His Opportunity," after which papers will be read by Herschel Fisher, Lebanon, secretary of the Warren County Medical Society, on "How Can We Make 'Open Meetings' Most Successful?"; by Horace Bonner, Dayton, councilor of the Second District, on "The Social Factor in the Life of the Successful Physician," and by O. M. Wiseman, Zanesville, on "Our New Doctors." Papers by R. H. Grube, Xenia, secretary Greene County Medical Society and N. Worth Brown, Toledo, secretary Toledo and Lucas Academy of Medicine, on the value of graduate courses to medical societies in the country and in the city, will close the program. A large attendance of the county secretaries of the state is anticipated and it is hoped that much benefit to the organization will result from the meeting.

PENNSYLVANIA.

Golden Jubilee of Physicians.—Dr. Jonathan L. Forwood, mayor of Chester for four terms, and chief of the surgical staff of Chester Hospital, one of the best known physicians and surgeons in the city, celebrated the fiftieth anniversary of his entry into the profession April 7. The Delaware County Medical Society had arranged to give a banquet in honor of this event, but by the special request of Dr. Forwood gave up the idea.

Ambulances in Coal Mines.—It is reported that car ambulances are to be introduced in the anthracite coal mines of the state to facilitate the work of the first-aid-to-the-injured corps. The ambulance cars resemble the ordinary mule cars, but have springs, and two upholstered stretchers so arranged that either may be used exclusively. Each car has a full emergency equipment. The mine workers in the first-aid corps are enthusiastic over the ambulance car idea.

Hospital for Criminal Insane.—At a meeting held April 5, at Honesdale, plans for the new State Hospital for the Criminal Insane were discussed. Options on several hundred acres adjoining the site of 600 acres presented to the state by the Delaware & Hudson Railroad were obtained, and this land will be paid for from the appropriation of $10,000 for a site made by the last legislature. Assurance has been given the commission of an appropriation of $150,000 to start building, by the present legislature. The site for the administration building, which is the first to be erected, was selected. This building will contain the offices and quarters for the executive officers and accommodations for probably 100 patients. It is the intention of the commission to build an institution capable of caring for 1,000 patients, the cost of which will be eventually more than $1,000,000.

Communicable Diseases.—Of the 87,757 cases of communicable diseases reported to the State Department of Health during 1906 there were 24,421 cases of typhoid fever, 6,902 cases of scarlet fever, 10,842 cases of diphtheria, and 23,729 cases of measles. The following diseases are classed as communicable: Actinomycosis, anthrax, bubonic plague, cerebrospinal meningitis, chicken-pox, cholera, diphtheria, epidemic dysentery, erysipelas, German measles, glanders, hydrophobia, leprosy, malarial fever, measles, mumps, pneumonia (true), puerperal fever, relapsing fever, scarlet fever, smallpox, tetanus, trachoma, trichiniasis, tuberculosis, typhoid fever, typhus fever, whooping-cough and yellow fever. The statistics of communicable diseases are to be analyzed by the department of health for the purpose of comparing them with the record of deaths from the same diseases. These statistics should be valuable in the immediate fight against disease throughout the state. and in addition will furnish permanent data for the study of social conditions and will be helpful to the students of remedial legislation.

State Board Examination.—The next examinations of the Pennsylvania State Board of Examiners will be held at Harrisburg, June 25 to 28, in Russ Hall, 15 North Second Street, and City Grays' Armory, corner Second and Forster streets. The first session will begin at 9 a. m., June 25. All candidates must have their credentials completed and have cards from the secretary of the medical council to present at the door at the time of examination. Every candidate will be required to furnish a cabinet photograph of himself, endorsed in his own handwriting on the back. and endorsed on the back by the dean of the college from which he graduated, certifying to the correctness of the photograph and to the genuineness of the signature. In cases where the dean has died or the college has ceased to exist, an affidavit signed by the candidate must accompany the signed cabinet photograph. Candidates desiring to file applications should apply to Dr. N. C. Sehaeffer, secretary of the medical council, Harrisburg, or in the matters relating to work of the board, to Dr. W. D. Hamaker, secretary of the Board of Medical Examiners, Meadville.

Philadelphia.

Bequests.—According to the will of Frederick Bauer, $1,000 is left to the German Hospital.——The late Nicholas Lennig devised $10,000 to the Maternity Hospital and $1,000 to the Philadelphia Dispensary.

Deaths of the Week.—The number of deaths from all causes in the week ended April 6 was 617, a decrease of 38 from the number reported last week. The chief causes of death were: Typhoid fever, 13; diphtheria, 10; cerebrospinal meningitis, 12; tuberculosis, 75; cancer, 28; pneumonia, 77, and Bright's disease, 50.

Personal.—Dr. Joseph Neff has been appointed director of public health and charities, to succeed Dr. W. M. Late Coplin. Dr. Neff is a member of the faculty of Jefferson Medical College and is medical director of the Jefferson Hospital.——Dr. A. Lee Clifton, who has been resident physician at the Delaware Hospital since June, has been appointed a resident physician of the University of Pennsylvania, under Dr. John Clark.

Hospital Notes.—The report of the Wills Eye Hospital shows that during 1906, 800 new patients were admitted for operation and treatment, and the clinics gave free service to 16,000 new and 80,000 old patients, from 63 counties of Pennsylvania, an average of about 300 a day. The hospital is badly in need of extensions and additions to the building, and has asked the legislature to furnish them at an estimated cost of $150,000, and allowance for maintenance of $50,000 a year.

Endorses Bill Controlling Marriage.—The Philadelphia County Medical Society, at its meeting March 15, passed the following resolution:

> *Resolved*, That the Philadelphia County Medical Society notes with great satisfaction the introduction of a bill before the Legislature of Pennsylvania requiring certificates to the effect that both parties to a proposed marriage are in the opinion of a qualified physician free from disease transmissible to progeny. The society affirms the principle involved, and endorses the effort of the community to secure the adoption of the measure.

Banquets.—At the annual banquet of the Davis Obstetrical Society, held March 23, Dr. Edward P. Davis, honorary president of the society, acted as master of ceremonies. Drs. Hobart A. Hare, J. Chalmers Da Costa and H. Augustus Wilson and members of the faculty of Jefferson Medical College attended the banquet.——The twenty-fifth annual reunion and banquet of the medical class of 1882, of the University of Pennsylvania, was held March 16, Dr. Horace Jayne presiding. Dr. James Tyson, one of the three surviving members of the faculty at that time, was the guest of honor. Historical sketches were read by Drs. Judson Daland and William J. Taylor.

Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income for one year ($180) of the bequest of the late Señor Alvarenga, will be made July 4, provided that an essay deemed worthy of the prize shall have been offered. Essays may be on any subject in medicine, but can not have been published. They must be typewritten and must be received by Dr. Thomas R. Neilson, secretary of the college, on or before May 1. Each essay must be sent without signature, but marked with a motto and accompanied by a sealed envelope, having on its outside the motto of the paper, and within the name and address of the author.

Jubilee of Pathological Society.—Elaborate preparations are being made by the Pathological Society of Philadelphia to celebrate in a fitting manner the fiftieth anniversary of its founding. The morning of the first day, May 10, will be devoted to the welcoming of guests and to addresses by distinguished men from different parts of the country. A luncheon to members and guests will be served at the University Club at 2 p. m., and two hours later a commemorative meeting will take place in the amphitheater of the Pennsylvania Hospital, where the first meetings of the society were held.. Dr. William Osler, regius professor of medicine, Oxford University, will deliver the principal address. An exhibition of pathologic specimens will be opened to guests, members and profession at large on Friday and Saturday in the Mütter Museum of the College of Physicians.

TENNESSEE.

Officers Re-elected.—At the annual meeting of the State Board of Health, April 7, Dr. Heber Jones, Memphis, was reelected president, and Dr. Thomas E. Abernathy, Chattanooga, vice-president.

Communicable Diseases.—More than 200 of the pupils of the schools of Knoxville are reported to be suffering with measles. ——The smallpox situation in Weakley County is reported to be unimproved, several new cases having developed near Greenfield.

TEXAS.

Health of the State.—State Health Officer William Brumby, Austin, asserts that smallpox is spreading in certain counties of the state and that approximately 20 counties are affected. ——An epidemic of measles is reported at Killeen.

Personal.—Dr. Roland C. Connor, Roby, has been appointed on the medical staff of the Canal Zone.——Dr. Aleek Spencer, Temple, has resigned as health officer of Bell County and has been succeeded by Dr. Taylor Hudson of Belton.——Dr. O. T. Brundy, Milford, has been appointed surgeon to the Confederate Home, Austin.

Hospital Notes.—The senate committee on public health made a favorable report, March 25, on the house bill appropriating $150,000 for the establishment of a state sanitarium for tuberculosis.——The annual report of Sealy Hospital, Galveston, shows that in 1906 there were 40,556 hospital days, a gain of 4,434 as compared with 1905. The daily average of patients for the year was 111, and 1,550 patients were admitted.

War on Mosquitoes.—At the last meeting of the board of city commissioners of Galveston, Dr. Charles W. Trueheart, city health officer, was granted permission to advertise for 120 barrels of crude carbolic acid, for the use of the department during the coming summer to combat the mosquitoes and diminish the plague of house flies in the city.——The campaign against mosquitoes has commenced in San Antonio and good work is being done by the children of the public schools.

VIRGINIA.

Personal.—Passed Assistant Surgeon Rupert Blue of the United States Public Health and Marine-Hospital Service has been made chief of the department of sanitation at the Jamestown Exposition.——Dr. M. F. Hansbrough, Front Royal, was painfully injured in a runaway accident at his home, March 30.

Honor to Dr. Reed.—The State Library Board has appointed an art committee, of which Admiral Harrie Webster is chairman, to select a portrait of the famous surgeon and bacteriologist, the late Dr. Walter Reed, major and surgeon, United States Army, who was born at Harrisburg, Va., to be placed in the library.

Anti-Mosquito Crusade.—An anti-mosquito crusade is to be inaugurated in Norfolk during the summer by Health Commissioner Dupuy of that city, who will be assisted in the work by Surgeon Charles P. Wertenbaker and Passed Assistant Surgeon Rupert Blue of the United States Public Health and Marine-Hospital Service.

GENERAL.

Yellow Fever in Cuba.—Major Jefferson R. Kean, U. S. Army, reported on April 6 a case of yellow fever at Nueva Paz, in the southeast corner of Havana province. The patient was a Spaniard who had arrived from Spain December 13, and had not left the part of Cuba in which he was taken ill since that time. There is believed to be no reason to fear infection in Havana.

Internes Wanted in Insane Hospital.—The United States Civil Service Commission will hold examinations June 13 and 14, at the usual cities throughout the United States, to supply medical internes in the Government Hospital for the Insane, Washington, D. C. This examination is open to men who are citizens of the United States, aged 20 years or over, and graduates of reputable medical colleges. Applicants should apply at once to the commission at Washington for application form 1312.

Attitude of the Filipinos Toward the Leper Hospital.—Dr. Heiser, chief quarantine officer, reports that a remarkable change seems to have come over the people in reference to their attitude toward the leper hospital. It is almost a daily occurrence for persons to apply voluntarily to the bureau of health for hospitalization. Many individuals have come from the colonies and requested that they be admitted to San Lazaro Hospital until they could be sent to the Culion leper colony. These facts, Dr. Heiser states, are significant and point to an improvement in the attitude of the people.

Tropical Medicine Men Meet.—At the third annual meeting of the American Society of Tropical Medicine, held at the New York Academy of Medicine, March 29, papers were read by Surgeon Leckinski W. Spratling, U. S. Navy, on "Yellow Fever Sanitation," and Major Louis Livingston Seaman, U. S.

V., on "Observations on Health and Disease in Eastern Africa." The following officers were elected: President, Dr. James M. Anders, Philadelphia; vice-presidents, Drs. Rudolph Matas, New Orleans, and William S. Thayer, Baltimore; secretary, Dr. John M. Swan, Philadelphia; treasurer, Dr. James Ewing, New York City, and members of the council, Drs. Ramon Guiteras, New York City, and Joseph McFarland, Philadelphia.

New Roentgen Ray Journal.—The latest addition to medical periodicals is the *American Quarterly of Roentgenology*, of Pittsburg, Pa., published by the American Roentgen Ray Society and edited by its president, Dr. Preston M. Hickey, Detroit, Mich. This journal takes the place of the annual transactions of the society, and is the property of the society. The first issue reflects great credit on the society and promises much for the future. The policy of the society in reference to advertisements is not referred to in the editorial foreword, but judging from the advertisements that appear in the first issue, the pages are open only to those who have something to exploit that is of particular interest to roentgenologists. The size of the journal is convenient and the mechanical work is excellent.

Graveyard Regulations in the Philippines.—One of the most important sanitary measures—certainly one of the most difficult and laborious—according to Dr. Heiser, of the bureau of health of the Philippine Islands, is the regulation of the cemetery question in accordance with the law, which states that it shall be unlawful to establish, maintain, enlarge or remove any burial ground or cemetery until a permit therefor shall have been obtained from the director of health. This necessitates a careful examination into the sanitary conditions of all existing cemeteries. The cemetery question has long been a neglected one and this makes its regulation more difficult. Many municipalities are establishing municipal cemeteries in which interments may be made without discrimination on account of race, nationality or religion.

Vaccination in the Philippines.—In his report for the last quarter of 1906 Dr. V. G. Heiser, chief quarantine officer, states that vaccination had to be temporarily abandoned in Antique, because of a report that the people were being inoculated with the virus of leprosy, and in Occidental Negros, on account of a report that the people were being inoculated with cholera germs. On the island of Luzon, particularly on the coast line, with the exception of a portion of Tayabas, Sorsogon and Albay provinces, all the inhabitants have been protected. As the travel is principally betwen coast cities, the danger of the spread of smallpox is considerably lessened. This systematic scheme of vaccination has already borne results, as attested by the fact that there is less smallpox in the Philippines today than perhaps at any time during the past 300 years. Whenever the vaccination of a province is completed the work is followed up by vaccinating, at intervals of every six months, all the children who have been born during that period, and all unvaccinated persons who may have taken up their residence there during the interim. During the quarter covered in the report the work of vaccinating the inhabitants of Cebu was completed. This is the first time in the history of the Philippines that the people of the entire province, numbering over three-quarters of a million, have been vaccinated. The complete vaccination of the inhabitants of Union province was also terminated during the quarter. A clinical note on this work appears in this issue, page 1264.

CANADA.

Infectious Diseases.—The number of cases of infectious diseases in Montreal in March was 356, of which 101 were of tuberculosis.——Over 1,000 residents of Three Rivers, Que., are reported to have typhoid fever, and the death rate is double the normal.

Personal.—Dr. J. H. Elliott has resigned from the Muskoka Cottage Sanatorium and has been succeeded by Dr. W. J. Dobbie of the Western Free Consumption Hospital, near Toronto. Dr. Elliott will spend several months abroad.——Dr. Henri Hervieux, Montreal, will succeed the late Sir William Hales Hingston on the board of governors of Laval University.

Hospital News.—The Canadian Hospital Association was organized in Toronto, April 1. Miss Louis Brent of the Sick Children's Hospital, Toronto, was elected president, and Dr. John N. E. Brown, superintendent of the Toronto General Hospital, secretary. Dr. Renwick R. Ross, Buffalo, N. Y., delivered an address. In connection with the Ontario hospitals, it was anonunced at this meeting that the government had raised the grant 20 cents per patient per day.——The Vancouver (B. C.) General Hospital will spend an additional $20,000 on hospital equipment.——The twentieth annual report of the board of management of the Protestant Hospital for the Insane at Verdun, Que., shows that on Jan. 1, 1906, there were 503 patients in residence. During the year there were admitted 87 men and 64 women. The discharges numbered 110, and the deaths 31, leaving in the institution at the end of December 507 inmates.

FOREIGN.

International Congress of Physiotherapy.—As already mentioned in these columns on page 1195, the Second International Congress of Physiotherapy will be held at Rome, Italy, Oct. 13-16, 1907, under the presidency of Hon. Prof. Guido Baccelli. Prof. Carlo Colombo, Via Plinio, 1, Rome, is the secretary. The American committee has been appointed with Dr. Francis B. Bishop, Washington, D. C., as president, and Dr. William Benham Snow, 349 West Fifty-seventh Street, New York, secretary.

Plague in the Ottoman Empire.—Dr. Post, American representative on the International Sanitary Board, reports that bubonic plague is on the increase at Djeddah, the port of Mecca. When the first cases were reported great numbers of pilgrims were passing through Djeddah on their way to Mecca, and it was feared that the plague would break out among them. A special meeting of the International Sanitary Board was called, and measures were taken to prevent its spread. These were so successful that up to February 24 no case of plague had occurred among the pilgrims, over 100,000 in number.

Morphin from Mail Order Houses.—The *Münch. med. Wochschr.* relates that a Paris firm advertised in a German lay weekly that it would supply physicians and apothecaries "in discreet cases what they could not otherwise obtain." A German physician wrote to know if he could obtain morphin from the firm and received a prompt affirmative reply, with instructions as to the use of the morphin, "1 cg. for one injection, and never more than three injections a day. Internally 2.5 cg. to begin with." The price charged was about $1 for 15 grains. As no order was forthcoming, the firm wrote again to offer the morphin at half price. The article adds that customers can order and receive morphin from the large French department stores.

Bicentennial of Linnæus.—The scientific organizations of Sweden are making preparations to celebrate in the week of May 12 the two hundredth anniversary of the birthday of the great botanist, Carl von Linné, better known by his Latinized name, Linnæus. As was mentioned recently in an editorial in The Journal, Linnæus was a physician, having taken a medical degree in the Netherlands in 1735, and four years later was appointed physician to the king of Sweden and professor of botany at Upsala. He had published before this a work on the flora of Lapland, which he had explored under the auspices of the Swedish Academy of Sciences. It was followed by numerous other works on botany which won for him the title of the father of systematic botany and of the binomial nomenclature of species. The celebration of the bicentennial will be held at Upsala, where Linnæus lived, and where he died in 1778.

Misuse of Names by Quacks.—A German "magnetopath," C. Pohl, stated in the circulars he has been distributing, that Virchow came to him for treatment of a throat affection and was cured by him, giving the date and other particulars, and citing Virchow's expressions of confidence in his magnetic treatment. The magnetopath was recently before the courts for fraudulent practices and was condemned to a fine of $15 and 12 days' imprisonment. In the course of the trial his lawyer referred to the Virchow incident and remarked that Dr. H. Virchow, Virchow's son, would confirm his client's statements in regard to the successful treatment of his father. No notice was taken of the matter by the Virchow family, but Dr. H. Virchow has since written a letter on the subject to the *Deutsche med. Wochschr.*, page 517, discussing the legal phases of this outrageous misuse of his father's name and whether the magnetopath or others like him could be prosecuted for such statements. He seems to be inclined to think that the sentence imposed, even if the charlatan were condemned, would not outbalance the advertising for the charlatan in case suit were brought against him. The affair has three aspects, that bearing on his father, that on the interests of the public, and that bearing on the interests of the medical profession. In regard to his father, young Virchow thinks that no denial is needed from him. The interests of the profession in the struggle against unscrupulous quackery have compelled him to discuss the incident, especially the lawyer's statement in the above case. He is informed that the law does not require the lawyer to ascertain the truth of such assertions on his client's behalf, and remarks, "When a lawyer is legally allowed to shield his client by making such baseless statements, it would be very foolish for the charlatan not to profit by such a fortunate circumstance." It is possible that the charlatan will continue in the future the misuse of Virchow's name, as this matter had nothing to do with the sentence imposed and no steps have been taken to date to stop it.

Twenty-fifth Anniversary of the Discovery of the Tubercle Bacillus.—On March 24 just 25 years had elapsed since Robert Koch reported the discovery of the tubercle bacillus in a communication read before the German Physiological Society. In the *Deutsche med. Wochschr.* for March 21, Loeffler gives an interesting sketch of the occasion. Koch had been called from his obscure post in a country district to Berlin just two years before, not long after his publications on mouse septicemia and anthrax had attracted general attention. On arriving at Berlin, just 37 years old, he met with a frosty reception from Virchow, and his announcements were criticised by Virchow's followers, especially in the local medical societies. The Physiological Society, however, under the leadership of Dubois-Reymond, gave him unprejudiced attention and supplied certain facilities for his further research. Consequently it was to that society that he turned when ready to publish his discoveries on tuberculosis. The hall was crowded to hear his communication "On Tuberculosis," although no hint of its importance had got abroad. As he presented the array of facts which he had established every one present felt the importance of the occasion and not a word was spoken, not even when he had finished, the session closing without a word of discussion. The next day his demonstrations were thronged with scientists, including Virchow, but it was years before the latter ever spoke of the bacillus except as "the so-called tubercle bacillus." Koch's staining technic was an accidental discovery while he was seeking to photograph the bacilli. He assumed that the blue-stained bacilli would show better in a photograph if the whole specimen were stained further with Bismarck brown, but examination of the specimens later showed that the bacilli still retained their blue tint when all else had turned brown. He also found that this did not occur when a fresh solution of methylene blue had been used. This suggested that some substance in the air must act on the blue solution as it stands, and he surmised that this might be ammonia as the air of a laboratory generally contains considerable ammonia. A little ammonia added to the fresh solution of the blue made it act as he wished, and he then assumed that any alkali would have the same effect. This was the basis of the finally perfected stain.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

Vienna, March 19, 1907.

Sexual Problems in the Upper Schools.

The movement for fighting venereal diseases by public instruction has called attention to the fact that numerous sexual infections take place simply from ignorance of the danger and of the means of prevention. Thus, in German-speaking countries, the university students at once, on entering the "alma mater," come under influences of free-thinking and unscrupulous circles, and the contrast between the strict supervision in the preparatory schools and the absolute liberty in the university tends to turn the attention of the young men to sexual matters, with the result that 30 per cent. of all gonorrheal and 25 per cent. of all syphilitic primary infections occur between the ages of 20 and 22, when, in our countries, the youths enter the university. In a few of the preparatory schools, the pupils during the last term are now instructed in the facts of sexual dangers. Another important achievement of the recent movement, in which several professors of the university are interested, is the "Instructions-Blatt," a leaflet explaining in a few words the chief symptoms of sexual diseases and warning against treatment by quacks and secret remedies. This leaflet is handed to the young laborers and factory hands, to students on matriculating, and to the scholars of the trade-schools on leaving.

Correction: Gastric and Enteric Nomenclature.—In the table on page 1299 of this issue is an error. The lower half of table should be marked, at the left, "Enteric" instead of "Gastric."

Correspondence

Disclaimer Concerning a Book on Fractures by Lamb.

U. S. Army Medical Museum and Library,
Washington, D. C., March 28, 1907.

To the Editor:—For the past two years the Postoffice Department here has been receiving every day or so letters addressed to "Prof. D. K. Lamb, Curator National Medical Museum," and has been sending them to me for want of anybody else who comes anywhere near filling the bill. There is no Prof. D. K. Lamb in this city; and no institution of that name; nor am I curator of any museum. These letters come from all parts of the country east of the Mississippi, and they ask for a copy of the "New Methods of Reducing Fractures and Dislocations." I am unable to learn of any such book published here or distributed from here, gratuitously, as the applicants all evidently understand. I have replied to a number of these letters, but can not continue to do so.

D. S. Lamb.

Miscellany

Scarlet Fever Seven Times.—This occurrence is reported by a Spanish writer, cited in the *Münch. med. Wochschr.*, liv, 283. The first attack occurred at the age of 7 and the latest at 21. The disease is said to have been diagnosed by some of the best authorities in Spain each time.

Case of Fatal Xerostomia.—Zagari describes a case of dryness of the mouth from total absence of the salivary secretion, owing to atrophy of all the maxillary, parotid and sublingual salivary glands. The patient was a woman of 50 and she succumbed in less than two years to the marasmus resulting from lack of the secretions of the salivary glands. Autopsy revealed a syphilitic or parasyphilitic lesion in the upper part of the oblongata. He concludes that there must be at this point an anatomic nucleus presiding over the salivary glands and also over the sense of taste in the anterior two-thirds of the tongue. as function was abolished over this stretch in his case. From this bulbo-spinal center a neuron evidently passes through the chorda tympani to the salivary glands. The histologic findings in the case are shown in several illustrations accompanying his communication in the *Policlinico*, xiv, 45, 1907.

Contagion of Leprosy.—Since the establishment of the third leprosorium in Russia, at Wenden, 10 years ago, it has sheltered 183 lepers. Kiwull's report of its work is published in the *St. Petersb. med. Wochschr.* for January 26. He mentions a number of instances of proved transmission of the disease. In two cases the leprous wife infected her husband; in two, the father his son; in four, the father his daughter; in four the mother, one or more children, and in one family the father. with tubercular leprosy, infected his brother, his sister and his four children. In four cases a brother or sister became infected; in eight, an inmate of the house. Two patients ascribed their infection to having worn garments used previously by a leper, and two other patients to washing the garments of a leper. The tubercular form seemed more malignant than the other macular variety, both in regard to its course and to infection of others.

Microscopic Examination of Endotheliomata of the Neck.—Wyatt Wingrave, pathologist to the Central London Throat Hospital, states that during the last year he has examined several growths, belonging to the tumors described as endotheliomata, removed from the cervical and parotid regions, and from the upper respiratory and digestive tracts. These tumors, he asserts, may be defined as neoplasms developed from and following the type of epitheliod or mesotheliod cells, such as are found lining blood and lymph vessels. When starting from the lining of perivascular lymph spaces they are called peritheliomata, but, he declares (*Journ. Laryn., Rhin. and Otol.*, London), there is no essential difference in the character of their elements. Formerly, they were somewhat loosely termed "adenosarcoma," "atypical carcinoma," "mixed sarcoma," but Wingrave states that on looking over old preparations he would now unhesitatingly describe them as endotheliomata. The tumors may originate either from the epitheliod lining of vascular channels, blood and lymphatic (endotheliomata), or that surrounding the vessels (peritheliomata). Cytologically, there is no difference, but the spreading and grouping of the essential elements are somewhat different. The tumors are also said to arise in vestigial structures, such as occur in connection with the branchial clefts on and in the intercarotid gland, probably from angioblastic elements. In structure, they are usually firmly encapsulated. The stroma is well marked, either fibrillated or homogeneous, forming spaces of varying size. Cells when present are elongated, fusiform and closely packed, sometimes encapsulated, giving the appearance of cartilage. The matrix contains mucigen or collagen. The essential endothelial elements are cells which, though varying in size and shape, always possess the characteristic of the epitheliod or mesothelial cells, viz., large oval nuclei, having a fine close chromatin network and staining faintly with hemalum. The cytoplasm is abundant and very finely granular or clear. The cells may be columnar, spheroidal, flattened or fusiform. Very rarely they are laminated, forming pearls like ordinary squamous epithelium, from which they may be easily distinguished. Hetero-mitoses are not common, neither is lymphocytosis with wandering chromosomes—features so characteristic of epitheliomata.

Electricity Barred from Turkish Hospitals.—H. Paull of Carlsruhe writes entertainingly in the *Deutsche med. Wochschr.* February 28, of a trip in the eastern Mediterranean. He states that the Sultan is convinced that electric lights, electric tramcars, telephones, etc., are devices of the evil one, and that he has strictly forbidden their use throughout his dominions. This deprives the hospitals of radiology and electrodiagnosis, etc. In the Turkish hospitals, besides, the thermometer is regarded as superfluous. Dr. Deycke, formerly of Hamburg, is in charge of the Gülhane Hospital at Constantinople, and by great diplomacy and tact he secured permission to use electricity in this hospital. Not long ago he received orders from the Sultan to vacate the hospital entirely and to remove all the inmates and equipment, as the Sultan wanted to attend the great mosque near by and did not wish to be disturbed by the presence of the sick and of the diabolical electric machines so near him. Again the sturdy German's diplomacy brought him successfully through this crisis, but the hospital suffers constantly from an utter lack of funds to maintain it properly. In Greece, on the other hand, Paull says, the hospitals are equipped and maintained on a level with the standard of western civilization; even rubber gloves are not wanting. He comments on the immense number of bladder stones preserved in the hospital at Smyrna. The composition of the water is locally regarded as the cause of this tendency to bladder stones. [This traveler's experience seems not in accord with the reports of the Constantinople correspondent of the London *Lancet*. The latter gives the impression that a large proportion of Turkish hospitals are pretty fairly equipped with modern appliances.]

Association News

HALF FARE TO ATLANTIC CITY.

One Fare for Round Trip to the Annual Session of the American Medical Association.

The New England Passenger Association, the Trunk Line Association and the Central Passenger Association have granted a rate for the round trip of one first-class limited fare plus $1. Tickets will be good, going, June 1 to 4, inclusive; returning, leaving Atlantic City June 4 to 10, inclusive. By deposit of the ticket by the original purchaser, in person, with the special agent at Atlantic City not later than June 10, and payment of fee of $1 at time of deposit, an extension of the return limit may be obtained to leave Atlantic City not later than June 14.

Thus far the Western Passenger Association has granted only a rate of one and one-third fare for the round trip, but the matter has been taken under further consideration and it is hoped that a half-fare rate will be secured in the territory covered by this association also.

The Transcontinental Passenger Association has granted a one first-class 30-day fare for the round trip, tickets to be on sale May 20 and 21. Final arrangements of this association with the eastern passenger associations have not yet been made. The Transcontinental Passenger Association covers the western part of the United States, including all of the Pacific Coast.

NEW MEMBERS.

List of new members of the American Medical Association for the month of March, 1907:

ALABAMA.

Christopher, F. E., Isney.
Glass, E. T., Birmingham.
Goodman, D. W., Mobile.
Grout, S. E., Bessemer.
Huggins, Jacob, Newbern.
Manning, J. T., Lineville.
McKee, H. C., Hartselle.
Moseley, D. C., Faunsdale.
Odom, J. I., Littleton.
Riley, H. C., Coffee Springs.
Shropshire, C. W., Birmingham.
Smith, R. L., Palos.
Thomas, J. R., Albertville.
Whiteside, J. M., Anniston.

ARIZONA.

Neff, Mary L., Oracle.
Powell, C. S., Benson.
Southworth, H. T., Prescott.

ARKANSAS.

Hamm, E. F., Texarkana.
Lee, F. A., Mena.
Longino, H. A., Magnolia.
Nall, R. P., Armorel.
Powell, J. W., Springfield.
Roop, J. W., Crossett.
Stevens, C. D., Magnolia.
Taylor, I. S., Crossett.
Wilson, G. L., Hermitage.
Wommack, W. E., Hermitage.

CALIFORNIA.

Bacon, C. E., Los Angeles.
Bishop, T. W., Pasadena.
Cohen, Albert, San Francisco.
Cook, W. V., Pasadena.
Decker, C. W., Los Angeles.
Ford, J. C., Rocklin.
Frick, D. J., Los Angeles.
Henrikson, Gustav, Sacramento.
Johnson, W. S., Los Angeles.
McCoy, Alva D. S., Pasadena.
McNaughton, J. A., Los Angeles.
Miller, A. V., Oakland.
Roth, L. J., Los Angeles.
Silvia, Clara A., Gilroy.
Thompson, J. G., Oakdale.
Trewhella, J. S., Rivera.
Walker, Agnes, San Francisco.
White, A. H., Crockett.
White, S. T., Redding.

COLORADO.

Abrahams, H. E., Denver.
Carlson, B. W., Cheyenne Wells.
Edwards, G. M., Denver.
Lee, H. C., Tabasco.
Moore, Clara M., Denver.
Stilwell, H. R., Denver.
Weller, Miles, Denver.

CONNECTICUT.

Bissell, J. S., Torrington.
Meeks, H. A., Meriden.
Minor, G. M., Waterford.

DISTRICT OF COLUMBIA.

Jewett, H. M., Washington.
Marshall, Collins, Washington.

FLORIDA.

Carswell, S. T., Citra.
Pollock, W. A. J., Pensacola.
Prince, J. M., Live Oak.
Willis, J. M., Williston.

GEORGIA.

Adams, R. P., Bethlehem.
Cunningham, F. M., Macon.
Giddings, C. G., Atlanta.
Johnson, G. F., Griffin.
Johnston, F. C., Walden.
Kilpatrick, A. J., Augusta.
Michel, H. M., Augusta.
Oglesby, C. R., Waycross.

IDAHO.

Davis, W. N., Wardner.

ILLINOIS.

Allen, W. G., Chicago.
Bishop, E. H., Chicago.
Brooks, E. W., St. Elmo.
Brode, W. D., Chicago.
Butler, Jacob, East St. Louis.
Brimble-Combe, Wm., Carmi.
Davies, R. H., Chicago.
Dunavan, L. W., Chicago.
Ellis, W. L., Grayville.
Evans, Florence L., East St. Louis.
Goldenburg, Michael, Chicago.
Gulbrandsen, G. H., Chicago.
Hill, C. E., Aviston.
Johnson, L. M., Arrowsmith.
Lippert, J., East St. Louis.
Lyford, W. H., Port Byron.
Macauley, T. E., Elgin.
MacKellar, O. W., Chicago.
Mandel, Milton, Chicago.
Marten, John, Tolono.
McCaw, J. A., Herscher.
Nagel, F. E., Chicago.
Palm, Milton, Dwight.
Robinson, J. W., New Berlin.
Ross, G. W., Watseka.
Sawyer, C. F., Chicago.
Secor, W. L., La Grange.
Troutt, J. J., Nashville.
Will, H. C., Chicago.

INDIANA.

Clements, H. J., Converse.
Gudgel, J. E., Cynthiana.
Kohr, T. W., Hammond.
Long, J. B., Indianapolis.

IOWA.

Anderson, H. N., Scranton.
Charlton, A. J., Bennett.
Knowles, J., Logan.
Lang, C. C., Altoona.
Mantz, M. Alace, Des Moines.
Shuler, Anne M., Davenport.
Thomas, L. A., Des Moines.

KANSAS.

Brookhart, H. H., Scammon.
Heidrick, D. L., Welda.
Hull, R. W., Kincaid.
Jack, W. G., Chautauqua.
McDowell, W. H., Iola.
Reid, C. T., Carona.
Townsend, C. R., Centralia.
Walker, G. W., Chetopa.
Wuttke, E. E., Halstead.

KENTUCKY.

Bethel, J. T., Henderson.
Brown, R. K., Louisville.
Elmore, R. R., Louisville.
Rodman, H. D., Bardstown.

LOUISIANA.

Frater, F. J., Shreveport.

MARYLAND.

Gaddess, H. W., Baltimore.

MASSACHUSETTS.

Bruce, H. M., Brookline.
Conroy, E. C., Andover.
Graves, J. C., Jr., Boston.
Jones, Everett, Brookline.
Levy, F. J., Boston.
Lloyd, H. D., Boston.
MacOdrum, Angus, Boston.
Maguire, T. H., Dorchester.
May, J. S., Boston.
Thurber, M. T., Dorchester.
Wolcott, W. W., Natick.

MICHIGAN.

Breece, R. C., Ada.
Charles, H. L., Paw Paw.
Hensel, R. D., Detroit.
MacIntyre, Donald, Muskegon Heights.
MacNett, F. J., Traverse City.
McCormick, F. T., Detroit.

Murphy, N. D., Bangor.
Skinner, C. E., Howell.
Stroud, H. A., Douglas.
Whiteshield, C. F., Harbor Springs.

MINNESOTA.

Christie, G. R., Long Prairie.
Ehmke, W. C., Willow River.
Hare, E. R., Minneapolis.
Hopkins, Mary P., St. Peter.
Hunt, H. E., St. Paul.
Kane, J. P., Hibbing.
Williams, Robert, Minneapolis.

MISSISSIPPI.

Carroll, G. F., Biloxi.
Cuming, H. T., Gloster.
Holloman, T. B., Jr., Itta Bena.
Hood, B. S., Bond.
Smithson, W. W., Jackson.
Sweaney, J. H., Durant.

MISSOURI.

Brooks, W. W. Stanberry.
Bruehl, Julius, Kansas City.
Bryson, E. H., Bethany.
Chambers, J. C., Schell City.
Chilton, J. A., Van Buren.
Chilton, T. W., Ellington.
Chipp, J. K., Newhampton.
Clemens, J. R., St. Louis.
Cloonan, Martin, Ruble.
Cross, R. O., Kansas City.
Dean, J. McH., St. Louis.
Evans, A. L., Bonne-Terre.
Fritts, O. C., Gerald.
Hamel, G. T., Kansas City.
Hamilton, H. D., Kansas City.
Hinchey, Frank, St. Louis.
Klie, G. H. C., St. Louis.
Lee, L. E., Weatherby.
Luedde, W. H., St. Louis.
Mallett, E. P., Kansas City.
Martin, J. W., Kirksville.
Moore, J. H., Centerville.
Nesbitt, E. P., Sheridan.
Proud, W. C., Oregon.
Raithel, G. H., St. Louis.
Rice, F. D., Lucerne.
Rice, William, Kansas City.
Scott, W. B., Bucklin.
Sparr, E. E., Amsterdam.
Stewart, B. S., Bethany.
Wetzel, N. M., Jameson.
Williams. A. W., Ridgeway.
Yeater, H. P., Maysville.

MONTANA.

Carroll, J. V., Fort Benton.

NEBRASKA.

Brooks, E. B., Pawnee City.
Elliott, W. M., Newcastle.
Frink, F. L., Newman Grove.
Kavanaugh, Peter, Schuyler.
Martin, E. W., Fremont.
Minnick, C. E., Indianola.
Woods, James, Schuyler.

NEVADA.

Keen, E. R., Black Horse.

NEW JERSEY.

Duncan, O. B., Haledon.
Maclay, J. A., Paterson.
Van Dyke, J. S., Hackensack.

NEW MEXICO.

Lauson, A. E., Anthony.

NEW YORK.

Acken, T. M., New York City.
Bassin, J. N., New York City.
Bartlett, C. R., Boonville.
Blake, J. Eddy, Brooklyn.
Blatteis, S. R., New York City.
Brennar, R. E., New York City.
Brodie, R. E., Albion.
Carr, W. L., New York City.
Chiarulli, F. S., Syracuse.
Cramp, W. C., New York City.
Darling, B. C., Washingtonville.
Dingman, J. Clarence, Spring Valley.
Downey, J. M., Brooklyn.
Emans, J. Seymour, New York City.
Fahnestock, Ernest, New York City.
Farr, E. H., New York City.
Fendler, Amelia M., New York City.
Field, F. H., New York City.
Fosbury, L. D., Endicott.
Frasch, W. F., Rochester.
Glosser, H. H., Buffalo.
Griswold, Henry, New York City.
Hargrove, F. C., New York City.
Jewett, W. A., Brooklyn.
Irving, Peter, New York City.
McCollom, W. E., Brooklyn.
McDonald, Ellice, New York City.
O'Leary, D. V., Jr., Albany.
Rulison, L. B., Watervliet.
Schwerdtfegen, O. M., New York City.
Sheehan, T. J. G., Buffalo.
Sherman, F. A., Watertown.
Stewart, D. H., New York City.
Taves, A. W., New York City.
Weismann, F. H., New York City.
Winfield, J. M., Brooklyn.
Young, C. D., Rochester.

NORTH CAROLINA.

McNatt, H. W., Maxton.

NORTH DAKOTA.

MacKay, A. R., Bottineau.

OHIO.

Butt, S. E., Nelsonville.
Halter, M. V., Akron.
Kerr, I. J., Cleveland.
Patrick, B. W., Toledo.
Powers, H. W., North Amherst.
Wright, W. E., Newark.

OKLAHOMA.

Phillips, Lewis, Seward.
Share, A. L., Kingfisher.

OREGON.

Mingus, Everett, Marshfield.

PENNSYLVANIA.

Bartle, H. J., Philadelphia.
Graves, I. S., Jermyn.
Hanna, D. B., Stoneboro.
Koons, P. R., Mechanicsburg.
Onstott, Elmer, Saltsburg.
Patterson, R. V., Philadelphia.
Rivenburg, S. W., Clifford.
Schock, H. E., Philadelphia.
Snively, R. D., Philadelphia.

RHODE ISLAND.

Abbott, Edmund, Providence.
Beck, H. P., Newport.

SOUTH CAROLINA.

Pryor, S. W., Chester.

SOUTH DAKOTA.

Ashcroft, F. E., Deadwood.
Skogen, T. T., Flandreau.
Wright, O. R., Huron.

TENNESSEE.

Sneed, J. W., Brentwood.

TEXAS.

Allen, G. W., Jr., Yorktown.
Bean, B. F., Kirbyville.
Boyce, W. A., Commerce.
Conall, E. S., Center.
Cowan, W. B., Dialville.
Ellis, G. S., Sherman.
Gregg, F. C., Manor.
Guenther, J. G., Moultan.
Herrington, I. C., Orange.
Hooper, R. B., Van Vleck.
Johnston, L. S., Atlanta.
Leonards, H., New Braunfels.
Mahaffey, M. L., Sabinal.
Mantooth, Lafayette, Lufkin.
Martin, B. J., Leggett.
McLaughlin, F. P., Austin.
Moore, R. W., Ft. Worth.
Pearce, A. G., Orange.
Plotts, P. B., Anderson.
Taylor, J. S., Cookville.
Whiteside, M. H. E., Timpson.
Williams, E. D., Nacogdoches.

UTAH.

Donohen, W. D., Salt Lake City.
Raley, F. H., Salt Lake City.
West, T. J., Salt Lake City.

VIRGINIA.

Price, L. T., Richmond.

WEST VIRGINIA.

Burden, Frank, Capon Bridge.
Goodman, H. L. Thayer.
Holsberry, F. S., Bower.
Matheny, B. F., Meadowbrook.

WISCONSIN.

Allen, W. J., Beloit.
Brown, R. C., Milwaukee.
Dirks, C. B., Wauwatosa.
Lueck, G. W., La Crosse.
Morley, F. E., Viroqua.
Oakland, H. G., Milwaukee.
Thewalt, W. B., Poy Sippi.

WYOMING.

Tonkin, A. B., Riverton.

PHILIPPINE ISLANDS.

Pond, Arlington, Cebu.
Warmsley, W. C., Tuguegarno. Cagayan.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

BOOKS ON URANALYSIS.

Eureka, Cal., March 20, 1907.

To the Editor:—Please name a text-book on uranalysis that explains the clinical significance and method of determination of total nitrogen, urea nitrogen and ammonia nitrogen in urine—the nitrogen partition. Will you also give a ready and rapid method for determining the (1) total nitrogen, (2) the nitrogen as urea, and (3) the ammonia nitrogen, the ammonia coefficient?

John J. Gaynor, M.D.

Answer.—The following text-books give the methods of determining the total nitrogen and contain discussions in regard to the distribution of the urinary nitrogen in urea, ammonia and other nitrogenous compounds: Boston's "Clinical Diagnosis," Croftan's "Clinical Urinology," v. Jaksch's "Clinical Diagnosis" and most text-books on physiologic chemistry.

The best method of determining the total nitrogen is that of Kjeldahl, as it enables the operator to perform a number of determinations at the same time. If the necessary apparatus is once properly installed the method is rapid. The method is based on the following principle (quoted from Croftan): "The nitrogenous constituents of the urine on boiling with concentrated sulphuric acid are destroyed and all the nitrogen that is not in direct combination with oxygen is converted into ammonia; the latter combines with the sulphuric acid and goes into solution as sulphate of ammonia. The bodies that contain nitrogen in direct combination with oxygen are present in such small quantities (and occasionally not all) that they may be neglected for practical purposes. The acid solution of ammonium sulphate is treated with hot soda lye and the ammonium thus liberated caught in a measured quantity of normal acid and the excess of acid titrated back; from the amount of ammonia formed the nitrogen of the urine can readily be calculated." The quickest clinical method for determining the urea nitrogen is the hypobromite method of Hüfner (Knop). The apparatus required for this determination is simple and the method is rapid of execution. It is based on the principle that sodium hypobromite in alkaline solution decomposes urea into nitrogen, carbon dioxid and water. The carbon dioxid that develops is absorbed by the alkaline solution (soda lye) while the nitrogen passing through this solution, can be caught in a suitable measuring apparatus and thus determined. The ordinary Doremus apparatus is constructed on principles similar to the Hüfner apparatus; however, for estimating the ammonia coefficient or for any clinical work that is even remotely expected to approach accuracy, the apparatus of Doremus is quite useless.

The ammonia of the urine is, as a rule, determined according to the method of Schloesing; this is not the most accurate method, but it is the simplest and the quickest of execution and generally suffices for clinical purposes. It is based on the following principle: If the urine is treated with lime water most of the ammonia it contains is released from its combinations with other radicles. If the urine containing the lime water is placed under a glass jar with a dish of concentrated sulphuric acid then the liberated ammonia will be caught by the latter and the degree to which the sulphuric acid has been neutralized by the ammonia after 24 or 48 hours, can then be determined by titration. As a rule the direct determination of the ammonia is not performed, but the total so-called ammonia nitrogen of the urine, and this includes the nitrogen bound in substituted ammonia (amino- and amido-, etc., compounds) radicles. This ammonia nitrogen is determined from the difference between the total urinary nitrogen and the urea nitrogen, for the bulk of the nitrogen that is not combined as urea is present in the urine in the form of substituted ammonia compounds.

CUBAN ITCH.

Jefferson, Ohio, March 31, 1907.

To the Editor:—There have been local reports of a condition styled "Cuban itch." I have failed to see references to it in Journals. If such a condition exists what are its characteristics? If not, what malady is being confused?

W. F. Thatcher.

Answer.—After the Spanish-American war in 1898 an epidemic of smallpox of a very mild character prevailed extensively throughout the northern United States. By many, this epidemic was attributed, probably correctly, to the introduction of the disease by returned soldiers from Cuba and the Philippines. In many localities, in consequence of the mildness of the disease, its true character was not recognized, and it was variously styled "Cuban itch," "Philippine measles," etc. While these cases were genuine smallpox it is probable that the same term has been applied to other exanthemata and to other forms of skin disease.

SOLUTION OF CELLULOSE.

Ocala, Fla., March 28, 1907.

To the Editor:—Kindly give formula for ammoniated copper solution, which is used for making a solution of cellulose. Yours very truly,
W. H. Powers, M.D.

Answer.—Ammoniated copper solution, or Schweitzer's reagent, was formerly prepared by leaving copper turnings partially immersed in ammonia, with access of air; but it is better made by precipitating copper hydroxid from a cold solution of copper sulphate, by adding an excess of caustic soda. The well-washed precipitate is then dissolved to saturation with ammonia. On treatment with the resultant solution, cellulose becomes gelatinous, and on agitation gradually dissolves, forming a viscid solution, which may be filtered after dilution with water.

TARTARLITHINE.

Memphis, Tenn.

To the Editor:—I enclose an "ad" of Tartarlithine from the inside cover of the *Literary Digest*. It speaks for itself. It has been my impression heretofore that McKesson & Robbins conducted an ethical business. Certainly they have advertised Tartarlithine extensively to physicians.
Louis Leroy.

Loma Linda, Cal.

To the Editor:—Can you tell me the composition of Tartarlithine, advertised to the laity by McKesson & Robbins? What is there in it which would check the discharges of postnasal catarrh?
George K. Abbott.

Answer.—The two letters quoted are specimens of several received on the same subject during the last few months. We have had Tartarlithine examined by two chemists, whose reports indicate that it is an effervescing preparation composed of approximately 20 per cent. of carbonate of lithium and about 80 per cent. of tartaric acid. Thus it is simply another of the hundreds of lithia preparations on the market offered for the cure of rheumatism. This in spite of the fact that scientific investigation and clinical experience have demonstrated that lithia is of very little, if any, use in that disease. While the advertisement carries the idea that Tartarlithine is a product of the Tartarlithine Company and that McKesson & Robbins are simply the selling agents, we are informed that the "business is owned by McKesson & Robbins, who under this style manufacture a remedy for rheumatism." In regard to the information asked for by our correspondents, we would suggest that they write to McKesson & Robbins, who will undoubtedly gladly reply. We would especially suggest to Dr. Abbott that he ask the firm how a mixture of lithia and tartaric acid will "check the discharges of postnasal catarrh?"

THE BIOCHEMICAL JOURNAL.

Denver, March 30, 1907.

To the Editor:—Please inform me who are the publishers of the *Biochemical Journal* and tell me, if possible, the cost of a single copy.
Bernard Oettinger, M.D.

Answer.—The *Biochemical Journal* is published by the Biochemical Department, Johnston Laboratories, University of Liverpool, England. The American agent is G. E. Stechert, 129 West Twentieth Street, New York City. This is a new journal, only in its second year, and not as yet very widely distributed. The cost of each issue varies with the size of such issue.

The Public Service

Army Changes.

Memorandum of Changes of stations and duties of medical officers, U. S. Army, week ending April 6, 1907:

Borden, Wm. C., surgeon, granted three months' leave of absence to take effect about June 15.

Kilbourne, E. D., asst.-surgeon, relieved from duty at General Hospital, Presidio, San Francisco, and ordered to Fort Brady, Mich.

Talbott, E. M., asst.-surgeon, ordered to proceed from Fort Leavenworth, Kans., to Fort Oglethorpe, Ga., for duty with the Second Squadron, 12th Cavalry, at that post, for duty to accompany command to the Jamestown Ter-Centennial Exposition.

Borden, Wm. C., surgeon, relieved from duty at General Hospital, Washington Barracks, D. C., to take effect on expiration of leave of absence, and will then proceed to Manila, P. I., for duty.

Munson, E. L., surgeon, relieved from duty at General Hospital, Fort Bayard, N. M., and ordered to Fort Sheridan, Ill., for duty.

Rockhill, E. P., asst.-surgeon, relieved from treatment at Army General Hospital, Presidio of San Francisco, and will proceed to General Hospital, Fort Bayard, N. M., for observation and treatment.

Crosby, Wm. D., surgeon, relieved from duty at Vancouver Barracks, Washington, and ordered to the U. S. Soldiers' Home, Washington, D. C., as attending surgeon, and will report about June 14, 1907.

Arthur, Wm. H., surgeon, relieved from duty as attending surgeon U. S. Soldiers' Home, Washington, D. C., and will proceed to Washington Barracks, D. C., and assume command of the General Hospital at that post on June 15.

Moseley, E. B., asst.-surgeon general, granted leave of absence for one month and twenty-five days.

Heard, George P., asst.-surgeon, detailed as a member of the Army retiring board, to meet at Denver, vice Col. E. B., Moseley, asst.-surgeon-general, hereby relieved.

Snyder, C. R., asst.-surgeon, is relieved from duty in the Philippines Division, to take effect at such time as will enable him to comply with order, and will proceed by first available transport sailing from Manila after June 1, 1907, to San Francisco, and on arrival will report by telegraph to the Adjutant General of the Army for further orders.

Sweazey, V. E., asst.-surgeon, will render the necessary attendance at Fort Preble, Me., during the absence of Contract Surgeon Whitney, at Fort McKinley, Me.

Hart, James W., contract surgeon, ordered to accompany troops from Washington Barracks, D. C., to target Camp, Annapolis, Md., and remain on duty at that camp.

Wall, F. M., contract surgeon, granted sick leave of absence for two months.

Tyler, George T., contract surgeon, relieved from duty at Fort Monroe, Va., and ordered to West Point, N. Y., for duty.

Pomeroy, John L., contract surgeon, ordered from New York to Fort Wright, Wash., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. N., for the week ending April 6, 1907:

Jones, E. L., asst.-surgeon, detached Medical School, Washington, D. C., April 3, and ordered to Naval Hospital, Mare Island, Cal., May 20.

Robnett, A. H., asst.-surgeon, detached from Medical School, April 3, to Naval Station, San Juan.

Lee, A. E., asst.-surgeon, to Naval Medical School, Washington, D. C.

Allen, A. H., asst.-surgeon, detached Medical School, April 3, to duty with Marines at Camp Columbia, Cuba.

Kuder, W. S., asst.-surgeon, detached Medical School, April 3, ordered to *Minnesota*.

Haynes, J. P., asst.-surgeon, detached Medical School, April 3, ordered to the *Virginia*.

Ransdell, R. C., asst.-surgeon, detached Medical School, April 3, ordered to the *Maine*.

Ames, M. H., asst.-surgeon detached Medical School, April 3, ordered to the *New Jersey*.

Kaufman, J. B., asst.-surgeon, detached Medical School, ordered to the *Tennessee*.

Smith, H. L., acting asst.-surgeon, detached Medical School, April 3, to Naval Recruiting Station, Omaha, Neb.

Steadman, W. G., acting asst.-surgeon, detached Medical School, April 3, ordered to Naval Recruiting Station, Providence, R. I.

Baker, M. C., acting asst.-surgeon, detached Medical School, April 3, to Navy Yard, Norfolk, Va.

Longabaugh, R. I., acting asst.-surgeon, detached Medical School, April 3, to Annapolis Hospital.

Huff, E. P., acting asst.-surgeon, detached Medical School, April 3, to Proving Grounds, Indian Head, Md.

Donaldson, M., acting asst.-surgeon, detached Medical School, April 3, to Naval Recruiting Party No. 3.

Minter, J. M., asst.-surgeon, from Medical School to Guam Station.

Cohn, I. F., Ralson, T. W., Winn, C. K., Downey, J. O., Butts, H., from school to Asiatic Station.

Flint, J., asst.-surgeon, from Medical School to Sanacao Hospital.

Dollard, H. I., acting asst.-surgeon, from school to Newport Hospital.

Odell, H. E., surgeon, from Newport Hospital, to Naval Hospital, Washington, D. C., and to duty on course of instruction at the U. S. Naval Medical School.

Garton, W. M., surgeon, detached from Naval Hospital, Washington, D. C., ordered home, 2 weeks' leave, thence to *Ohio*.

Moore, J. M., surgeon, detached Norfolk Hospital, to Naval Recruiting Station, Minneapolis, Minn.

Plummer, R. W., P. A. surgeon, detached Naval Recruiting Station, Chicago, Ill., to duty on course of instruction at the U. S. Naval Medical School, Washington, D. C.

Baker, M. W., P. A. surgeon, detached Naval Hospital, New York, to Naval Hospital, Portsmouth, N. H.

Freeman, G. F., P. A. surgeon, detached Naval Hospital, Portsmouth, N. H.; to duty in attendance on course of instruction at the U. S. Naval Medical School, Washington, D. C.

McLean, N. T., asst.-surgeon, detached from Navy Yard, Boston, Mass., to Naval Recruiting Station, Chicago.

Miller, J. T., acting asst.-surgeon, detached from Naval Recruiting Station, Minneapolis, Minn., to course of instruction at Naval Medical School, Washington, D. C.

Balch, A. W., P. A. surgeon, detached Naval Medical School, Washington, D. C., April 5, ordered to Naval Hospital, Cavite, P. I., sailing from New York, N. Y., April 20, stopping en route at London, England; Hamburg, Germany, and other points for special duty.

Tolfree, H. M., P. A. surgeon, detached from the *Connecticut* to the *Dolphin*.

McDonnold, P. E., asst.-surgeon, detached *Dolphin*, to the *Connecticut*.

Baker, M. W., P. A. surgeon, detached Naval Hospital, New York, N. Y., to Naval Hospital, Boston.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 3, 1906:

Brooks, S. D., surgeon, relieved from duty at San Diego, Cal., and directed to proceed to Los Angeles, and to assume charge of the service at that port, relieving Surgeon J. O. Cobb.

Cobb, J. O., surgeon, relieved from duty at Los Angeles, and directed to proceed to Cairo, Ill., and to assume command of the service at that port, relieving Surgeon G. M. Guiteras.

Guiteras, G. M., surgeon, relieved from duty at Cairo, Ill., and directed to proceed to Mobile, Ala., and to assume command of the service at that port, relieving P. A. Surgeon Edward Francis.

von Ezdorf, R. H., P. A. surgeon, assumed command of New Orleans Quarantine Station, April 1, 1907.

Fox, Carroll, P. A. surgeon, leave of absence granted Dec. 28, 1906, for 14 days, revoked.

Francis, Edward, P. A. surgeon, relieved from duty at the Marine-Hospital, Mobile, Ala., and directed to assume command of the Quarantine Service at that port, April 1, 1907.

Robertson, E. McG., Asst.-surgeon, relieved from duty at Philadelphia, and directed to proceed to Reedy Island Quarantine Station, reporting to the medical officer in command for duty and assignment to quarters.

Salmon, T. W., asst.-surgeon, granted leave of absence for 4 days on account of sickness from March 23, 1907.

de Valin, Hugh, asst.-surgeon, relieved from duty at Reedy Island Quarantine Station, and directed to proceed to New Orleans Quarantine Station, reporting to the medical officer in command for duty and assignment to quarters.

Jackson, J. M., Jr., acting asst.-surgeon, granted leave of absence for 10 days from March 27, 1907.

McCormac, J. T., acting-asst.-surgeon, granted leave of absence for 30 days, on account of sickness, from Feb. 9, 1907.

McConnell, E. F., acting asst.-surgeon, department letter of Feb. 26, 1907, amended so as to grant acting asst.-surgeon McConnell 22 days' leave of absence from Feb. 25, 1907, instead of 30 days.

Safford, M. V., acting asst.-surgeon, directed to proceed from Boston to Westborough, Mass., for special temporary duty, on completion of which to rejoin his station.

Story, H. C., acting asst.-surgeon, granted leave of absence for 30 days from May 1, 1907.

BOARDS CONVENED.

A board of medical officers was convened to meet at Philadelphia, April 4, 1907, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon J. M. Gassaway, chairman; P. A. Surgeon T. Clark, recorder.

A board of medical officers was convened to meet at Wilmington, N. C., April 8, 1907, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon C. H. Lavinder, chairman.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended April 5, 1907:

SMALLPOX—UNITED STATES.

California: San Francisco, March 16-23, 2 cases.

Florida: Duval County, Jacksonville, March 23-30, 1 case; Hillsboro County, 6 cases; Polk County, 4 cases; Suwanee County, 1 case.

Georgia: Augusta, March 26-April 2, 6 cases.

Illinois: Chicago, March 23-30, 2 cases; Galesburg, 3 cases.

Indiana: Indianapolis, March 24-31, 3 cases; Marion, March 1-31, 11 cases.

Iowa: Clinton, March 16-23, 2 cases.

Kansas: Kansas City, March 23-30, 1 case.

Louisiana: New Orleans, March 23-20, 15 cases, 1 death.

Massachusetts: Boston, March 23-30, 1 case.

Michigan: Detroit, March 2-9, 11 cases.

Mississippi: Gulfport, March 18-25, 1 case (1 imported).

Missouri: St. Joseph, March 2-9, 23 cases, 1 death; St. Louis, March 23-30, 2 cases.

New Jersey: Hoboken, March 23-30, 1 case; Newark, 2 cases.

North Carolina: Charlotte, March 23-30, 1 case.

Ohio: Cleveland, March 22-29, 1 case.

Texas: Houston, Feb. 3-March 30, 76 cases.

Washington: Seattle, March 17-24, 1 case; Spokane, March 16-23, 18 cases.

SMALLPOX—FOREIGN.

Canada: Nova Scotia, Colchester County, March 25, present; Pictou County, present; British Columbia: Vancouver, March 16-23, 1 case; Manitoba: Winnipeg, March 16-23, 1 case.

China: Hongkong, Feb. 2-16, 27 cases, 26 deaths; Shanghai, Feb. 9-23, 5 deaths.

Ecuador: Guayaquil, March 2-16, 8 deaths.

France: Dunkirk, Feb. 6-March 8, 12 cases, 5 deaths (imported); Marseilles, March 6-13, still present; Paris, March 9-16, 12 cases, 2 deaths.

Germany: Bremen, March 9-16, 3 cases; Metz and vicinity, March 3-16, 33 cases.

Great Britain: Manchester, March 9-16, 2 cases.

India: Bombay, Feb. 27-March 5, 3 deaths; Calcutta, Feb. 16-23, 48 deaths; Madras, Feb. 23-March 1, 1 death.

Italy: Turin, March 2-9, 1 case.

Mexico: Aguas Calientes, March 16-23, 3 deaths; Mexico, Mexico, Feb. 16-March 2, 29 deaths.

Portugal: Lisbon, March 9-16, 12 cases.

Russia: Odessa, March 2-9, 32 cases, 6 deaths; Riga, May 9-16, 6 cases; St. Petersburg, Feb. 23-March 9, 3 cases, 3 deaths; Warsaw, Feb. 9-16, 4 deaths.

YELLOW FEVER.

Africa: Dahomey, Grand Popo, Jan. 15, present.

Brazil: Para, March 2-9, 4 cases, 2 deaths.

Ecuador: Guayaquil, March 2-16, 21 deaths.

Mexico: Vera Cruz, Paraje Nuevo, March 2-9, 1 case, 1 death.

CHOLERA.

India: Calcutta, Feb. 16-23, 42 cases; Madras, March 1, 3 deaths; Rangoon, Feb. 16-23, 4 deaths.

PLAGUE.

Hawaii: Honolulu, March 2-9, 1 death.

PLAGUE—FOREIGN.

China: Hongkong, Feb. 8-16, 1 case, 1 death; Niuchwang, Feb. 6, 2 deaths.

Egypt: Assiout Province, March 1-7, 16 cases, 7 deaths; Girgeh Province, March 1-7, 46 cases, 34 deaths; Ismalla, March 4, 1 case, 1 death; Keneh Province, March 2-7, 23 cases, 16 deaths.

India: General, Feb. 16-23, 29,253 cases, 24.242 deaths; Bombay, Feb. 27-March 5, 306 deaths; Calcutta, Feb. 16-23, 27 deaths; Rangoon, Feb. 16-23, 55 deaths.

Marriages

Samuel Steiner, M.D., to Miss Rebecca E. Killian, both of Philadelphia, March 24.

William John Maloy, M.D., to Miss May Hanley, both of Muncie, Ind., recently.

Robert M. Miller, M.D., to Miss Lena Jenks, both of Bogard, Mo., March 20.

Frederic Kammerer, M.D., to Miss Ida Knapp, both of New York City, March 23.

Robert C. Bradley, M.D., to Miss Charlotte Marie Perkins, both of Peoria, Ill., March 30.

Leander Howard Shearer, M.D., to Miss Grace T. Parker, both of New York City, April 6.

James Robertson Dawson, M.D., to Miss Theresa Mushat, both of Birmingham, Ala., April 3.

Edward Gillette Martin, M.D., Detroit, Mich., to Miss Helen Marian Fraser of Petrolea, Ont., March 27.

Deaths

Frank Swartzlander, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1863; in 1862 anatomist of the Military Hospital, Philadelphia, where he made all the postmortem examinations until his graduation a year later; in March, 1863, appointed assistant surgeon of the Seventy-fourth Pennsylvania Volunteer Infantry; chief surgeon of the field hospital of the Third Division, Eleventh Army Corps, at the battle of Gettysburg; later assistant surgeon of volunteers and in charge of the auxiliary military hospital at Savannah, Ga.; dean of the medical profession of Doylestown, Pa.; a member of the state and county medical societies, died suddenly at his home, March 31, from acute gastritis, aged 65.

Joseph Gilbert Bemis, M.D. College of Physicians and Surgeons in the City of New York, 1865; Bennett College of Eclectic Medicine and Surgery, Chicago, 1883; a member of the American Medical Association; assistant surgeon of the First Minnesota Volunteer Infantry during the Civil War; a practitioner of Chicago for 24 years, died at his home in that city, April 1, from tuberculosis, after an illness of four months, aged 62.

William Henry Drummond, M.D. University of Bishop College, Faculty of Medicine, Montreal, 1884; famous for his poems on the French-Canadian habitants; professor of medical jurisprudence at Bishop College and a prominent practitioner of Montreal, died in Cobalt, Ont., where he was manager of the Drummond mine, from cerebral hemorrhage, April 6, after an illness of five days, aged 51.

William Oglesby Sweeney, M.D. Bellevue Hospital Medical College, New York City, 1864; one of the oldest and most prominent practitioners of Lexington, Ky., and for a number of years instructor in chemistry at Hocker College; who retired from practice 20 years ago on account of blindness, died at his home in Lexington, March 27, after a prolonged illness, aged 66.

Lewis L. Pollock, M.D. University of Maryland School of Medicine, Baltimore, 1856; a surgeon in the Confederate service during the Civil War; thereafter a practitioner in Boston, and for the last 18 years a resident of East Weymouth, Mass., died in Bellevue Hospital, New York City, March 25, from gastritis, after an illness of one week, aged 70.

Alfred George Mays, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1878; for 25 years a prominent practitioner of Leadville, Red Cliff and Victor, Colo., who moved to Nevada City, Cal., on account of his health last year, died in that city from cerebral hemorrhage, March 3, after an illness of two days, aged 55.

Nicholas Lafayette Campbell, M.D. College of Physicians and Surgeons in the City of New York, 1845; one of the founders of the New York Academy of Medicine in 1847; a veteran medical officer of the Mexican and Civil wars; since his retirement a clerk in the health department of New York City, died in that city, March 29, aged 84.

George Warren Bartow, M.D. College of Physicians and Surgeons in the City of New York, 1873; a member of the American Medical Association and a veteran of the Civil War, during which he served in the Fifteenth New Jersey Volunteer Infantry, died at his home in Three Bridges, N. J., March 28, from paralysis, aged 63.

William J. Wroth, M.D. University of Maryland School of Medicine, Baltimore, 1852; for a number of years resident physician of the Marine Hospital, Baltimore, and founder of the Rush Medical Club at the University of Maryland, died at his home in Baltimore, April 3, from intestinal obstruction, after a short illness, aged 77.

Clarence Edward Avery Buckley, M.D. Halifax Medical College, Medical Faculty of Dalhousie University, Halifax, N. S., 1904; formerly interne at the Victoria General Hospital, and then a practitioner at Thorburn, died at the residence of his father in Halifax, March 27, from tuberculosis, after a prolonged illness, aged 24.

Thomas Wight, M.D. College of Physicians and Surgeons in the City of New York, 1864; a member of the state and county medical societies, and one of the oldest practicing physicians of Delaware County, N. Y., died at his home in Andes, March 31, from injuries sustained in a runaway accident three days before, aged 73.

Allen Castle Simonton, M.D. Northwestern University Medical School, Chicago, 1865; a veteran of the Civil War; a resident of Washington since 1870, and for several years chief surgeon of the Great Northern System, died at his home in Seattle, March 26, from heart disease, after an illness of two years, aged 60.

Young A. Matthews, M.D. Shelby Medical College, Nashville, Tenn., 1859; president of the Cass County (Texas) Medical Society; who served throughout the Civil War as surgeon of the Eighteenth Texas Infantry, C. S. A., died at his home in Atlanta, Texas, Nov. 20, 1906, from heart disease, aged 69.

Samuel R. Richardson, M.D. Medical Department, Victoria College, Toronto, 1871; coroner of York County, Ontario, for several years, and for more than 30 years a practitioner of Eglinton, died in North Toronto, March 26, from pneumonia complicating typhoid fever, after a long illness, aged 64.

Robert Stuart MacGregor, M.D. New York University Medical College, 1897; a member of the state and county medical societies, and a member of the staff of St. Bartholomew's Clinic and of the New York Polyclinic, died at his home in New York City, March 23, from pneumonia, aged 38.

George W. Pettit, M.D. Cleveland Medical College, Medical Department of Western Reserve Medical College, 1853; said to have been the oldest practitioner of Mahoning County, Ohio, died at his home in Petersburg, March 8, from concussion of the brain, due to a fall four days before, aged 79.

Guido Spitzy, M.D. Faculty of Medicine, Paris, France, 1870; who saw service under the English government in Egypt and India, but for the last three years and a half has been in practice at Los Banos, Cal., died at his home, March 15, from tuberculosis, after a prolonged illness, aged 60.

Harry E. Burdett, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1886; for 20 years a practitioner of St. Paul, Minn., died in a hospital in that city, March 27, from heart disease, after an illness of several weeks, aged 45.

Mitchell Starr, M.D. Starling Medical College, Columbus, Ohio, 1863; assistant surgeon of the Seventy-fourth Ohio Volunteer Infantry throughout the Civil War and one of the oldest practitioners of Van Wert County, Ohio, died at his home in Shenandoah, March 27, aged 86.

John B. Callan, M.D. Chattanooga (Tenn.) Medical College, Medical Department of Grant University, 1905; a promising young physician of De Kalb County; formerly a practitioner of Bridgeport, Jackson County, Tenn., died in New Mexico, from tuberculosis, March 23.

Robert Colman Arnette, M.D. Louisville (Ky.) Medical College, 1873; a veteran of the Civil War in the Confederate service, and a practitioner of Monticello, S. C., died at the residence of his brother-in-law, near Ridgewood, S. C., March 20, from nephritis, aged 59.

George W. Matthews, M.D. Medical Department of the University of Louisiana, New Orleans, 1872; a veteran of the Mexican War, and a member of the Texas legislature in 1875, died at his home in Garden Valley, Texas, March 28, from influenza, aged 80.

Charles F. Reilly, M.D. College of Physicians and Surgeons, Baltimore, 1902; of Woonsocket, R. I.; school committeeman of the town of Blackstone, R. I., died at the home of his parents in that city, March 31, after an illness of several weeks, aged 34.

Florentine O. Reeve, M.D. Cleveland University of Medicine and Surgery, 1894; for some time a professor in his alma mater, and superintendent of schools of Brooklyn, Ohio, died at his home in Cleveland, March 29, from pneumonia, aged 55.

James E. O'Malley, M.D. New York University Medical College, 1888; a member of the staff of St. Luke's Hospital, Newburgh, N. Y., died at his home in that city, after a long illness, consequent on a fall several years ago, March 27, aged 46.

John W. Stoner, M.D. Cleveland University of Medicine and Surgery, 1888; secretary of the board of education and board of health of North Baltimore, Ohio, died in a hospital in Cleveland after an operation for cancer, March 22, aged 47.

Frances Van Cleve Fuller, M.D. Woman's Medical College of the New York Infirmary, New York City, 1884; a retired practitioner of Brooklyn, died at her residence in that city, March 27, from pneumonia, after a short illness, aged 56.

D. David Fisher, M.D. University of Vermont College of Medicine, Burlington, 1883; for the last eight years justice of the peace, died at his home in Kersey, Pa., March 24, from heart disease, after an illness of two weeks, aged 50.

James Fletcher Winsell, M.D. Ohio Medical College, Cincinnati; who had retired from practice more than 25 years ago, died in Redding, Cal., Nov. 9, 1906, from paralysis, after an illness of five days, aged 81.

John W. Culley, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1873; died at his home in Salt Lake City, Utah, March 21, from pneumonia, after a short illness, aged 67.

William McCallum, M.D. College of Physicians and Surgeons of Chicago, 1886; for many years a practitioner of Gladstone, Mich., died at the Northwestern Hospital, Minneapolis, Minn., March 28, aged 52.

Berry Meek, M.D. St. Louis Medical College, 1857; a pioneer physician of Holt County, Mo., died at State Hospital No. 2, St. Joseph, where he had been an inmate for nearly ten years, March 27, aged 80.

Lawrence F. Berry, M.D. Jefferson Medical College, Philadelphia, 1905; an interne at the Philadelphia Hospital, died at that institution from erysipelas, March 29, after an illness of five days, aged 25.

Samuel D. Bickel, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1895; at one time warden of the Atlantic County prison, died at his home in Atlantic City, N. J., March 26.

Robert Fuller Eubank, M.D. Baltimore Medical College, 1896; of Ottoman, Lancaster County, Va.; a member of the state and county medical societies, died March 26, after a brief illness, aged 42.

William H. Dwight, M.D. College of Medicine, Syracuse (N. Y.) University, 1876; cashier of the State Bank of Goddard, Kan., was found dead from gunshot wound, a mile east of Goddard, April 3.

John Mattauer Winfree, M.D. Medical College of Virginia, Richmond, 1889; of Richmond, Va., died at the home of his father-in-law, in Raleigh, N. C., March 31, after an illness of two years.

Ethelda M. Teeters Widemann, M.D. University of Wooster, Medical Department, Cleveland, 1895; died at her home in Cleveland, Ohio, from septicemia, after an illness of one week, aged 35.

William R. Stout, M.D. Kentucky School of Medicine, Louisville, 1881; formerly a practitioner of Covington, Ind., died at his home near North Vernon, Ind., March 15, after a prolonged illness.

George G. Ware, M.D. Jefferson Medical College, Philadelphia, 1857; died at his home in Stanton, Tenn., March 25, from injuries received in a runaway accident several days before.

Francis E. Watts, M.D. Hahnemann Medical College and Hospital, Chicago, 1883; died at his home in Olean, N. Y., March 27, from hemorrhage of the lungs, after a short illness, aged 47.

Ernest S. Empey, M.D. College of Medicine of the University of Nebraska, Omaha, 1905; formerly of Torrington, Wyo., died at his home in Scott's Bluff, Neb., January 28, from tuberculosis.

George H. Duncan, M.D. McGill University Medical Faculty, Montreal, 1892; for some time a practitioner of the Yukon, died at his home in Victoria, B. C., Dec. 2, 1906, aged 44.

Louis N. Hilleary, M.D. New York University Medical College, New York City, 1880; formerly a practitioner of Burlington, Iowa, died at his home in Poway, Cal., aged 54.

Lewis U. Singer, M.D. Jefferson Medical College, Philadelphia, 1881; one of the first settlers of Clearfield, Iowa, died at his home in that place, from pneumonia, March 25.

Joseph N. Knight, M.D. Boston University School of Medicine, 1883; died at his home in Cliftondale, Mass., March 30, from tuberculosis, after an illness of a year, aged 45.

James S. Sullivan, M.D. Medical School of Harvard University, Boston, 1894; died at his home in Randolph, Mass., March 23, from pneumonia, after a brief illness, aged 41.

Henry B. Evarts, M.D. Eclectic Medical Institute, Cincinnati, 1871; died at his home in Grand Rapids, Mich., March 31, after an illness of two days, aged 61.

Floyd Clendenen, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1874; died at his home in La Salle, Ill., April 4, from pneumonia, aged 69.

John MacDonald, M.D. Jefferson Medical College, Philadelphia, 1879; died at his home in Chatham, N. B., Dec. 12, 1906, after a long illness, aged 55.

John Munro Campbell, M.D. McGill University Medical Faculty, Montreal, 1869; died at his home in Greenpoint, Brooklyn, N. Y., April 2, aged 70.

Joel Y. Lynch, M.D. Indiana Eclectic Medical College, Indianapolis, 1887; died at his home in Rosedale, Ind., April 2, after a long illness, aged 55.

Thomas A. Skillman, M.D. New York University Medical College, New York City, 1878; died at his home in New Brunswick, N. J., aged 53.

Warren F. Barksdale, M.D. University of Louisville, Medical Department, 1855; died at the home of his daughter in Hardy, Miss., March 9, aged 77.

Frank Riley, M.D. St. Joseph (Mo.) Medical College, 1882; died suddenly at his home in St. Joseph, April 1, from cerebral hemorrhage, aged 48.

Jasper N. Taylor, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1871; died at his home in Lynchburg, Tenn., March 27.

Belton O. Bennett, M.D. Medical College of the State of South Carolina, Charleston, 1876; died at his home in Greer's, S. C., January 17.

John Batemen Deere, M.D. Memphis Hospital Medical College, 1898; of Sandy Springs, Ark., died in Little Rock recently, aged 39.

Robert Farries, M.D. Long Island College Hospital, Brooklyn, 1865; died at his home in New York City, March 31, aged 72.

William E. Pillsbury, M.D. Dartmouth Medical School, Hanover, 1873; died at his home in Milton Mills, N. H., February 10.

G. A. L. Payne, M.D. McGill University Medical Faculty, Montreal, 1906; died at Montreal in January, from typhoid fever.

William C. Christian, M.D. St. Louis Medical College, 1865; died recently at his home in New Bloomfield, Mo., aged 76.

Samuel Clarke, M.D. Jefferson Medical College, Philadelphia, 1899; died at his home in Philadelphia, March 29.

Deaths Abroad.

F. J. Herrgott, M.D., professor of obstetrics at Nancy since 1872, died March 5, aged 93. Besides his numerous publications on gynecologic, obstetric and surgical subjects, he wrote a history of obstetrics, translating Siebold's work and bringing the history down to date. In his eighty-third year he published a translation of the celebrated treatise on diseases of women by Soranus of Ephesus. Herrgott also published a work entitled "The Chamberlin Family and the Discovery of the Forceps." He is said to have been the first physician who systematically made a practice of watching over the health of infants born in his service, giving each mother a louis ($4) out of his own pocket when she had raised a healthy infant, following his directions.

A. von Weismayr, M.D., first director of the great Alland sanatorium in Austria, but for the last few years chief of a Vienna hospital, one of the collaborators on the *Wien. klin. Rundschau*, died March 12, aged about 40. He was the first medical man in Austria to devote his efforts and research exclusively to the question of tuberculosis, and his popular pamphlet, "The Essence of Tuberculosis," has been distributed by thousands. He succumbed a victim to the disease to which he had devoted his life. An article from his pen on the prognosis of tuberculosis is still appearing in serial form in the *Rundschau*.

A. Petraglia, M.D., dean of the physicians at Rome, Italy, died March 10, aged 91.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

A Move in the Right Direction.

A bill of more than ordinary importance has been introduced into the General Assembly of the state of New York by Mr. Merritt. It is entitled, "An act to provide for holding a convention within the state of New York of delegates to be appointed by the governors of the several states for the purpose of devising and recommending to the legislatures thereof uniform laws, and making an appropriation therefor." The bill, which is a short one, authorizes the governor of the state of New York to appoint three delegates and to invite the governor of each other state in the union to do the same. These delegates are to meet during the coming October at some place in the state of New York and are to consider and recommend to their respective legislatures the enactment of uniform laws in the matter of life and fire insurance, divorce, labor, public utilities, etc. The expense of holding this convention and also the actual traveling expenses of the various delegates will be paid by the state of New York, and the bill calls for an appropriation for this purpose.

It is to be hoped that this bill will become a law and that the convention provided for therein may be held. Among the subjects that may well be considered by the convention is the examination and licensing of physicians and the regulation of the practice of medicine. Under the federal Constitution such matters as those enumerated in the bill come under the head of functions not surrendered by the states to the general government. Consequently, they are under the jurisdiction of the states. There is not only no reason why every effort should not be made to obtain uniformity of legislation along these lines in the various states, but there is every reason why an enlightened and intelligent civilization should demand uniform legislation on these subjects based on rational investigation and sound economic principles. From the standpoint of our profession, it may be said that uniformity in laws regulating the practice of medicine is the most effective means of bringing about reciprocity. For this reason it is to be hoped that, should such a convention materialize, the governors of the various states will see fit to appoint as one of the three delegates from each state a progressive member of the medical profession. There is no state that can take the lead in such a matter with a better grace or more authority than the Empire State. It is to be hoped that this bill will lead to definite and tangible results.

The Weak Points in Organization.

Dr. W. P. Whery, Fort Wayne, Ind., writes:

"The medical profession in the United States seems now to be very well organized. Physicians are grouped in county, district, state and national associations, the chief difference between these being that a wider and wider circle is necessary to circumscribe them in the order named. Practically the work of every group is identical. Papers are read and discussed and much useful postgraduate instruction is afforded. To a small extent, the social or fraternal feature is cultivated; but the highly important subject of economics—the legislative business interests especially—is neglected or attended to in such a perfunctory manner that injury instead of benefit results. We do not find the collateral profession of lawyers making a similar mistake.

"The weak point of the organization of medicine is the state society. There is no good reason why it should be a mere *fac simile* of the county society enlarged. Under the constitution of the United States the whole legislative regulation of the profession belongs to the several states. This is a reason why the state society in its public sessions should give most of its time to the business interests of its members, and reduce the time devoted to scientific matters, as these are fully taken care of in the county, district and national associations. If the state society would include in its program orations on the subjects of the sections into which the American Medical Association's work is divided, the rest of the time might be devoted to medical economics. The laws that concern the profession are generally promoted by a small number of persons, and the practitioners affected by them have no opportunity to express any opinion on legislative projects that may be injurious. After all, the bulk of the medical societies consists of general practitioners, with whose business interests the specialists who are prominent at the meetings have no sympathy. Contract work, insurance work, public services and the collection of fees for attendance on private patients are matters deserving much attention at the meetings of the state societies. Instead of being relegated to committees, these things should form a main part of the work of the general sessions. If this change were adopted very few practitioners in a state would be found outside of the state association of the school to which they belong."

Public Meetings by County Societies.

The advantages to be gained by county societies holding occasional public meetings is interestingly discussed by Dr. J. M. Allen, of Liberty, Mo., in a recent number of the *Journal of the Missouri State Medical Association*. As a means of securing favorable legislation and appropriations for sanitary purposes such meetings would prove invaluable, and Dr. Allen recommends that at least one such meeting should be held annually. He also emphasizes the importance of the education of public school teachers on matters of sanitation and hygiene and suggests the appointment, in each county, of a member of the county society to deliver to the school teachers, at their county institutes, addresses on public school hygiene and other matters along medical lines. This last suggestion is practical as well as valuable and there is no reason why it can not be carried out in every county in which medical organization exists. Every teachers' institute and organization would gladly welcome such an arrangement. The influence for good which would thus be exerted both on the teachers and their pupils can not be over estimated.

Reasonable Fees for Insurance Examination.

The position of the profession on the life-insurance examination question was recently the subject of editorial comment in the *Interview*, a paper published in New York. The writer says, in part:

"Physicians have begun war on the old line life insurance companies, resisting the proposed cut of medical examination fees from $5 to $3. In view of the extremely high cost of even moderate living nowadays, and in view of the fact that doctors, who are properly fitted for their profession, have had to spend much cash and long years of laborious study, we fully believe that they are perfectly justified in demanding a reasonable fee for making thorough examination of applicants for life insurance, and we do not believe that $5, on an average, is any too much compensation for a skilled physician for the time required to make a trustworthy examination."

What Is Contract Practice?

A correspondent writes: "What is the meaning of the words 'contract practice' as used in paragraph 4 of 'Why You Should Join a County Medical Society'?" The paragraph referred to reads: "Because it makes possible among physicians better business conditions and methods, including fee bills, defense and avoidance of contract practice, etc." As these matters lie within the jurisdiction of the county society, the construction placed on the terms used therein also lies within the same province. Each county society has a right to decide for itself what constitutes contract practice. In a country as large as ours, with interests so varied and local conditions so diversified, a definition, at once inclusive and exclusive, is difficult, if not impossible. The objectionable features of contract practice are the payment of a definite amount of compensation for an indefinite amount of service; the payment, for services rendered during the life of the contract, of an amount far below that which would be received for the same services if they were paid for in detail; and the competition engendered between physicians, which leads them to underbid each other, thus causing dissensions, etc.

Medical Societies in St. Louis Cooperate.

Representatives of the medical societies of St. Louis have organized "the Joint Medical Council" for the purpose of improving the management of the city hospitals and dispensaries. At present, the health commissioner and the superintendents of the various public benevolent institutions in the city are appointed by the mayor. The council has recommended the organization of a board of trustees, to be chosen at municipal elections and to consist of six members, beside the mayor as an *ex-officio* member, this board to have control of the city hospitals and associated dispensaries, as well as of all of the public charitable institutions now in the city or that may be established in the future. It further recommends that this board of trustees appoint, from the physicians of the city of St. Louis, a representative medical staff, which shall have charge of the medical and surgical work in the public institutions.

The Council is composed of 21 representatives from the following societies: St. Louis Medical Society, Medical Society of City Hospital Alumni, St. Louis Homeopathic Medical Society, St. Louis Hahnemannian Club, St. Louis Children's Hospital Alumni Association, St. Louis Eclectic Medical Society, St. Louis Dental Society, St. Louis Surgical Society, St. Louis Surgical Club, St. Louis Obstetrical and Gynecological Society, and the Veren Deutscher Aerzte.

Legislation Notes.

Dr. G. N. Streeter, Brooklyn, N. Y., writes regarding the passage of the medical practice act in Delaware:

"Why can not such legislation be brought about in every state, and thus banish the Christian science healers, osteopaths and others who have not complied with the arduous and expensive requirements exacted of members of the medical profession? Why should we be discriminated against in this manner by the different states? Will the apathy of doctors continue until our profession is thrown from the place to which it is entitled in the communinty by those who play on the delusions and credulity of the gullible public? Why can not the American Medical Association, at its next meeting, appropriate money and appoint committees to bring this matter before the legislatures of the different states and also discuss the matter in each publication of The Journal?"

Dr. L. R. Markley, Bellingham, Wash., writes regarding the work of the legislature in that state:

"Our state legislature has just adjourned and, as usual, the wants of the profession were not given as much consideration as we had hoped for. The coroners' bill was defeated. The watershed bill was also killed; this was a meritorious measure designed to give better control of the water supply. The tuberculosis bill and all medical practice bills were also killed. We succeeded in getting a fairly good pure milk and pure food bill passed, also a bill relating to vital statistics. It seems strange that we have to work so hard to get bills that are solely for the public good adopted by the state legislature. At every turn 'private interests' are butting in and, as they have money to spend, they usually win, until public interest is sufficiently aroused to compel attention."

Dr. B. D. Black, secretary of the New Mexico Board of Health, reports the passage by the legislature of house bill No. 53, which regulates the practice of medicine and provides for a medical examining board. Dr. Black says: "It is a compromise bill and is not what we asked for or expected, but it is such a material improvement over our old law that we feel that we can congratulate ourselves."

Pottawatomie County (Okla.) Medical Society reports a membership for 1906 of 32. During the year it held 57 meetings, with an average attendance of 15. The society is now meeting every Saturday night. If such work can be done in one of our new western states, what might not be possible in the older and more settled portions of the country, where it is much easier for physicians to attend and to support a medical society?

Book Notices

Diseases of the Nervous System, Resulting from Accident and Injury. By P. Bailey, A.M., M.D., Clinical Lecturer in Neurology, Columbia University, New York City, etc. Cloth. Pp. 627. Price, $5.00. New York: D. Appleton & Co., 1906.

The tendency to see a causal relationship between two events merely because one follows the other in point of time seems to be deeply rooted in the human mind. This applies not only to the ordinary phenomena of Nature, but also particularly to matters relating to medicine. Were such faulty deductions limited to the laity the profession might easily overlook it, at least so far as medical matters are concerned, but unfortunately the same weakness is but too prevalent among physicians. In no particular is this so manifest as it is in the tendency shown by some to attribute to some antecedent injury all of the subsequent ills which may befall an individual. Owing to the great lack of knowledge, on the part of many physicians, of the anatomy, physiology and pathology of the nervous system, the relationship which exists between injury and nervous diseases, is but little understood. The appearance of this work, therefore, by one of such wide experience, is very timely.

The volume is divided into three parts: 1, On "Organic Effects of Injury to the Nervous System;" 2, on "Functional Effects of Injury," and 3, on "Medicolegal Considerations." There is an introductory chapter on the general methods of examination for the actual injury, which is good and should be carefully studied. Then follow chapters on actual injuries to the various parts of the nervous system, particular attention being given to the prognosis of such injuries. Almost half of the volume is devoted to the "Functional Effects of Injuries," which indicates how frequent and important is this class of disorders. In this connection we make the following quotation which is, alas, but too true: "The influence of suggestion by physicians is frequently traceable in the causation of traumatic neurasthenia and of traumatic hysteria. In many cases it seems as though these disorders owe their appearance, in a large part at least, to the fact that the patients have been told by physicians that they may some day have trouble with the spinal cord as a result of the accident. The examples of the bad effects of such ill-advised statements are numerous."

The chapters on "Personal Injury Claims," "Expert Witnesses," "Malingering," "Substitution of Origin," "Simulation," etc., are extremely interesting and instructive. The great prevalence of personal injury suits of all kinds against corporations and individuals; the tendency toward industrial insurance and the enactment of more rigid indemnity laws, make it incumbent on every physician to become more thoroughly informed on the subject of injuries and their results. Therefore, this work can be most heartily recommended.

A Treatise on Surgery. By G. R. Fowler, M.D., Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York, etc. 888 Illustrations and 4 Colored Plates, all original. Cloth. Pp. 722. Price, $15.00 net. Philadelphia: W. B. Saunders Co., 1906.

A glance at the table of contents of this book shows that an ambitious effort has been made to cover the entire field of surgery, the design being encyclopedic and the work in its entirety constituting a memorial to the ability, skill and industry of the lamented Fowler, whose individuality is clearly stamped on its pages. In a work of such broad scope, undertaken by a single author, it is to be expected that some shortcomings will be found and it is to be regretted that a second edition will not have the benefit of revision by its distinguished author. More than one-half (428 pages) of the first volume is devoted to the principles of surgery and minor surgery. The descriptions of disease processes are, on the whole, fairly accurate, but some noteworthy contradictions are met in this connection. The book opens with the subject of inflammation which, from the viewpoint of the surgeon he very properly defines as "that series of changes in the tissues which take place as the result of injury, plus infection." Later we find aseptic wound healing described as "regenerative inflammation," a manifest misnomer according to the preceding definition. Again, the statement: "Fever is an increased tissue metamorphosis, the essential result of pathogenic bacteria. This influence may be exerted directly by the presence of the micro-organisms themselves, or indirectly by the products of decomposition and the presence of ptomains," will hardly meet the requirements of modern surgical pathology and is flatly opposed on the next page by the remarks on aseptic wound fever and experimental fever resulting from intravenous infusion of salt and other solutions. The section on laboratory aids in surgical diagnosis and prognosis is clear, full and practical, as are also those on anesthesia and bandaging. We note in the section devoted to operative technic, otherwise well written and of direct practical value that the circular method of amputation is favorably described and that, in the flap operation, preference is given to transfixion over incision. The old-fashioned method of draining through the suture line is recommended instead of the modern plan of establishing drainage through a puncture in the most dependent portion of the stump. The remaining portion of the two bulky volumes, devoted to regional surgery, is well arranged for reference, beautifully illustrated, thoroughly indexed and though dealing but briefly with many subjects, is in general a reliable guide to the modern practice of surgery.

Manual of Prescription Writing, with a Full Explanation of the Methods of Correctly Writing Prescriptions. By Matthew D. Mann, A.M., M.D., Professor of Obstetrics and Gynecology in the Medical Department of the University of Buffalo. Revised by E. Cox Mann, M.D. Sixth Edition, Revised and Enlarged. Cloth. Pp. 232. Price, $1,00. New York and London: G. P. Putnam's Sons, 1907.

This little manual covers a range of subjects important to the practical physician, and it aims to supplement current medical teaching in some of the details in which it is admittedly deficient. The ordinary course is followed, the parts of a prescription, the weights and measures commonly used, the language and abbreviations and grammatical construction being described with some detail. The different classes of preparations, with examples of prescriptions for powders, pills, mixtures, liniments, and the various forms of medicine intended for external use are then described. A discussion of doses, the metric system, the combination of medicines and incompatibilities completes the work. The utility of the work is unquestioned, and it will repay careful study by any one who appreciates the need of elegance and accuracy in the important matter of prescription writing. The book has been revised to accord with the latest revision of the Pharmacopeia, but we regret to note that this revision has overlooked some verbal errors which are unfortunate in a work intended to teach verbal and grammatical accuracy. Pepsinæ for pepsini and glycerinæ for glycerini occur, as well as oleum theobromæ for oleum theobromatis. These errors, which are of importance in a work like that under consideration, will doubtless be corrected in the next edition.

Text-Book of Ophthalmic Operations. By Harold Grimsdale, M.D., F.R.C.S., Ophthalmic Surgeon to St. George's Hospital, and Elmore Brewerton, F.R.C.S., Ophthalmic Surgeon to the Metropolitan Hospital. Cloth. Pp. 349. Price, $5.00 net. Chicago: W. T. Keener & Co., 1907.

This is a compilation of eye operative procedures by two well-known English ophthalmologists. In addition to the description of the operations, an introduction is given covering the necessary anatomy, physiology and surgical anatomy of the parts to be operated on. The literature has been fully reviewed and a condensed account of the various operations, with the name of the originator, is given. References to the original point, they are clear and practical, which is the main require- The illustrations are all schematic and done in black and white. While they might be improved from an artistic standpoint, they are clear and practical, which is the main requirement.

National Association for the Study and Prevention of Tuberculosis. Transactions of the Second Annual Meeting, Washington, D. C., May 16 to 18, 1906. Paper. Pp. 638. Lancaster, Pa.: The New Era Printing Co.

The forty-one papers included in this volume, many of which have been published elsewhere, discuss a large variety of topics relating to tuberculosis, and furnish a body of reading on questions of great importance and interest to every physician. Abstracts of many of these papers appeared in the report of the meeting in The Journal for June 2 and 23, 1906, pp. 1720 and 1963.

An Introduction to Physiology. By William Townsend Porter, M.D., Associate Professor of Physiology in the Harvard Medical School. Cloth. Pp. 587. Price, $2.50. Philadelphia: J. B. Lippincott Company, 1906.

This is a collection of fundamental and accessory experiments in several fields printed in abbreviated form for temporary use. Dr. Porter evidently recognizes that the student is best taught by observation, as he bases his studies on experimental results, the student being required to perform each experiment. This makes the study of physiology practical and far more profitable than when taken up didactically. The subject is presented in an excellent manner.

Obstetrics for Nurses. By J. B. DeLee, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School, etc. Second edition, thoroughly revised and enlarged. Cloth. Pp. 510. Price, $2.50 net. Philadelphia: W. B. Saunders Company, 1906.

Though this book is intended primarily for nurses, it will be of value to medical students and to recent graduates, as the duties of a nurse often devolve on physicians, especially during the first few years of practice. The technic in normal and abnormal cases is fully described and illustrated. The illustrations, many of which are from photographs, are excellent. The book contains much valuable information regarding the so-called minor points, mention of which is generally omitted from the larger works.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

Medical Assn. of State of Alabama, Mobile, April 16.
Florida Medical Association, Tampa, April 17.
Medical Association of Georgia, Savannah, April 17.
Med. Soc. of the State of California, Del Monte, April 16-18.
South Carolina Medical Association, Bennettsville, April 17-19.
Medical and Chir. Faculty of Maryland, Baltimore, April 23-25.
Amer. Confed. Reciprocating, Exam. & Lic. Bds., Chicago, April 30.
Association of American Medical Colleges, Washington, May 6.
Amer. Assn. of Genito-Urinary Surgeon, Washington, May 7-9.
American Therapeutic Society, Washington, May 4-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 7-9.
American Gynecological Society, Washington, May 7-9.
Amer. Climatological Association, Washington, May 7-9.
Amer. Laryngological Association, Washington, May 7-9.
Amer. Medico-Psychological Association, Washington, May 7-9.
American Ophthalmlogical Society, Washington, May 7-9.
American Orthopedic Society, Washington, May 7-9
American Pediatric Society, Washington, May 7-9.
American Assn. of Physicians, Washington, May 7-9.
American Surgical Association, Washington, May 7-9.
Nebraska State Medical Association, Lincoln, May 7-9.
Texas State Medical Association, Mineral Wells, May 7.
Utah State Medical Association, Salt Lake City, May 7-8.
New Mexico Medical Association, Las Cruces, May 8-9.
Kansas Medical Society, Kansas City, May 8-10.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

The President, Dr. O. Beverly Campbell, St. Joseph, Mo., in the Chair.

Nephrolithiasis Urica.

Dr. A. C. Croftan, Chicago, presented a very full discussion of the prevention and treatment of this condition. He said that surgery can do no more than remove the calculi or establish drainage in infected cases, but it can not, in any way, influence the factors that determine the formation of uric acid calculi; that is, surgery can not cure nephrolithiasis. The treatment should be directed toward preventing the deposit of urates in the lower urinary passages, and with this end in view there must be considered the dilution of the urine, the total amount of uric acid and sodium chlorid in the urine, and the reaction of the urine. The patient should drink freely of water, not necessarily mineral waters, because it is the water and not the mineral it may contain that is of value. The liquid intake should exceed by far the original liquid output in the urine. The diet should take into consideration the nuclein content of the food, and nuclein-containing organs should be eliminated from the diet. Dr. Croftan said that albumin *per se* is in no way a source of uric acid. It is very important not to underfeed the patient. Dr. Croftan advised the administration of alkalies, particularly of calcium carbonate, but advises caution in its administration in infected cases.

Surgery of the Thyroid.

Dr. Alex. Hugh Ferguson, Chicago, in the oration on surgery, reviewed the indications for surgical intervention in diseases of the thyroid gland, the diagnosis of enlargements of the gland, and the methods of procedure for removal of the gland which he has found to be most valuable. He said that, generally stated, surgical intervention is not called for until other measures have been tried and failed. A study of 300 cases of thyroidectomy showed that in 77 per cent. dyspnea was the principal indication for operation; deformity in 24 per cent.; dysphagia in 8 per cent.; tracheal stenosis and discomfort in about 3 per cent. He has operated on 58 patients. In 44 cases of simple or cystic goiter there was no mortality. In 12 cases of exophthalmic goiter the mortality was 25 per cent. The causes of death were thyroidism in 2 cases and collapse of the trachea in one case. Four of the patients were in very poor condition and two of these died.

Gastroptosis.

Dr. Robert T. Sloan, Kansas City, Mo., advocated general hygienic measures, diet, mechanical support and rest in bed, the foot of the bed being elevated slightly, in the treatment of gastroptosis.

Treatment of Morphin Habit.

Dr. W. F. Waugh, Chicago, stated that, inasmuch as toxin retention is the disease, elimination is the remedy. Withdrawal symptoms, he said, are an evidence of autotoxemia. By eliminating the toxins as fast as they are poured into the system there will be no withdrawal symptoms. He has treated a considerable number in this manner with great success.

Non-operative Treatment of Gastric Diseases.

Dr. F. B. Turck, Chicago, said that cases which manifest disturbance of function, but where no stenosis is found, do not demand surgical treatment, but rather physiologic methods of treatment; that is, dietetic, physical and mechanical. Operative treatment is indicated when there is obstruction of the stomach outlet, as in benign superficial stenosis or early malignant growth, when the diagnosis is uncertain and characterized by progressive loss of weight and when all symptomatic treatment fails.

Pelvic Abscess.

Dr. W. T. Elam, St. Joseph, Mo., advocated hysterectomy by the two-stage method in case of multiple abscesses of the uterus, vaginal drainage in walled-off abscesses, salpingectomy or oöphorectomy, when demanded, as secondary measures. In cases of chronic pyosalpinx the abdominal route is preferred.

Hernia.

Dr. D. C. Hilton, Lincoln, Neb., classifies hernia as follows: (1) Hernioida protrusa and (2) hernia vera. Among the first are cases of protrusion invested by the mucocutaneous membranes of the body through an orifice of the mucous or cutaneous surface.

The second class, hernia vera, comprises the congenital and acquired hernia. This classification is based on the conception that the body is a tube, the continuous covering of which is epithelium, which spreads over the general inner and outer surfaces of the tube, and also into all diverticula and recesses.

Experience with Morphin-Hyoscin Compound.

Dr. F. E. Walker, Hot Springs, S. D., reported 75 cases in which he made use of this compound with most excellent results. No untoward symptoms were observed and no evil effects were noted as the results of large dosage.

Dangers from Tuberculous Milch Cows.

Dr. S. R. Towne, Omaha, stated that evidence is accumulating supporting the theory that infection of the lung occurs not by inhalation, but by the ingestion of bacilli, and that there exists an intercommunicability of all types of tuberculosis, the bovine being the most active. He emphasized the greater susceptibility to tuberculosis of the child, and pointed out that milk must be reckoned with as a probable source of infection in tuberculosis. He said that any system of prophylaxis which ignores the tuberculous milch cow must be considered incomplete.

Treatment of Exophthalmic Goiter with Electricity.

Dr. R. D. Mason, Omaha, reported one case in which the main feature of treatment consisted of the introduction into the thyroid of iodin by cataphoresis. The patient, aged 45, had manifested symptoms for two years. Treatment was instituted six months after the onset of the disease and was given twice a week for six weeks. Strychnin was the only agent given internally. Improvement was marked and steady from the beginning of the treatment. The circumference of the neck finally was two inches less than when the patient was first seen, although the pulse rate was still about 100, and the pulse was quite irregular. The tremor was much improved, there was no pain, the eyes were normal, and insomnia, from which the patient had suffered severely, was relieved.

Other Papers Read.

The following papers were also read:

"Gall Bladder Disease," by Dr. A. L. Wright, Carroll, Iowa; "Specialism," by Dr. P. I. Leonard, St. Joseph, Mo.; "Some Views on Appendicitis," by Dr. C. O. Thienhaus, Milwaukee; "Pulsating Exophthalmos Treated by Excision of the Superior Ophthalmic Vein," by Dr. H. Gifford, Omaha; "Renal Calculi," by Dr. B. A. McDermott, Omaha; "Vesicovaginal Fistula," by Dr. F. A. Long, Madison, Neb., and "Anterior Suspension of the Uterus," by Dr. F. B. Dorsey, Keokuk, Iowa.

The annual meeting will be held in Council Bluffs, Iowa, Sept. 5, 1907.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held Feb. 7, 1907.

The President, Dr. Wilmer Krusen, in the Chair.

Chorea During Pregnancy.

Dr. Collin Foulkrod reported a case of a patient in whom chorea occurred in the course of five successive pregnancies, possibly causing the death of three or four of the fetuses. By careful watching he succeeded in carrying the woman to term and delivering her of a living child. Bromid and chloral were administered.

Diagnosis of Early Pregnancy.

Dr. Ellice McDonald examined 100 cases at various weeks of pregnancy. The duration of the pregnancy was calculated from the date of the last menstruation. The pelvic signs were the only ones closely studied. Jacquemien's sign of the violet hue of the vagina was found to be of the most value after the eighth week. It was first noticed at a spot just below the urethra. Blush of the cervix was noted in much the same percentage of cases as Jacquemien's sign. It was also noted that in the early stages of pregnancy there is a marked difference in the ease with which the body of the uterus can be moved on the cervix and the cervix on the fundus. This was usually best noted about the fifth week and is usually so marked that the body and the cervix may be doubled on themselves and brought together, the empty bladder and vaginal walls alone separating them. This sign was best obtained by placing the palmar tips of the vaginal fingers posteriorly and below the end of the cervix, and the fingers of the abdominal hand on the top of the fundus. The bladder must be empty and there must be no contraction of the uterus. The sign is easily obtained after slight practice. It may be obtained before there is thinning of the lower segment, but is caused by the same conditions which produce Hegar's sign.

Dr. Barton Cooke Hirst spoke of the possibility of gross error of diagnosis in early pregnancy and of the necessity of methodical examination of patients. The sign to which attention had been called in Dr. McDonald's paper he has always grouped with Hegar's sign, making no distinction between the softening of the lower segment and the thinning. Among the signs of early pregnancy on which he depends, the softening of the cervix holds an important place. The eccentric hypertrophy of the cervix he also regards as an important sign. Without this he does not think pregnancy is possible, and by its absence it is often impossible to say that pregnancy could not exist in a certain case. If, on the contrary, the cervix is much broader and softer than normal, pregnancy is at least probable. The change of color in the genital tract he regards as a valuable symptom when obtainable. It, however, is lacking in a considerable percentage of the early cases, the very cases in which the diagnosis is most difficult and most desirable. One fact about the change of color which is seldom mentioned is that as pregnancy advances the blue or purple discoloration of the genital canal is sometimes absent, but he has never seen a case in which, if this blue discoloration is absent, there is not a transformation of the pink of the mucous membrane of the introitus and vestibule into a bright scarlet.

Dr. Edward P. Davis said that in an examination and diagnosis of early pregnancy a systematic procedure is of the utmost importance. The head, face and neck of the patient should be investigated to determine the enlargement of the thyroid, alterations in the pupils, abnormalities in the color of the face and the presence or absence of abnormalities in the nose, throat and mouth. In some normal pregnancies the thyroid is said to be slightly enlarged, while in pseudocyesis the thyroid is often considerably diseased. The action of the heart is readily excited during pregnancy and hemic murmurs are often present in the early months. One of the most significant symptoms of early pregnancy in gouty and neurotic women, he said, is a generally irritable condition of the mucous membrane of the nose. In one such case the condition at once disappeared after abortion. Dr. Davis said that he has been accustomed to search for softening in the lower uterine segment and to consider this as strongly suspicious of pregnancy. In examinations this phenomenon is usually associated with enlargement of the uterine body and the two are taken together as practically constituting Hegar's sign. Disturbances in metabolism are present in early pregnancy. Color signs in the genital canal he regards as suggestive rather than decisive. When the examination of the uterus gives several signs significant of pregnancy and the general examination of the patient coincides, the patient is probably pregnant, but a positive assertion should be withheld until positive evidence of fetal life is obtained.

Dr. Richard C. Norris believes that the positive diagnosis of early pregnancy will always be a very difficult matter in spite of the most advanced refinements in diagnostic means. One of the most practical points is to examine the patient at intervals and repeatedly before coming to any conclusion in doubtful cases. Since women differ greatly in anatomic peculiarities, such, for example, as the flexibility or eccentric enlargement of the cervix, it is necessary to reserve even a presumptive diagnosis until the patient is seen on more than one occasion. He confesses that he has yet to make an *early positive* diagnosis by means of any of the early diagnostic signs and has had to wait until time and other signs made the diagnosis positive.

He has studied many cases of early pregnancy for Hegar's and Braxton Hicks' signs, and believes that the personal equation of the examiner is an important factor, and that a part which may feel soft one day may not at the next visit. He feels that Dr. McDonald has done some careful work in exploiting flexibility or thinning of the lower uterine segment as an early sign of pregnancy. Personally he has not felt justified to conclude that there is thinning of the lower uterine segment without recto-vaginal examination. The sign which has helped him most is the change in the shape of the uterus, presenting what is termed a jug-shaped uterus.

Dr. Charles P. Noble feels that at or before the tenth week the clinical signs mentioned seldom assist in a definite diagnosis. The "jug sign" of pregnancy has been most helpful to him in the early diagnosis of pregnancy. In his experience Hegar's sign is of little value before the twelfth week.

Dr. George M. Boyd emphasized the necessity of repeated examinations. He has found Hegar's sign of value and also the change in the shape of the upper segment of the uterus. He referred to two cases which had come to his notice in which the diagnosis of uterine and ectopic gestations had been confounded.

Pubiotomy.

An abstract of Dr. Richard C. Norris' paper appears in The Journal, April 13, page 1298.

DISCUSSION.

Dr. Charles P. Noble has not done this operation and personally sees no advantage in sawing through bone to cutting through the symphysis. In Heidelberg he learned of a case of fatal hemorrhage after operation.

Dr. Barton Cooke Hirst has done two pubiotomies during the last two weeks. In the first case he had occasion for much enthusiasm, but the second gave him much trouble and anxiety. The first was a patient whom he had delivered five years before by Cesarean section. After etherization the cervix was dilated with Bossi dilators, a Pomeroy bag inserted and the patient laid aside, and at the end of an hour and twenty minutes she was again anesthetized and the operation done, resulting in the easy extraction of the child and the subsequent well-being of both mother and child.

In forty-eight hours later he had an illustration of almost all the disadvantages of pubiotomy in a woman in labor for thirty-six hours. The first disadvantage encountered was from the woman's obesity. There was a rachitic pelvis and the child was much over size, and the operation was attended with various other difficulties. Four days after delivery the woman developed symptoms of infection. The patient recovered. Dr. Hirst believes that for the general practitioner who must operate in insuperably obstructed labor Cesarean section is the operation of choice.

Fibroma of Uterus.

Dr. George Erety Shoemaker said that no arbitrary limit can be placed in the reduction of hemoglobin, beyond which hysterectomy is unjustifiable if demanded to save life. A uterus was shown, removed by supravaginal hysterectomy from a single woman aged 35, whose hemorrhage had reduced her hemoglobin to 25 per cent. Her mucous membranes were almost white. She had shortness of breath and tinnitus and was subject to asthmatic attacks. The tumor, multinodular, interstitial, weighing about three and a half pounds, was hard and irregular, invading every portion of the uterus. Intravenous salt solution injected during operation, great care in conserving body temperature and attention to detail brought about a normal convalescence, the highest pulse being 98, and that immediately after operation.

Another uterus was shown with a large intramural degenerating fibroma. The patient was aged only 29, but had been greatly debilitated both by hemorrhage and the absorption of toxins from the tumor. The hemoglobin was 62 and was, therefore, not the real index of the amount of systemic change. The tumor was grayish-white, with areas shading to dark gray. Macroscopically it resembled sarcoma, but the microscopic report was fibroma.

FIRST COUNCILOR MEDICAL SOCIETY OF MICHIGAN.

Third Annual Meeting, held March 28, 1907.

Dr. J. H. Carstens, Detroit, in the Chair.

The third annual meeting of the First Councilor Medical Society, Michigan, comprising the county societies of Lenawee, Macomb, Munroe, Oakland, Washtenaw and Wayne, was held March 28, 1907, at the Hotel Cadillac, Detroit. About 125 sat down at the banquet. The toastmaster was Dr. David Inglis, Detroit. Dr. A. W. Chase, Adrian, replied to the toast "The General Practitioner;" Dr. J. D. Riker, Pontiac, replied to "The Doctor's Price;" Dr. A. M. Barret, Ann Arbor, to "The Relation of the Psychopathic Hospital to the General Practitioner," and Dr. V. C. Vaughan, Detroit, to "The Specialist."

The following papers were read at the afternoon session:

The Advantage of Laparotomy Over Tapping in Ascites.

Dr. George Dock, Ann Arbor, urged incision, instead of paracentesis, in all ascitic cases in which the diagnosis is uncertain, in order to avoid the slight risk involved in paracentesis, and to provide the best opportunity for making a certain diagnosis and applying surgical measures, if indicated, immediately.

DISCUSSION.

Dr. T. A. McGraw, Detroit, said that he has incised many ascitic patients who were in very dangerous condition, without shock or other bad result. An advantage of incision over puncture is that incision can be followed by drainage, if needed, as in tuberculous peritonitis.

Dr. C. S. Oakman, Detroit, said that ascites usually indicates a serious cause. If cardiac or renal, the cause can usually be found without exploration. If hepatic, diagnosis without operation is more difficult. If inflammatory, tuberculous or neoplastic, incision is needed not only for diagnosis, but the early surgical therapy that incision makes possible is of great value.

Dr. J. H. Carstens, Detroit, said that he has not done a paracentesis of the abdomen for twenty years, because he regards it as dangerous and nearly always less advantageous than incision. But paracentesis may occasionally be advisable in order to facilitate palpation, and by this means to learn where to make the exploratory incision, above or below the umbilicus.

Importance of Complete Extirpation in Tonsil Operation.

Dr. E. T. Morden, Adrian, said that after partial removal of the tonsils there is better opportunity for infection than before, although the obstructive symptoms may be relieved. So-called regrowth means incomplete removal.

DISCUSSION.

Dr. D. M. Campbell, Detroit, said that he is in the habit of leaving some of the tonsil in order that the part left might exercise the probably beneficial function of the tonsils. It is impossible to extirpate the tonsil with a tonsillotome; a punch or scissors must be used afterward for complete removal.

Dr. J. V. White, Detroit, said that if the condition is inflammatory and recurrent, and the lacunæ extend deep, total enucleation is indicated.

Dr. A. P. Ohlmacher, Detroit, said that hypertrophy of the tonsil might indicate the status lymphaticus, on account of which the anesthetic and shock of the tonsil operation might prove serious.

Dr. Willis S. Anderson, Detroit, said that the reasons for removal of the tonsils are either mechanical or absorptive. If mechanical, partial removal may be sufficient; if, however, removal of the tonsil is indicated to prevent absorption, the normal function of the tonsil is lost, and the tonsil should be removed completely. The atrophy of the faucial pillars, he said, is due to needless damage done the pillars in the enucleation, and not to complete removal of the tonsil. The tonsil should be dissected off the pillars accurately. In children partial removal may be all that is needed or safely possible. The remote possibility of the status lymphaticus should not prevent the operation. A bent probe is a useful means of investigating crypts and pockets, and crypts and pockets in the tonsil are of more importance than simple hypertrophy.

Dr. Emil Amberg, Detroit, said that the normal tonsil has no needed function.

Dr. R. S. Rowland, Detroit, has observed in several children more symptoms from the tonsil after the tonsil operation than before it.

Empyema.

Dr. R. Y. Ferguson, Pontiac, emphasized the importance of early diagnosis, by the aspirating needle, especially in children, and the need for prompt drainage by rib resection.

DISCUSSION.

Dr. A. P. Ohlmacher, Detroit, reported two cases of empyema that had been strikingly benefited by artificial autogenous vaccination.

Dr. Kenneth Gunsolus, Detroit, believes that it is not always necessary to resect a rib in children. In adults, howevery rib resection seems always wise.

The following cases were exhibited: "Sciatica Due to Sprain of Sacroiliac Joint," by Dr. W. E. Blodgett, Detroit; "Case of Rhinolith," by Dr. J. W. White, Detroit; "Exophthalmic Goiter," by Dr. C. M. Hagen, Detroit. Papers were read on "Opsonins and Bacterial Vaccines," by Drs. E. C. Miller and E. M. Houghton, Detroit.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

California State Board of Medical Examiners, San Francisco, April 16. Secretary, Dr. Chas. L. Tisdale, San Francisco, Cal.

Missouri State Board of Health, St. Louis and Kansas City, April 16-18. Secretary, Dr. J. A. B. Adcock, Warrensburg.

Illinois State Board of Health, Great Northern Hotel, Chicago, April 17-19. Secretary, Dr. J. A. Egan, Springfield.

Kentucky State Board of Health, City Hall, Louisville, April 23 Secretary, Dr. J. N. McCormack, Bowling Green.

Georgia Regular Board of Medical Examiners, Capitol Building, Atlanta, April 30-May 1. Secretary, Dr. E. R. Anthony, Griffin.

Texas State Board of Medical Examiners, Austin, April 30-May 2. Secretary, Dr. T. T. Jackson, San Antonio.

Texas Eclectic Medical Board, Dallas, about April 25. Secretary, Dr. L. S. Downs, Galveston.

South Dakota January Report.—Dr. H. E. McNutt, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Sioux Falls, Jan. 9-10, 1907. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 13, of whom 9 passed and 4 failed. Twenty-two reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Northwestern University	(1906)' 78, 78,*	89.7
College of P. and S., Chicago	(1905) 82.9; (1906) 76.9†,	85
University of Iowa	(1906)	81.6
Lincoln Med. Coll.	(1906)	81.3†
Jefferson Med. Coll.	(1906)	81.1
Trinity Med. Coll., Toronto	(1904)	84.2

FAILED.

College.	Year Grad.	Per Cent.
American Coll. of Med. and Surg.	(1905)	68.4
Medical Coll. of Indiana	(1905)	67.2†
Barnes Med. Coll.	(1905)	69†
Bennett Coll. of Ecl. Med. and Surg.	(1906)	72.8

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Rush Med. Coll.	(1903)	Iowa
College of P. and S., Chicago	(1901), (1904), (1906)	Iowa
University of Iowa	(1904), (2, 1906)	Iowa
Drake University	(1905), (2, 1906)	Iowa
Sioux City Coll. of Med.	(2, 1906)	Iowa
Keokuk Med. Coll., Coll. of P. and S.	(1906)	Iowa
Tufts Coll. Med. School	(1898)	Iowa
University of Minnesota	(1904) Iowa; (1905), (1906)	Minnesota
Ensworth Med. Coll.	(1904)	Iowa
Creighton Med. Coll.	(1906)	Iowa
Cleveland Univ. of Med. and Surg.	(1897)	Minnesota
Jefferson Med. Coll.	(1906)	Iowa
Trinity University, Toronto	(1896)	Minnesota

* Examined July, 1906, and licensed Jan. 10, 1907.

† Second examination.

District of Columbia January Report.—Dr. George C. Ober, secretary of the Board of Supervisors in Medicine, reports the written examination held at Washington, Jan. 11-14, 1907. The number of subjects examined in was 17; percentage required to pass, 75. The total number of candidates examined was 11, of whom 6 passed and 5 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
George Washington Univ.	(1899) 89.6; (1906) 76.1, 78.4,	85.8
Howard University	(1906)	81.4
Georgetown University	(1903)	81.3

FAILED.

College.	Year Grad.	Per Cent.
Georgetown University	(1905)	68.2
George Washington University	(1905), 69.6; (1906)	70.1
Baltimore Med. Coll.	(1904)	71.5
University of Virginia	(1906)	71.5

Arizona January Report.—Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phœnix, Jan. 7-8, 1907. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 10, oı whom 9 passed and 1 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Keokuk Med. Coll., Coll. of P. and S.	(1901) 83.4 (1906)	85.7
Rush Med. Coll.	(1904) 85.3,	91
St. Louis University	(1904)	80
Long Island Coll. Hosp.	(1905)	85
College of P. and S., New York	(1901)	84
Cincinnati Coll. of Med. and Surg.	(1880)	90
Jefferson Med. Coll.	(1905)	85.5

FAILED.

College.	Year Grad.	Per Cent.
Barnes Med. Coll., St. Louis	(1902)	30

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

OINTMENTS.

By W. A. Jolley, M.D.

BOULDER, COLO.

FATS AND OILS.

The customary distinction between fat and oil is that one is a solid and the other is a liquid. They are abundant in Nature and easily obtained. Their use in medicine is accompanied by the usual fantasies which tradition favors old remedies. There is a fascination which the names goose grease, skunk oil, rattlesnake oil, etc., convey that will not be displaced in the minds of the laity or the medical profession by hard scientific facts. We find their principal use in salves which were applied on any and all occasions, the most obnoxious smelling and abhorrent mixtures being credited with the greatest healing powers.

Antiseptic surgery did not cause a diminution in their use, but created a new field as vehicle for the multitudinous antiseptic agents. Advance in the knowledge of organic chemistry has given us a better understanding of individual members of the fats, but has caused confusion by adding so many new ones to the already large list.

MINERAL FATS.

The elegant mineral fats now on the market have nearly supplanted the vegetable and animal fats which were our main reliance; this should not be the case, for each has its use. Crude petroleum is a complex mixture, which gives a series of products, rhigolene, gasoline, benzine, kerosene, and a solid residuum from which we get vaselin (petrolatum), paraffin, lubricating oils, and many other substances.

The Pharmacopeia gives Petrolatum Liquidum, Petrolatum Album, Petrolatum and Paraffin. The only practical difference is their melting points. Ointments of any degree of solidity can be made by combining the proper amounts of each. Enterprising manufacturing chemists have improved on these U. S. P. standards and furnished splendid preparations of the mineral oils, from the liquid ones to be used in atomizers to the hard waxes, giving each a trade name.

The mineral fats are not subject to any chemical reaction at the temperature ointments are used, they are not oxidized, do not form irritating salts nor break up into other compounds, and should be used as vehicles for active principles to produce local antiseptic, anesthetic, irritative and protective action. They are not absorbed by the body and should not be used when systemic effect is desired through external applications.

The fact that they are not subject to chemical change renders them specially adapted to all cosmetic purposes, for the animal and vegetable fats will often become rancid and offensive to the sense of smell and irritating to the surface to which they are applied. Cold Cream (Unguentum Aquæ Rosæ) is an elegant pharmaceutical mixture and should be used more than it is, but it will occasionally become rancid. A similar appearing mixture which will not deteriorate with age can be made by substituting Petrolatum Liquidum for almond oil. The presence of borax in cold cream causes it to become discolored when certain chemicals are added to it. This would not happen with mineral fats, for no antiseptic is needed to keep them from becoming rancid. If Unguentum Aquæ Rosæ is prescribed the ointment should be made as given in the U. S. P., unless there is an understanding between the druggist and physician.

VEGETABLE AND ANIMAL FATS.

Most of the vegetable and animal fats belong to the chemical class known as the fatty acids. Those of practical use are palmitic, stearic and oleic acids. They do not exist as acids in Nature, but as glycerids, that is in chemical combination with glycerin. They are not found separate, but always together in varying proportions; in vegetable fats, oleic acid predominates, causing them to be liquids; in animal fats, the excess of either stearic or palmitic acid causes them to be solid.

Some slight chemical reaction in the growing plant causes a small portion of the fat to assume a certain definite composition, which gives each oil a distinctive feature. For example, linseed oil is characterized by linoleic acid, an oxidation product of oleic acid; castor oil by ricinoleic acid, etc. These various oils and fats also contain bodies which give each a distinctive odor, while they may be nearly alike chemically. They form salts with alkalies, which we call soaps; sodium salts are generally solid, and potash salts or soaps are soft.

The higher members of this class, the ones we are discussing, are insoluble, but readily break down into lower members of the same class, which are soluble butyric acid and others, which fact enables us to separate the two by washing with water.

Fats exist in Nature in the form of minute globules invested by a proteid membrane, in large masses in the animal and in certain tissues in the vegetable. The animal tissues are cut into fragments, to facilitate the release of the fat from its investing sheath, are liquefied by the application of heat, and removed by straining and pressure. In removing the vegetable oils pressure alone is used to remove a part of the oil, the highest grade; heat is then applied, followed by pressure, which produces an oil of lower grade. If the membrane is not entirely removed it decomposes readily and causes the fat to become rancid. This is shown by the rapid decomposition of butter when the casein has not been entirely removed. This decomposition is a chemical change resulting in the formation of other compounds offensive in odor and irritating to the skin or mucous membrane. It is also facilitated by many organic drugs, so we often find salves which are intended to be bland applications turn into very irritating applications. It is stated that the organic preparations which liberate oxygen should always be combined with the mineral fats for this reason. The common oils and fats are: Linseed, olive, almond and cottonseed oils; suet, tallow, lard and others which are likewise suitable for pharmaceutical use, but commercially impracticable.

Linseed Oil.—Linseed Oil (Oleum Lini) is a mixture of from 10 to 15 per cent. of palmitin and stearin, and from 85 to 90 per cent. of the glycerids of oleic and linoleic acids. The last mentioned acid is an oxidation product of oleic acid and gives this oil its distinctive features. It is called a drying oil for the oxidation, having begun, continues rapidly when exposed to air, and forms a hard resinous mass, if in bulk, or a hard film when spread over a surface. This is the reason for its use in painting. If the oil be finely subdivided, as on old rags, the oxidation takes place so rapidly that it bursts into flames. This is the cause of so many fires of spontaneous combustion, and should be considered when large quantities of Carron Oil (Linimentum Calcis) are applied on gauze to burns. The process of drying or hardening is facilitated by boiling the oil with oxidizing substances, such as lead acetate, red lead, litharge, manganese dioxid, manganese borate and others. Boiled oil is then very different from the raw oil, yet few druggists know the distinctive features of the two.

Other oils which belong to this class are candlenut oil, corn oil, grapeseed oil, hempseed oil, nigerseed oil, pumpkinseed oil, sunflower oil, walnut oil and wood oil. These oils are not suitable for use in ointments, except when a hard base is required, or for immediate use.

Olive Oil and Almond Oil.—Olive Oil (Oleum Olivæ) and Almond Oil (Oleum Amygdalæ Expressum) have no distinctive features and are good examples of the so-called primary fats, as each contains about 70 per cent. of oleic acid, as olein, with 30 per cent. of palmitin and stearin. They are used principally for these fats, the purity of which depends on the condition of the fruit and care in extracting the oil. Being free from extraneous matters these oils are admirably suited for use in ointments and soap making. The U. S. P. Sapo (common Castile Soap) is made from olive oil and sodium hydrate. The mottled appearance of the old soaps was due to the minute quantity of iron in the water used in making the soap. The U. S. P. Sapo Mollis (soft soap), made from linseed oil, shows the difference in the oils. The fact that one is hard and the other is soft is due to the alkali used, as has been stated.

Cottonseed Oil.—Cottonseed oil does not differ much from the preceding oils after it has been purified, in fact much of the "olive oil" sold is cottonseed oil. Cottonseed oil contains a large amount of palmitin and stearin and forms the basis for the commercial articles known as cottolene and lard compounds.

Lard.—Lard (Adeps) is the name applied in commerce to almost any mixture of grease, and it seems that most of the pharmacists have the same idea, and are unaware that there is a standard established for this article, for the substance they dispense resembles that sold by the grocer and market man. Lard should be a mixture of stearin, palmitin and olein, and not these fats in different stages of decomposition. The U. S. P. requires that only the abdominal fat of the hog be used in making lard, while commercially any fat is used. Adeps Benzoinatus is intended to remedy the difficulty by adding an antiseptic to prevent decomposition and perfume the lard, but it is not as good as pure lard, for it often covers a slight amount of rancidity.

Suet.—Suet (Sevum Preparatum) does not differ much from lard chemically except in the odorous principles. It is made from the abdominal fat of the sheep.

Tallow.—Tallow is not recognized in the U. S. P., but is used in the lard compounds with cottonseed oil. It is obtained from the internal fat of the beef.

These oils and fats are not firm enough to form ointments, so beeswax (Cera alba and flava) and spermaceti (Cetaceum), are added in sufficient amounts to bring them to the required consistency. Their chemical nature is similar so the only effect produced is in raising the melting points of the mixtures. We use these animal and vegetable fats as vehicles to carry active principles which we wish to apply to the surface of the body for the purpose of producing systemic effect. The mineral fats are used only when local action is desired. The resulting compound is called an ointment or a cerate, according to its consistency. Ointments are soft, cerates are firmer.

The U. S. P. gives a formula for an ointment (Unguentum) as follows:

Ceræ flavæ ....ʒv 20|
Adipis benzoinati.....................ʒxx 80|

The German Pharmacopeia gives a different mixture, which will help illustrate the fact that we can obtain the same degree of consistence by different methods:

Ceræ flavæ ....℥i 30|
Olei olivæ.........................ʒxviiss 70|

We should remember then that the word Unguentum has a definite meaning and indication. It should not be written Unguentum Simplex, for the last word is superfluous.

(*This subject is to be continued.*)

Iodin in Granular Pharyngitis.

In cases of middle-ear catarrh associated with granular pharyngitis, W. L. Ballenger, Chicago, employs the following formulas:

℞. Tincturæ iodi..................m. xlviii 3|5
Glycerini q. s. ad......................f℥i 30|
M. Sig.: Apply to pharynx with swab once daily.

℞.	Iodoformi	gr. i	06
	Potassii iodidi	gr. x-xx	6-1.3
	Morphinæ sulphatis	gr. i	06
	Glycerini	f℥i	30
M.	Sig.: Apply to pharynx with swab once daily.		
℞.	Tincturæ iodi	gr. v-xx	3-1.3
	Potassii iodidi	gr. x-xxx	6-2.
	Olei gaultheriæ	m. v	3
	Glycerini	f℥i	30
M.	Sig.: Apply to pharynx with swab once daily.		
℞.	Tincturæ iodi		
	Tincturæ ferri chlor.		
	Glycerini, āā, q. s.	f℥i	30
M.	Sig.: Apply to pharynx with swab once daily.		

Medicolegal

Cause of Death After a Fall.

The St. Louis Court of Appeals says that in the case of Johnson vs. Continental Casualty Company, the insured, a motorman, met with a fall in his home and the injuries then received were said to have caused his death two weeks later. According to witnesses who saw the accident, he had gone from one room of his home to the other to get a drink, and, as he went back, fell against a dresser having a marble top and from thence to the floor. The court holds that if either traumatic pneumonia or cerebral hemorrhage ensued as the result of the fall, and the insured died in consequence of the disease, his death was caused proximately and solely by accidental violence within the meaning of the policy. It says a physician testified that the patient must have died from one of those causes, but which one could not be known without knowing the patient's temperature at intervals, his other symptoms preceding death, and whether he had any prior diseases; that, if he was in good health before the accident, in the opinion of the witness, he must have died of one of said ailments. The value of the physician's testimony was to be determined by the jury. The court found nothing which appeared to it to be incredible in what he swore to. No doubt it was possible for the insured to have died of some ailment unconnected with the accident and which he was afflicted with prior to the accident or contracted subsequently, but whether he did or not was, on the evidence adduced, a fact to be found by the jury. Demonstrative proof that he died solely in consequence of the accident, hardly could be made. On such issues evidence can not go beyond producing that degree of conviction in reasonable minds on which men are accustomed to decide and act in ordinary affairs. All possibility of mistake can not be excluded.

Non-Experts May Testify to Symptoms But Not to Diseases.

The Court of Appeals of Kentucky holds, in Illinois Life Insurance Company vs. De Lang, that no witness, not an expert, should be allowed to state his opinion that the insured had consumption or did not have it, or that he was in good health or bad health. The non-expert witnesses may detail the facts that they know. They may tell what symptoms they saw or observed, but the jury can judge as intelligently as the witnesses as to what the symptoms indicated. The court also holds that the insured's wife was a competent witness for the plaintiff. She might testify as any other witness as to the health of her husband, or as to what he did, or as to any other matters not involving communications between her and her husband growing out of the marital relation. The court sees no objection to the testimony which she gave in the case to the effect that her husband did not have this or that symptom at a certain time.

Exhibition of Amputated Leg to Jury.

The Court of Appeals of Kentucky says, in Ford vs. Providence Coal Company, that it was assigned as error that the trial judge refused to permit the plaintiff to exhibit his injured leg to the jury, but as the leg had been amputated, this ruling was not prejudicial. However, in the trial of personal injury cases, the court goes on to say, it is competent for the plaintiff to exhibit the injured member to the jury, and this he may do on the request of his counsel or of the adverse party—provided that the exhibition does not violate any rule of propriety or decency. Whether it does so or not is, of course, a question that must be left largely in the discretion of the trial judge. No objection of this kind could be urged in this case, as the exhibition of a man's leg that has been amputated could not be considered at all improper. Evidence of this character is really the best evidence obtainable of the extent and character of the injury that the person seeking damages has sustained, and the jury has the right to be aided in making up their verdict by a personal view of the injured member.

Expense of Protecting Public from Insane Pauper.

The Supreme Judicial Court of Maine holds, in the case of Inhabitants of Town of Casco vs. Inhabitants of Town of Linington, that the expenses incurred by a town to protect its inhabitants or the public from danger of injury by insane paupers are not recoverable under the pauper statute, nor under the contagious diseases statute, which authorizes the recovery only of the expenses of relieving persons destitute, and of their removal or burial. The statute authorizing recovery of expenses of preventing the spread of contagious diseases by paupers is not applicable to a case of insanity.

Homicide by Abortionist—"Private Papers"—Evidence.

The Supreme Court of Illinois says, in Clark vs. People, that Section 3, Division 1, of the Criminal Code of Illinois reads: "Whoever, . . . causes any woman, pregnant with child, to abort or miscarry, or attempts to procure or produce an abortion or miscarriage, unless the same were done as necessary for the preservation of the mother's life, shall be imprisoned . . . ; or if the death of the mother results therefrom, the person procuring or causing the abortion or miscarriage shall be guilty of murder." It was insisted that this statute does not provide that if the death of the mother results therefrom, the person attempting the abortion or miscarriage shall be guilty of murder, but only in case a person actually causes the abortion. But the court believes the fair and reasonable construction to be that when death results either from an abortion or an attempt to produce an abortion the person responsible should be held guilty of murder.

Furthermore, the court is also of the opinion that, under the last part of Section 145 of the Criminal Code, which reads, "where such involuntary killing shall happen in the commission of an unlawful act, which in its consequences naturally tends to destroy the life of a human being, or is committed in the prosecution of a felonious intent, the offense shall be deemed and adjudged to be murder," the accused under the indictment in this case could be held for murder.

Some of the counts of the indictment charged the instrument to have been thrust into the "body and womb," and other counts into the "private parts and womb," and it was insisted that there was fatal variance, in that the proof showed that the instrument was not thrust into the womb, but into the bladder. But the court thinks that, apart from technical distinctions, the term "private parts" sufficiently describes the female organ of genitation and its immediate vicinity, not only for that particular and limited portion anatomically known as the womb, but for the vagina, the urethra, and lips of the womb. It says that the fact that the instrument inserted through the lips of the private parts entered the urethra and pierced the bladder, instead of passing up the vagina and into the womb, did not in any way mislead the accused.

The court also says that evidence to convict of a crime such as here charged, in the absence of the testimony of the victim, is almost always circumstantial, and hence the question of the admissibility of collateral facts in evidence is often to be determined by the nature of each case. And it holds that on a trial for an offense such as charged in this indictment intent is an essential ingredient, and it is competent to show the declarations of one on trial for procuring an abortion, to the effect that she was in the habit of performing or had solicited such work.

Liability for Communication of Smallpox by Agent.

The Court of Civil Appeals of Texas affirms, in Missouri, Kansas & Texas Railway Company of Texas vs. Raney, a judgment for $150 in favor of the latter party, who brought the action to recover damages for the company's ticket agent communicating smallpox to him and his wife. It holds that the company, under the common law, owed to the individuals composing the public who dealt with it the duty to keep them from having contagious diseases communicated to them by its agent while they were dealing with it through such agent.

The testimony of a physician to the effect that, according to his best recollection, he had seen and examined the agent, and that he then had smallpox, and that he so told him, the court holds was sufficient to support a finding of the jury that the agent had smallpox and knew it when the plaintiff bought tickets of him for himself and wife. It also holds that the testimony was sufficient to support the finding of the jury that the plaintiff contracted the smallpox from the company's agent, when, in so far as the evidence showed, such agent was the only person to whom the plaintiff was exposed who had the disease, and the evidence showed that the plaintiff contracted it within the usual time after such exposure.

The company's contention that knowledge on the part of its ticket agent that he had smallpox at the time he sold the tickets to the plaintiff would not constitute knowledge on its part of such fact, the court does not think sound. In its opinion, the agent at the time the plaintiff was exposed to him, being the ticket agent of the company and in the discharge of the duties incumbent on him as such agent, and the plaintiff being present for the purpose of transacting business with him in the line of his duties to the company, and the agent at the time having the contagious disease of smallpox, and knowing that he had it, his knowledge became that of his principal, the railroad company.

Furthermore, the court holds that the act of the company's agent in communicating to the plaintiff smallpox was the proximate cause of the plaintiff's wife contracting the disease, and his being quarantined on account of his wife's having smallpox. It says that the company, through its agent, knew from the attending circumstances that the tickets sold were for the plaintiff and his wife, and of that relationship between them, and that, in their companionship and association with each other during the trip on the cars and while visiting in Alabama, they would not only be in close proximity with each other, but frequently in personal contact with each other, so that if the husband contracted the disease of smallpox from the agent of the company, it was natural and probable that he would communicate it to his wife; and such a result was one that might reasonably have been anticipated by the company through its agent.

Therefore, the company, having notice through its agent, at and prior to the time the plaintiff was exposed to him, that he had the smallpox, and said agent having communicated said disease to the plaintiff and his wife, the court holds that the company was liable to the plaintiff for the damages sustained by him as the direct and proximate results of such wrongful act of its agent. Nor does it think the losses sustained by the plaintiff in his business on account of patrons being kept away through fear of contracting the disease were too remote to be recovered.

Presumptions and Proof Requirements as to Suicide.

The Supreme Court of Minnesota holds, in the case of Lindahl vs. Supreme Court Independent Order of Foresters, an action to recover the amount of a benefit certificate, that, the defense being suicide, (a) The burden of proving that the deceased committed suicide was on the defendant. (b) The presumption is against suicide. (c) If the known facts are consistent with the theory of natural or accidental death, the presumption which the law raises from the ordinary motives and principles of human conduct requires a finding against suicide. (d) When circumstantial evidence is relied on, the defendant must establish facts which exclude any reasonable hypothesis of natural or accidental death.

The court says that it is settled that on the issue of suicide the burden is on the defendant, who asserts the fact, to prove the same by a fair preponderance of the evidence. In all legal discussion the existence of certain qualities in human nature are presumed. Common experience teaches that the love of life, the instinct of self-preservation, respect for the laws of the land, and the principles and teachings of religion are ordinarily sufficient to prevent a person from destroying his own life, and therefore, when the facts proved with reference to death admit equally of the inference that the death resulted from accident or suicide, the presumption is that death was accidental.

As long as the evidence is consistent with the theory of accidental death, the presumption against suicide is controlling. The issue being the fact of suicide, it is for the defendant to prove this ultimate fact by a fair preponderance of the evidence. It starts with the burden of overthrowing the presumption that a person does not voluntarily destroy what is commonly regarded as the most precious of all possessions, life itself. When the fact of death appears, the law presumes that it must have resulted from causes which were not voluntarily brought about by the deceased. Death may result from innumerable causes. The facts of a case may suggest accidental shooting, poisoning or drowning. If the evidence is consistent with the theory of either, the presumption which the law raises from known and recognized controlling forces of human nature requires the conclusion that the death was accidental. If the known facts are consistent with a cause of death which does not involve self-destruction, that cause must be accepted.

After all the hypotheses which are consistent with an innocent or accidental death are eliminated, the conclusion of suicide may then be drawn. The burden is on the defendant to show that the circumstances and conditions are inconsistent with any other reasonable cause of death than that of suicide; that is, it must eliminate and disprove all other causes of death which are consistent with the evidence before the jury is justified in inferring that the deceased committed suicide. The ultimate fact of suicide is thus shown by the proof of certain evidentiary facts which are inconsistent with the theory of accident or natural death, or by proof of the non-existence of facts which would justify the inference of accident. But the ultimate fact is required to be proven by a preponderance of evidence only, and this rule is in no way affected by the subsidiary requirement that the defendant must by its evidence exclude every other reasonable theory for accounting for the death.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

March 30.

1 *New Method of Operation for Epispadias. C. Beck, New York.
2 *Pneumonia, with Special Reference to the Use of Fresh Air and Saline Solution. S. S. Burt, New York.
3 Localization in Multiple Intestinal Obstruction. G. A. Friedman, New York.
4 *Buttermilk as an Infant Food. A. Strauch, Chicago.
5 *Relationship of Clinical Symptoms to Microscopic Findings in Carcinoma of the Uterus. C. O. Thienhaus, Milwaukee.
6 Illustrations for Medical Journals. A. J. Martin, New York.

1. **New Operation for Epispadias.**—Beck describes an operation for epispadias, which he employed successfully in one case. The funnel-like appearance of the urethral orifice over the pubic bone suggested to Beck to dissect the surrounding walls, including the whole urethral gutter, in the same way that a hernial sac including the cord is liberated and mobilized in the radical operation for inguinal hernia. This plan was carried out by making a continuous incision around the funnel as well as the outer margins of the urethral gutter, the aim being then to shell out a coherent canal which is meant to be the new urethra. The steps of the operation are described in full.

2. **Pneumonia.**—The best course to pursue in the treatment of pneumonia, according to Burt, is to secure for the patient repose of mind and body, a simple, but nutritious diet, an unlimited supply of fresh air and sunshine, and such hygienic measures as are necessary to maintain the strength of the patient and to alleviate the severity of symptoms and avert complications as far as possible. He advises promoting the intrinsic capacity of the fluids and cellular elements of the body to overcome the virulence of the infection, and suggests that this may be done by the injection of physiologic saline solution. Care should be observed not to inject more than one dram of the solution to each pound of the body weight, in each quarter of an hour.

4. **Buttermilk as Infant Food.**—Strauch has had excellent results accrue from the use of buttermilk in the feeding of infants. His experience includes more than 20 cases, mostly of malnutrition, resulting from chronic gastrointestinal disturbances, with occasional acute exacerbations up to the intensity of cholera infantum; one case of habitual vomiting (pylorospasm), one case of icterus catarrhalis, one prematurely born child, and some cases of *alaitement mixte*. Some of these cases had not responded to other methods of feeding and treatment.

5. **Carcinoma of Uterus.**—Thienhaus urges careful and conscientious efforts on the part of the general practitioner to diagnose carcinoma of the uterus, resorting to the microscope in dubious cases. He sounds a note of warning against the indiscriminate cauterization of what appear to be simple erosions of the cervix without first confirming the diagnosis with the microscope.

Boston Medical and Surgical Journal.

March 28.

7 *Crusade Against Tuberculosis in Germany. E. A. Locke, Boston.
8 *Diffuse Peritonitis Following Peritonitis in Young Children. H. B. Smith, Boston.
9 *Extraordinary Blood Findings. F. Van Nuys, Massachusetts.
10 *Cervical Adenitis with Reference to Mouth Infection. F. D. Donoghue, Boston.
11 *Primary Ligation of Vas Deferens. G. Walker, Baltimore.
12 Studies in Psychopathology. B. Sidis, Brookline.
13 *Cancer of Vulva. F. W. Johnson, Boston.
14 *Method of Treating Appendicular Stump. C. F. Denny, St. Paul, Minn.
15 The Opsonins in Surgery. J. G. Mumford, Boston.

7. **Crusade Against Tuberculosis in Germany.**—Locke discusses very fully the principles underlying the crusade against tuberculosis now being carried out in Germany. He says that several fundamental considerations, which make such a general movement possible, should be borne in mind: First, the entire kingdom of Germany is under uniform laws, those pertaining to disease and the general health of the people being controlled by a national board of health presided over by a cabinet minister. Through this imperial health bureau a most exhaustive investigation of the existing conditions has been carried out and relief measures promulgated; second, the scientific spirit which permeates German medicine is largely responsible for the effectiveness of this organization in that it has, step by step, pointed the way to success; third, on compulsory insurance against sickness and invalidity has placed at the disposal of the authorities immense funds which could in part be directly applied to the erection and maintenance of sanatoria, convalescent homes, care of the consumptive's family, etc.

8. **Diffuse Peritonitis Following Appendicitis in Children.**—Smith reports seven cases of diffuse peritonitis, following appendicitis, occurring in children, from 3 to 8 years of age, a study of which convinces him that appendicitis in children exhibits certain features not altogether common in adults. Four of these children died. The most striking feature in all of these seven cases was the fact that the pathologic conditions found at operation were out of all proportion to the duration of the illness. In three of the cases, the peritonitis was so extensive as apparently to involve the entire greater cavity, with an average duration of less than 48 hours from the appearance of the initial symptoms. It was a noticeable fact that in five of the cases the perforation in the appendix was large, that is, as great in diameter as a split pea.

9. **Extraordinary Blood Findings.**—The characteristic feature of the blood in the case reported by Van Nuys was the presence of large basophilic phagocytic cells capable of ameboid motion. There were two varieties of these cells. One was a large, mononuclear cell, with granular, fragile, often vacuolated cytoplasm, the nucleus being large, oval or bean shaped, often vesicular, and sometimes containing a pale, yellow-brown nucleolus. The other type was a multinuclear, phagocytic, giant cell, with long fantastic streamers of protoplasm. The patient had suffered from dyspnea, severe constipation, chronic bronchitis and some edema of the feet and bases of the lungs. He had a fairly compensated aortic regurgitation; his liver and spleen were enlarged considerably. In the region of the descending colon were two hard masses, egg shaped, deep and immobile. On the day of his admission to the hospital the patient, a Russian Jew, butcher by occupation, passed nineteen feet of the beef tapeworm after one dose of castor oil. Eggs of *Trichocephalus dispar* were also present in the stools.

10. **Cervical Adenitis.**—A careful study of 300 cases of cervical adentitis leads Donoghue to draw the following conclusions: 1. Enlarged glands of the neck are not, primarily, tuberculous, and bear the slightest relation, if any, to general or pulmonary tuberculosis. 2. They are due to a mixed infection of pus-producing bacilli. 3. They will quickly resolve if the source of the infection is removed before the glandular tissue becomes disorganized. 4. If disorganization takes place, the gland should be poulticed until the gland is practically liquefied. It should then be opened by a stab puncture, emptied and drained by a "Briggs canula." 5. Cases seen late, with a large mass of partially calcified and partially disorganized glands present, call for a thorough and extensive dissection.

12. **Primary Ligation of Vas Deferens Before Operations on Testes.**—An exhaustive study of tuberculosis of the genito-urinary organs has convinced Walker that during the excision of a testicle the manipulation necessitated is more than likely to force tubercle bacilli along the healthy vas into the blood or lymph vessels and thus produce a general infection. In order to eliminate this danger Walker advises preliminary ligation of the vas deferens and its accompanying vessels high in the groin. After the testis has been freed in the usual way the vessels should be cut at the point of primary ligation and the cord freed still higher up and gently pulled as far as practicable out of the external ring before it is ligated and cut.

13. **Cancer of Vulva.**—Johnson reports a case of primary epidermoid carcinoma of the labium and vulva, occurring in a woman 69 years of age. The labium, clitoris and three-fourths of an inch of the urethra were removed. For five years the patient remained well. Then the tumor appeared on the opposite labium and it was removed two years later, seven years after the original operation. Nine months after the second operation the patient reported herself in good health.

14. **New Method of Treating Appendicular Stump.**—In the method described by Denny the appendix was freed, the mesoappendix ligated and a purse-string suture applied in the cecum in such a way that two loops are left which, with the two ends at the starting point, divide the circle about the appendix into three equal spaces. A smooth-jawed Ferguson clamp is applied to the appendix, and distal to this clamp the appendix is severed with a thermo-cautery. The stump is inverted and invaginated into the cecum, and the ends of the ligature previously applied are pulled until the loops disappear.

New York Medical Journal.

March 30.

16 *Hodgkin's Disease a Type of Sarcoma. W. B. Coley, New York.
17 *The Cataphoric Table. G. B. Massey, Philadelphia.
18 *What State in Development of Cataract, Particularly Senile Cataract, is the Most Suitable for Its Removal by Extraction. J. E. Weeks, New York.
19 *Pubiotomy. R. C. Norris, Philadelphia.
20 Endemic Neuritis. J. M. Wheate, Boise, Idaho.
21 *Eosinophilia and Trichiniasis. R. Ottenberg, New York.
22 Possible Significance of New Pyloric and Duodenal Lesion in Guinea-pigs Inoculated Subcutaneously with Diphtheria Toxin. W. D. Cannon, Washington.
23 Modern Medicine in China. W. H. Dobson, Washington.

16.—See abstract in The Journal, Jan. 12, 1907, page 161.

17. **Cataphoric Table.**—Massey describes a cataphoric table which he has devised, and which permits of a perfect control of the 110-volt direct street current in the operating room.

18. **Cataract.**—Weeks divides cataracts into four varieties: 1, Cataracts that form early in life; 2, cataracts which develop by the formation of fissures in the cortex; 3, cataracts in which the opacification appears in the center of the lens, and 4, zonular cataract. Extraction of the cataract in the four types mentioned, if done when most propitious for the welfare of the patient, would be performed by Weeks in the first type as soon as liquor Morgagni appeared between the lens capsule and the lens substance; in the second type, at the convenience of the patient after vision is reduced below that necessary for the ordinary vocations of life; in the third type, when useful vision has been abolished, and the lens is appreciably shrunken; in the fourth type, at the convenience of the patient after vision is reduced below that necessary for ordinary uses.

19. **Pubiotomy.**—Norris reports a case in which pubiotomy was done instead of an elective Cesarean section, with excellent results. Both mother and child lived. Norris says that it seems to him that in the hands of the average surgeon in private practice pubiotomy is safer than Cesarean section.

21. **Eosinophilia and Trichiniasis.**—Ottenberg publishes the histories of eight cases of trichiniasis. Although the presence of trichinæ was demonstrated in only three of the cases, the clinical evidence was sufficiently striking to permit of making a positive diagnosis. The combination of eosinophilia with the other characteristic symptoms, viz., edema of the face, which occurred in six of the eight cases, muscular pains, present in all, though only very pronounced in two, and fever, present in seven cases, makes a clinical picture which could hardly be presented by any disease other than trichiniasis.

St. Louis Medical Review.

December 22, 29 and January 5, 12.

24 Vaccination: A Critical Examination. E. Hubbard, East Aurora, N. Y

March 23.

25 Present Scope of Stomach Surgery. W. Bartlett, St. Louis.
26 Medical Education in German Universities, Other than Berlin. W. C. Gayler, St. Louis.
27 Medical Education in Vienna. L. Rassieur, St. Louis.

Lancet-Clinic, Cincinnati.

March 30.

28 Organization of the Academy of Medicine of Cincinnati. B. Stanton, Cincinnati.
29 Reminiscences of the Academy of Medicine. A. G. Drury, Cincinnati.
30 Sense of Probability in Diagnosis of Disease. B. Holmes, Chicago.
31 Rhinitis. E. S. McKee, Cincinnati.

Military Surgeon, Carlisle, Pa.

March.

32 Tendon Tissue versus Catgut. N. Senn, Chicago.
33 Laboratory Work Aboard Ship. A. W. Balch, U. S. N.
34 *Penetrating Wounds of Abdomen. R. R. Wreden, Russia.
35 *Case of Multiple Gunshot Wounds. L. T. LeWald, U. S. A.
36 *Case of Fracture of the Skull. S. M. Waterhouse, U. S. A.
37 First-Aid Splint Packet. R. Spear, U. S. N.
38 Natural vs. Mechanical Ventilation of Hospitals. P. H. Bailhache, U. S. Public Health and Marine-Hospital Service.

34. **Penetrating Wounds of Abdomen.**—Wreden says that active operative intervention, when admitted by the general condition of the wounded, and the surrounding circumstances, is indicated in all cases of perforating wounds of the abdominal cavity, with the exception of wounds inflicted with the modern small-caliber undeformed rifle bullet. In these cases expectant treatment gives the best results. He emphasizes that all those wounded in the abdomen need full rest, at least for one week after the infliction of the wound. He has found morphin a powerful remedy in facilitating the cure of penetrating wounds of the abdomen.

35. **Multiple Gunshot Wounds.**—LeWald reports the case of a Filipino who was shot four times, at close range, with a regulation Colt's revolver, caliber 38, and was finally stunned by a blow on the forehead by the end of a carbine. The first bullet entered the chest near the right nipple, passed upward, backward and outward, perforated the lung, and made its exit through the back, passing through the outer edge of the right scapula. The second bullet entered the chest near the left nipple, perforated the lung and lodged in the back of the subcutaneous tissues. The third bullet entered the chest near the left shoulder, passed downward and backward, perforated the left lung and lodged in the muscles of the back. The fourth bullet entered the palm of the left hand, passed through the subcutaneous tissues, and made its exit through wound in the anterior surface forearm. The patient was discharged cured at the expiration of 28 days.

36. **Fracture of Skull.**—In the case reported by Waterhouse a very extensive lesion resulted from a comparatively slight traumatism. A man fell down a basement stairs and struck on the concrete floor. Apparently he was intoxicated at the time. He was picked up unconscious, and at the time there was rather free hemorrhage from the left ear. The man died about three and a quarter hours after receiving the injury. A necropsy was made. Large clots of blood were found at both sides of the head, both between the dura and the skull and betwen the dura and the brain. Both cerebral lobes showed punctate hemorrhages. The anterior tips of the frontal lobes were infiltrated with blood. Starting at the region of the occipital protuberance was a V-shaped fracture of some size, and there was also a transverse, jagged fracture across the orbital plate of the frontal bone on both sides and a transverse fracture across the ethmoid bone.

Journal of the Kansas Medical Society, Lawrence.

March.

39 *Mycosis Fungoides. R. E. McVey, Topeka.
40 *Appendicitis. L. Murdock, Sabetha.
41 Electrotherapeutics. U. G. Iles, Seneca.
42 Ambulatory Treatment of Fractures of Lower Limbs. L. W. Shannon, Hiawatha.
43 Major Complications and Treatment of Pneumonia. E. N. Martin, Benedict.

39. **Mycosis Fungoides.**—McVey reports a case of this kind occurring in an infant. The tumors were situated on the left eye and left cheek. On other portions of the body there were circumscribed erythematous patches. The father of the child had had such an eruption over his body when he was an infant, but after his development into manhood the disease disappeared and did not return. The child was given the syrup of the iodid of iron, 5 drops, three times a day, and the oleate of bismuth was applied locally. The Finsen light was also used for 15 minutes each day. The child died three months after coming under observation.

40. **Appendicitis.**—Murdock reports five cases of appendicitis to illustrate that often the only symptoms manifested are the initial pain in the abdomen, elevation of temperature, and increased pulse rate; that is, there is almost a total lack of grave symptoms to justify a laparotomy.

Denver Medical Times and Utah Medical Journal.

March.

44 *Case of Sarcoma. I. B. Perkins, Denver.
45 Appendicitis in Country Practice. A. R. Pollack, Ely, Nevada.
46 *Skin Grafting—Choice of Method. G. F. Roehrig, Denver.
47 Case of Raynaud's Disease. O. M. Shere, Denver.
48 Open-Air Treatment in Skin Grafting. H. G. Wetherill, Denver.
49 *Excision of a Gasserian Ganglion with Use of a Wooden Plug for Control of Hemorrhage. A. H. Williams, Denver.
50 *Treatment of Chronic Rheumatism. E. Stuver, Fort Collins.
51 *Therapy of Rheumatism. W. H. Heisen, Denver.
52 Laboratory Diagnosis for the Practitioner. J. C. Todd, Denver.
53 Examination of the Infant. F. H. Raley, Salt Lake City.
54 Dislocation of Outer Extremity of Clavicle Treated by Elastic Webbing. E. W. Whitney, Salt Lake City.
55 *Chorea, an Interesting Case. J. U. Giesy, Salt Lake City.
56 *Gummatous Meningitis. W. B. Ewing, Salt Lake City.

44. **Sarcoma.**—Perkins reports a case of small round-celled sarcoma occurring in a woman aged 37, in which a portion of the ileum, the entire cecum and ascending colon, and a portion of the transverse colon were resected. The diagnosis was confirmed on microscopic examination. The patient recovered and has remained well for nine months.

46. **Skin Grafting.**—While Roehrig's conclusions based on his experience are wholly favorable to the employment of the Reverdin grafts, he concedes that there is at least one instance in which the Thiersch flap method is of equal, if not of su-

perior advantage because of improved facility of operation, and that is when a convenient amputation is taking place, either on the same or some other patient and the skin of the amputated limb can be employed advantageously. However, the advantage gained is merely in time saved and not in additional effectiveness in results.

49. **Excision of Gasserian Ganglion.**—In separating the dura from the bone, Williams deliberately tore the middle meningeal artery as it emerged from the foramen spinosum. The hemorrhage, which was profuse, was quickly and absolutely controlled by forcing into the opening a conical plug of wood, previously prepared by repeated sterilization for this particular purpose. This freedom from hemorrhage greatly facilitated the approach and free exposure of the ganglion, which was eventually removed. The operation has given the patient absolute freedom from pain for over a year.

50. **Treatment of Chronic Rheumatism.**—Stuver has found the galvanic current exceedingly beneficial in many cases of chronic rheumatism. He employs a current of from 5 to 20 mp., applying it from 20 minutes to half an hour. He says that these results can be increased if a thin layer of cotton wet in a solution of cocain be applied over the skin under the positive pole.

51. **Id.**—Heisen considers massage most useful in the treatment of chronic rheumatism.

55. **Chorea.**—Giesy reports a case of chorea that was complicated by marked and persistent tympanitis, a primary eruption, slight meningeal symptoms and endocarditis. The case suggested from time to time mild scarlatina, parasitism, meningitis and chorea. Giesy suggests that perhaps the choreic movements were caused by a toxemia resulting from improper intestinal metabolism.

56. **Gummatous Meningitis.**—Ewing reports a case of this kind occurring in a woman aged 39, twice married, who had four children living, all by the first husband. After her second marriage she aborted many times. About three months after the marriage a sore appeared on the external genitals, which was treated locally with good results. Ten years afterward she manifested symptoms of meningeal disease, such as headache, sleep disturbances, muscular weakness, impaired memory and fleeting paresis, which led to the diagnosis of gummatous meningitis. Under the most intensive antisyphilitic treatment the patient began to improve and continued to improve until she finally disappeared from observation.

Journal of the Missouri State Medical Association, St. Louis.

March.

57 *Deep Rectal Abscesses. J. M. Frankenburger, Kansas City, Mo.
58 *Extrapulmonary Causes of Cough. J. C. Buckwalter, St. Louis.
59 *Treatment of Chronic Joint Disease. M. M. Edmonson, Kansas City, Mo.
60 Neurasthenia, Traumatic and Idiopathic: Its Pathology and Prognosis. D. S. Booth, St. Louis.
61 Pathology of Pelvic Inflammation. T. J. Beattie, Kansas City, Mo.
62 *Eartire as a Factor in Disease. E. H. Musson, Norborne.
63 Causes and Prognosis of Valvular Lesions of the Heart. R. G. Davenport, Trenton.
64 The Joint Medical Council of St. Louis and Municipal Hospital Reform. J. Green, Jr.

57. **Deep Rectal Abscesses.**—Frankenburger reports two cases of this kind and emphasizes the fact that in obscure cases of trouble in the pelvic region the patient should be examined thoroughly and kept under closer observation until a positive diagnosis is made.

58. **Cough.**—Buckwalter discusses the extrapulmonary causes of cough which develop in consequence of pathologic changes in the upper respiratory tract and disturbances in its function. He reports several cases in point.

59. **Treatment of Chronic Joint Disease.**—Edmonson urges early diagnosis, suitable treatment for the individual case, and maintenance of the general health of the patient by means of diet, tonics and hygiene.

62. **Eartire.**—Musson suggests that there may be an analogous condition of fatigue of the auditory apparatus with important reflex manifestations similar to eyestrain. He suggests for this condition the term eartire. Neurasthenia, headache and insomnia, he says, may be caused by maladjustment of the muscles or ossicles, or the long-continued registration of unrhythmical sounds by even a normally adjusted ear may greatly fatigue the cerebral auditory centers and cause the manifestations of symptoms of eartire. [Eartire was discussed editorially in THE JOURNAL, July 8, 1905, page 109.]

Maryland Medical Journal, Baltimore.

65 *Suggestions for Reorganization of Hospital Out-Patient Departments. R. C. Cabot, Boston.
66 Danger of Sending Consumptives to the Country. E. N. LaMotte, Baltimore.

65. **Reorganization of Dispensary Service.**—Cabot's paper is summarized as follows: 1. Dispensary work is part of public health work, and should be done as well as are the examinations made at state and municipal laboratories. 2. To attend to the mass of details on which good treatment depends a nucleus of permanent paid employés is necessary. This paid staff should consist at present of nurses trained for the purpose. 3. These paid employés should understand the physician's directions and see that they are carried out in the patient's home, reporting back to the physician any data concerning the domestic and social conditions which bear on the diagnosis and treatment of cases. 4. Either through these nurses or through social workers on hand daily at the dispensary the hospital should obtain for its patients the full benefit of any resources—moral, educational and financial—which the community affords. This help is especially important in "functional" cases, which make up over one-third of the medical outpatient clinics. 5. Through these means and by the development of mechanical and psychical measures and hydrotherapeutics our dispensaries can be freed from the twin abuses which now limit their therapeutic usefulness: (a) Hurry and consequent makeshift; (b) wholesale drugging.

Bulletin of Johns Hopkins Hospital.

March.

67 *Necessity of a More Uniform Nomenclature of Diseases for Study and Teaching. T. M. Rotch, New Haven.
68 *Acute Leukemia. C. P. Emerson, Baltimore.
69 Benjamin Rush, as Materialist and Realist. L. W. Riley, Baltimore.
70 Multiple Tumors in Dog. E. K. Cullen, Baltimore.

67. **Uniform Nomenclature of Diseases.**—A new classification of diseases of the gastroenteric tract is suggested by Rotch. The diseases are divided into gastric and enteric, and these again into developmental, non-infectious and infectious. The further subdivisions of the non-infectious groups are based, as far as possible, on the origin of the condition, such as mechanical, functional, new growths, traumatism and ulcers. The classification is presented in full as follows:

- Gastric
  - Developmental
    - Malpositions,
    - Malformations . . . . . . Pyloric stenosis
  - Non-Infectious
    - Mechanical . . . . .
      - Contraction,
      - Dilatation.
    - Ulcers . . . . Peptic.
    - New Growths.
    - Functional . . . . . .
      - Nervous vomiting,
      - Recurrent (periodic) vomiting
      - Indigestion
    - Traumatic . . . . Corrosive gastritis
  - Infectious .. Gastritis

- Gastric
  - Developmental
    - Malpositions.
    - Malformations.
  - Non-Infectious
    - Mechanical . . . . . .
      - Dilatation of colon,
      - Volvulus,
      - Intussusception,
      - Hernia,
      - Fissure,
      - Prolapse,
      - Hemorrhoids.
    - New Growths.
    - Functional
      - Incontinence,
      - Constipation.
      - Nervous Diarrhea
      - Indigestion
        - Duodenal,
        - Intestinal
          - Deficient secretion,
          - Fermentation.
  - Infectious
    - Infectious diarrhea
      - Dysentery,
      - Cholera infantum,
      - Other Organisms.
    - Proctitis,
    - Appendicitis,
    - Fistulas.
  - Intestinal worms.

68. **Acute Leukemia.**—Emerson reports three very interesting cases of acute leukemia: 1. A case of acute lymphatic leukemia, without enlargement of lymph glands or spleen, with localized involvement of the bone marrow, and with very many white cells that were soluble in dilute acetic acid. 2. A case of acute leukemia, resembling a septicemia, with the leucocytes almost all achromatophilic. 3. A case of acute leukemia with leucopenia—aplastic leukemia.

Ohio State Medical Journal, Columbus.

March 15.

71 *Addison's Disease. G. F. Zinninger, Canton.
72 Necessity for Teaching Anatomy, Physiology and Chemistry, as Applied to Medicine A. Ravogli, Cincinnati.
73 Psychotherapy. H. Cushing, Elyria.
74 The Present Overshadowing Problem in Ophthalmology—The Muscle Question. F. K. Smith, Warren.
75 Ocular Gymnastics. W. B. Van Note, Lima.
76 *Muscular Asthenopia and Treatment by Ocular Gymnastics. H. B. Harris, Dayton.
77 Professional Cooperation. Rev. F. Poe.
78 *Relation of Appendicitis to Pregnancy and the Puerperal Period. V. N. Marsh, Flushing.
79 Case of Traumatic Aneurism of Common Femoral Artery Treated by Temporary Occlusion of the Common Iliac and Suture of Rent in Femoral Artery. J. C. Oliver, Cincinnati.
80 Colostomy Pad Which Fulfils Requirements Where Such a Device is Necessary. F. C. Herrick, Cincinnati.
81 Simple Method for End-to-End Vessel Union. F. C. Herrick, Cincinnati.

71. **Addison's Disease.**—Zinninger reports two cases of Addison's disease which terminated fatally. One case met all the requirements of Addison's description, while the other at no time showed any pigmentation, although all the other symptoms of the disease were present. Zinninger calls particular attention to the extreme myosis which was present in both cases.

76. **Ocular Gymnastics.**—Harris emphasizes the fact that although the extraocular muscles may be in a state of perfect balance they may be the cause of serious symptoms and be in great need of help by ocular gymnastics.

78. **Pregnancy and Appendicitis.**—Marsh reports the case of a woman who, three months prior to the birth of her first child, suffered from a severe attack of appendicitis. She recovered and was delivered of a healthy child at term. She had a second confinement, two and a half years later, without trouble. Fifteen days after her third confinement she manifested all the evidences of puerperal infection. Irrigation failing to give relief, she was operated on. The appendix, distended with pus, was found attached to the right horn of the uterus and overlying a large suppurating tube and ovary. The apppendix and the right appendages were removed. The patient recovered.

Journal of Nervous and Mental Diseases, New York.

February.

82 *Herpetic Inflammations of the Geniculate Ganglion. J. R. Hunt, New York.
83 *Brain Tumor Symptom-Complex with Termination in Recovery. H. H. Hoppe, Cincinnati.
84 *After-care and Prophylaxis and the Hospital Physician. A. Meyer, New York.
85 *The Insane Commission of the St. Louis City Jail, An Experiment in Civic Medicine. S. I. Schwab, St. Louis.
86 Consciousness in the Brutes. G. V. N. Dearborn, Boston.

March.

87 *Migraine and Hemianopsia. J. J. Thomas, Boston.
88 *Peripheral Facial Diplegia and Palatal Involvement. G. W. Jacoby, New York.
89 Study of the Sensory Symptoms of a Case of Pott's Disease of Cervical Spine. F. R. Fry, St. Louis.
90 *Hemilingual Atrophy of Traumatic Origin. S. E. Jelliffe, New York.

82. **Herpetic Inflammations of Geniculate Ganglion.**—Hunt brings together three separate groups of cases which he believes constitute a new and distinct clinical entity. The pathology of the affection is identical with that of herpes zoster, of which it forms a part, the distinguishing features of the clinical picture depending entirely on the ganglion involved and the nature of the structures surrounding it. Hunt believes that the geniculate ganglion may be the seat of the herpetic inflammation. The clinical types of the affection are herpes auricularis, herpes auricularis with facial palsy, and herpes auricularis with facial palsy and auditory symptoms. The zoster zone for this ganglion is found in the interior of the auricle and in the external auditory canal. Hunt reports two characteristic cases in full.

83. **Brain Tumor Symptom-Complex.**—That conditions other than brain tumor may cause symptoms, general as well as focal, simulating brain tumor is shown by Hoppe, who reports three cases. One of his patients died of pulmonary tuberculosis after having been under observation for 10 years for a supposed cerebellar tumor. At the necropsy the brain was found to be normal in every respect. The examination of the brain included macroscopic as well as microscopic study. There were no adhesions or any other lesion of brain or membranes. Two patients are alive and well after two years and thirteen and a half years respectively. In these two cases the symptoms also pointed to brain tumor and the diagnosis was made accordingly. Therefore, Hoppe urges that clinicians should not be too pessimistic in their prognosis of brain tumors, especially in the cerebellar cases, and that they should not be too hasty in the recommendation of surgical intervention until therapeutic measures have been given a long and thorough test.

84. **After Care of the Insane.**—Meyer gives a brief report on a movement which was inaugurated in New York state for the purpose of the after care of needy persons discharged from hospitals for the insane.

85. **Experiment in Civic Medicine.**—Schwab outlines the main purposes underlying the organization of a commission in St. Louis whose function it is to cultivate a better standard of expert medical testimony and to train a group of experts in mental questions for service in the courts. The central idea of the experiment is that all expert testimony should be given on the question at issue and should have nothing whatever to do with one side or the other in the actual legal test of a case. In other words, it should be the expert's duty to inform the court on questions of the proper interpretation of facts lying within the limits in which expert knowledge is required. The commission consists of four members, and its report is transmitted to the circuit attorney, who, with the assistance of two judges in the criminal courts, appoints the commission. The commission has no legal or official position and exists merely as a matter of convenience to the court. The report of the commission is without bias or prejudice.

87. **Migraine and Hemianopsia.**—Whether attacks of migraine, in the absence of disease of the vessel walls, are capable of producing permanent changes in the nervous structures is the point discussed by Thomas. As the result of careful study of several cases he concludes that attacks of migraine may result in an area of softening in the brain, which shows itself by a permanent paralysis, aphasia, or hemianopsia, and that in most instances this is due to the attack favoring a vascular lesion in persons who have already disease of the walls of the blood vessels, but that in certain cases the vascular lesion may occur in young persons whose blood vessels are in all probability in a normal condition. In all cases of organic disease of the brain, coming on during an attack of migraine extreme caution is necessary before ascribing even an exciting rôle to the migraine, as it is much more common to find independent organic disease of the blood vessels which would account for the organic disturbance in persons who have suffered from migraine, yet a few cases remain which can hardly be explained in this way, and justify the statement made by Charcot and others that the transient hemianopsia or aphasia seen occasionally in this disease may become permanent.

88. **Peripheral Facial Diplegia with Palatal Involvement.**—Jacoby reports four cases under his observation, three of which showed palatal palsy.

90. **Hemilingual Atrophy.**—Jelliffe reports a case of simple hemilingual atrophy due to injury to the hypoglossal nerve at its exit from the skull.

Therapeutic Gazette, Detroit.

March 15.

91 Fractures of Femoral Neck—Anatomic Treatment. C. E. Ruth, Keokuk, Iowa.
92 Treatment of Arthritis Deformans. J. H. W. Rhein, Philadelphia.
93 New Substitute for Iodoform. J. H. Ford, Indianapolis.
94 Therapeutic Value of Arhovin. E. R. W. Frank, Berlin.
95 Specific Medication in Treatment of Tuberculosis. J. Sawyer, Asheville, N. C.

96 Treatment of Coryza. E. S. McKee, Cincinnati.
97 Directions for Determining Opsonic Index of Blood. E. C. L. Miller, Detroit.

St. Louis Courier of Medicine.

March.

98 Operations for the Cure of Chronic, Suppurative Otitis Media Other than Radical Mastoid. S. Spencer, St. Louis.
99 Cerebral Syphilis with Coma. M. J. Lippe, St. Louis.
100 Treatment of Gonorrheal Ophthalmia Neonatorum. W. A. Shoemaker, St. Louis.

Medical Fortnightly, St. Louis.

March 11.

101 Seeing Turkey with Medical Eyes. R. G. Eccles, Brooklyn.
102 President's Address, of the Quincy, (Ill.) Medical and Library Association. J. Robbins, Quincy.
103 Suprapubic Cystotomy as Preliminary to and the Route for Performance of Prostatectomies. W. T. Elam, St. Joseph.

Virginia Medical Semi-Monthly, Richmond.

March 8.

104 Pathologic Aspects of Genius. L. G. Pedigo, Roanoke.
105 Surgical Treatment of Diseases of the Stomach. J. S. Horsley, Richmond.
106 Clinical Considerations of Frontal Sinuses. W. A. Wells, Washington, D. C.
107 Value of Blood Examination in Diagnosis. D. Vanderhoof, Richmond.
108 Abdominal Surgery and the Ohio Valley. R. Carothers, Cincinnati.
109 Principles of Surgery. S. McGuire, Richmond.

Medical Standard, Chicago.

110 Operative Treatment of Femoral Hernia. A. De Roulet, Chicago.
111 Practical Roentgen-ray Therapy. N. M. Eberhart, Chicago.
112 Psychoses and Neuroses of Urethral Origin. N. E. Aronstam, Detroit, Mich.
113 The Mouth and Its Dangers. I. Irwell, Buffalo, N. Y.
114 The Sigmoid Flexure and Mesosigmoid. B. Robinson, Chicago.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional interest.

British Medical Journal.

March 16.

1 *Thoracic Aneurism. T. Oliver.
2 *Aortic Disease. G. Rankin.
3 *Surgical Aspects of Hemophilia. E. W. H. Groves.
4 *Heart; Anomaly of; Cor Triloculare Biatriatum. J. D. Mann.
5 *Calcium Salts as Cardiac Tonics in Pneumonia and Heart Disease. L. Brunton.
6 *Delayed Chloroform Poisoning. J. C. Renton.
7 *Chronic Peritonitis Causing Elephantiasis. J. Bernstein and F. W. Price.
8 *Relation of Diet to Thyroid Activity. A. D. Fordyce.
9 *Class Incidence of Cancer. D. Heron.
10 *Insanity, Its Causes and Increase. G. H. Savage.

1. **Thoracic Aneurism.**—Oliver discusses the clinical history of this condition, which he believes is in at least 50 per cent. of the cases due to syphilis. Other causes mentioned are sudden strain and injury, alcohol, and previous disease of the vessel walls. Rest in bed and quietude, together with a restricted diet, are mentioned as essentials in the treatment. Iodid of potassium is said to give great relief, but does not produce a cure. Speaking of galvano-puncture, Oliver says that in one case of subclavian aneurism thus treated, the result was satisfactory, until, as the result of friction, the aneurism redeveloped and burst into the surrounding tissue.

2. **Aortic Disease.**—Digitalis in combination with nitroglycerin is recommended very highly by Rankin in the treatment of aortic disease. He says that the nitroglycerin prevents increase of peripheral resistance and so robs the digitalis of that influence on the arterioles on account of which its administration is supposed to be contraindicated. Rankin is a firm believer in the efficacy of digitalis in the treatment of aortic disease when compensation has failed.

3. **Surgical Aspects of Hemophilia.**—Rest and pressure are said by Groves to be the two essentials in the treatment of hemophilia from a surgical point of view. When the joints become swollen they should be bandaged firmly, and kept at rest until the effusion subsides. It is by neglect of this treatment that the ligaments become stretched and weakened, and the changes of osteoarthritis hastened. Groves reports three cases of hemophilia which illustrate the hereditary nature of this affection. In two of the cases, ischemic paralysis resulted from the disease.

4. **Anomaly of Heart.**—The patient whose case is reported by Mann was 35 years of age, and presented the usual appearance of one suffering from chronic heart disease. The area of cardiac dulness was increased; the cardiac impulse was more extensive than usual, and the apex beat was difficult to locate. There was no thrill. The first sound was replaced by a loud, rushing, systolic murmur, which extended over the whole cardiac area. The center of the impulse was about the fifth interspace, a little within the nipple line. The heart beats were tumultuous and irregular; the veins were overfilled, and those in the neck pulsated. There was intense dyspnea and cyanosis with general edema and effusion into the serous sacs. The patient died. At the necropsy it was found that the heart had only one ventricle from which emerged two arterial trunks, and into which opened the mitral and tricuspid orifices, all in their normal positions. The auricular portion of the heart presented nothing abnormal, except that the foramen ovale was patent. The heart weighed 28 ounces. The man had never been cyanosed until the last three weeks of his life, and he had never been ill in bed until his final illness. When a boy, he had had attacks of breathlessness, cough or headache, which lasted for a day or two. He was unable to join much in boys' sports.

5. **Calcium Salts as Cardiac Tonics.**—Brunton believes that the free use of calcium salts has a tonic action on the heart in cases in which there is a tendency to cardiac failure. He has given calcium chlorid in doses of from five to ten grains, dissolved in water, every four hours, with most excellent results in cases of impending cardiac failure in pneumonia. The disagreeable saline taste of the salt is covered by one minim of the elixir of saccharin, containing 1/20 of a grain of saccharin, for each ten grains of calcium chlorid. The mixture is given in water or milk and is said not to interfere with the use of other remedies. The salt has also proved efficacious in cardiac disease, when the ventricular wall appeared to be losing power. In such cases, the lactophosphate or glycerophosphate of calcium may be employed.

6. **Delayed Chloroform Poisoning.**—Renton reports two cases in which symptoms of delayed chloroform poisoning were observed in adults, four days after the administration of the anesthetic.

7. **Chronic Peritonitis Causing Elephantiasis.**—Bernstein and Price report a case of general anasarca, edema and elephantiasis, the result of a chronic peritonitis. At the necropsy, there was found prominent perihepatitis, perisplenitis and prevertebral fibrosis surrounding the lymphatics at about the level of the receptaculum chyli. Below this, was a varicose condition of all the lymphatics and edema and hyperplasia of the parts drained by these affected vessels, but not of the mesenteric lymphatics or lacteals.

8. **Diet and Thyroid Activity.**—Fordyce carried on a series of experiments on rats, with a view to ascertaining whether or not diet had any effect on thyroid activity. The diet given consisted of: (1) Bread and milk; (2) fresh milk; (3) the same milk pasteurized; (4) the same milk boiled for thirty minutes. In all cases an unlimited supply was given. Fordyce found that the variations in the series of glands examined corresponded with the differences in the diet. In the milk-fed rats the gland vesicles were large and well filled with colloid material. The lining cells were small, with deeply stained nuclei. In the glands of the bread-and-milk-fed rats, the vesicles were very markedly smaller and the amount of colloid present very considerably less. The lining cells were columnar.

9. **Class Incidence of Cancer.**—Heron says that there is always a substantial correlation between the cancer death rate and social status; that is, the incidence of cancer is most heavy among the well-to-do classes.

10. **Insanity.**—Savage claims that there is no such disease as insanity; that it is a negation, and depends more on the social than on the medical conditions; that certain forms are due to direct brain decay, others to brain intoxication, and others to morbid habit or morbid surroundings, or are the

natural but morbid mental growths occurring in certain unstable individuals.

The Lancet, London.
March 16.

11 *Acute Infective or Toxic Conditions of the Nervous System. E. F. Buzzard.
12 *The Renal Function in Its Relation to Surgery. J. W. T. Walker.
13 Diagnosis and Localization of Cerebral Tumors. C. E. Beevor.
14 *Insanity with Special Reference to Prognosis. A. R. Urquhart.
15 *Medical Treatment of Congenital Pyloric Stenosis. G. A. Sutherland.
16 Tertiary Syphilitic Fever and the Visceral and Other Changes Connected With It. E. P. Weber.
17 *Survey of 170 Cases Clinically Diagnosed as Colle's Fracture. R. Morton.
18 Use of Aceto-Salicylic Acid in Rheumatic Endopericarditis. E. C. B. Ibotson.
19 Rôle of Blood Plasma in Disease. H. Campbell.

11. **Infective or Toxic Conditions of the Nervous System.**—The following deductions are made by Buzzard from his investigations:

1. Organic and inorganic substances when present in the lymph spaces of nerves tend to be carried centralward toward the spinal cord and meninges, and especially through the posterior spinal roots. 2. Entry into the spinal cord is made chiefly along the various septa within the lymph channels of the radial vessels and along the anterior but more particularly the posterior roots. 3. The same substances within the spinal cord and its membrane appear to travel upward mainly between the meninges and along the central canal. 4. The changes within the cord resulting from its bacterial or toxic infection through these lymph channels are somewhat patchy and irregular, affecting the gray and white matter alike, with a special incidence on the posterior columns. 6. The morbid histologic processes consist of toxic changes in ganglion cells, blood extravasations, small round cell infiltration of the tissues and perivascular sheaths, some proliferation of neuroglia cells, and parenchymatous degeneration of the nerve strands.

12. **Renal Function and Surgery.**—In this, the first lecture on this subject, Walker takes up the estimation of renal function. He says that as a measure of the total renal function the phloridzin and methylene blue tests are most trustworthy. The phloridizin method is open to the objection that it is too easily influenced by slight variations in the renal function. At present the methylene blue test is the method by which most trustworthy information can be obtained and appears to form a valuable addition to the clinical methods of estimation of the renal function.

14. **Insanity.**—Urquhart says that prognosis in insanity must proceed on a wide and careful review of the whole circumstances affecting the individual, who is in a degenerative condition physically and therefore mentally. All that goes to make up that degenerative condition must be separately investigated and summed up. The elements of prognosis are analytical and synthetical, and it is determined by the nature of the degree of the involvement of the organism in the widest sense. If all the functions are involved, if the degenerative process is universal and intractable, the future of the individual is desperate indeed; if the defect is partial and amenable to treatment naturally the case is more hopeful as these limitations of involvement decrease.

15. **Medical Treatment of Congenital Pyloric Stenosis.**—Sutherland discusses the treatment of congenital pyloric stenosis by means of dieting and gastric lavage, and reports three cases that have come under his care, in two of which the treatment proved successful. In the third case it became necessary to resort to stretching of the pylorus, but the patient died.

17. **Colle's Fracture.**—Morton made a very careful radiographic study of 170 cases of what was diagnosed clinically as Colle's fracture. In 155 cases the radius only was fractured; the ulna in 2 cases; both bones in 7 cases; the trapezium in 1 case; no fracture detected in 5 cases; dislocation of wrist joint complicating fracture in 3 cases; fracture communicating with the wrist joint in 25 cases; fracture of the styloid process of radius in 20 cases, of the ulna in 88 cases; separation of one or both epiphyses in 11 cases.

British Journal of Children's Diseases, London.
February.

20 *Hematuria in Infants and Young Children. J. P. Parkinson.
21 Alcoholic Cirrhosis of Liver in Children. E. Jones.
22 *Congenital Symmetrical Sinuses of Lower Lip. H. S. Clogg.

20. **Hematuria in Infants.**—Parkinson reports a case of infantile scurvy in which hematuria was the only obvious sign of the disease, although on closer examination other signs were discovered. In another case, a congenital renal tumor caused hematuria, while in a third, hematuria followed scarlet fever. In the latter case Parkinson found dry cupping over each kidney of great value in checking the hemorrhage.

22. **Congenital Sinuses of Lower Lip.**—The child, whose case is reported by Clogg, was born with a severe degree of bilateral hare-lip and cleft palate; the premaxilla stood out prominently. The latter was broken and bent backward, and the upper lip repaired over it. The interesting condition was, however, seen on the lower lip. On the upper surface of this lip on either side of the middle line was a papilla; the two papillæ were symmetrical, and surrounding them in the form of a semicircle on the aspect toward the mouth was a groove, and leading from this furrow was a sinus, which passed downward into the lip for about a quarter of an inch. The two sinuses ended blindly, converging slightly, and were situated immediately beneath the mucous membrane of the lip. Issuing from the sinuses was a mucoid secretion.

The Practitioner, London.
March.

23 Diagnosis and Treatment of Infective Throat Conditions. M. Young.
24 *Sphincteric Control of Male Bladder and Its Relation to Prostatectomy. C. A. Ball.
25 *Hemoptysis and Its Treatment. P. S. Hichens.
26 *Cesarean Section. A. J. Wallace.
27 *Postpartum Hemorrhage. E. H. Tweedy.
28 Embolism. A. Hall.
29 *Antiseptic Action of Metallic Sutures. C. Leedham-Green.
30 Measurement of Neck of Femur. J. H. Pringle.
31 *Physical Methods of Treating Heart Disease. A. G. Bennett.
32 Diseases of Stomach. F. C. Moore.

24. **Sphincter in Control of Bladder and Prostatectomy.**—It is well known that after prostatectomy, the control of micturition is usually somewhat abnormal at first, but quickly becomes apparently normal. Ball thinks that this is probably owing to the compensatory powers of the compressor urethræ muscle. He says that whether or not the internal sphincter of the bladder acts after suprapubic prostatectomy is a point which must be ascertained by necropsies on patients some years after the operation. But it seems quite incorrect to argue, he says, from operations on patients with enlarged prostates, that the chief sphincter of the bladder normally lies in the membranous urethra.

25. **Treatment of Hemoptysis.**—Hichens advises putting the patient to bed in a cool, airy room, in a propped-up position, giving him an injection of morphin, letting him have some turpentine to inhale, and reassuring him of a favorable outcome. The patient should be put on a calcium chlorid mixture, have his bowels kept well open by a saline purgative, have a cool and partly dry diet, and ice to suck to relieve thirst. If the hemoptysis is persistent, or recurrent, Hichens would use nitroglycerin.

26. **Cesarean Section.**—Wallace has done a Cesarean section sixteen times, the indication for interference being deformity of the pelvis in 13 cases and obstruction by tumors in three cases. The 13 operations for pelvic deformity were performed on nine women, six of whom underwent section once, two twice, and one thrice. In the three cases, in which tumors formed the obstacle to delivery, obstruction was offered by advanced carcinoma of the cervix of the uterus in one case, by a large intraligamentous fibroid in another, and by a dermoid cyst of the left ovary in a third. Of the 16 operations, one resulted fatally to the mother, so that the maternal mortality was 6.25 per cent. All the children were delivered alive, but one survived only a few hours. The maternal fatality was due to sepsis, the result of several attempts at delivery before Cesarean section was done.

27. **Postpartum Hemorrhage.**—Tweedy subscribes to the efficiency pressure exerted on the abdominal aorta as a means of temporarily controlling postpartum hemorrhage.

28. **Embolism.**—Hall discusses multiple embolic aneurisms and fatal pulmonary embolism, citing cases in illustration.

29. **Antiseptic Action of Metallic Sutures.**—In the case of the majority of the metals tested by Leedham-Green as to their antiseptic action, the presence of a wire loop in gelatin inoculated with the staphylococcus aureus seemed to have little or no influence on the growth of the micro-organism. On the other hand, it was evident that some of the metals had a distinct and powerful inhibitory action on the growth of the germ. In these cases, the culture medium in the immediate neighborhood of the wire loop remained free from bacterial growth, thus forming a clear, transparent halo about the metal ring. Gold, platinum, tin, magnesium, nickel, lead, silver and aluminum were found to possess practically no inhibiting power. Iron exhibited a variable action, dependent on whether oxidation was favored or hindered. If no oxidation took place, then no inhibitory action could be detected; when there was free oxidation, the inhibitory action was decided. By far the most powerful of the metals, bactericidally, proved to be copper, and in a less degree (according to the percentage of copper used in their composition), its alloys, bronze and brass. Similar experiments were made with screws and nails, and the results were the same as in the case of the wire.

31. **Methods of Treating Heart Disease.**—In this, the third paper of the series, Bennett discusses the matter of diet, what to eat, how to eat, and how to prepare properly what we eat.

Dublin Journal of Medical Science.

March.

33 *Treatment of Gastric Ulcer. J. Little.
34 *Treatment of Non-malignant Gastric Ulcer. C. Ball.
35 *Gastric Ulcer: Its Diagnosis and Treatment. J. A. Lindsay.
36 *Treatment of Gastric Ulcer from Surgical Standpoint. A. B. Mitchell.

33. **Treatment of Gastric Ulcer.**—Little says that during his practice before gastric ulcer was made a disease for surgical intervention, all his knowledge of the appearances of gastric ulcers was gained by seeing them in cases which had become fatal from perforation. In other words, he can not recollect a case in which gastric ulcer ended fatally either by gradual exhaustion, or by hemorrhage. He says that with some exceptions the remedy for gastric ulcer is confinement to bed. Diet and medication are of some importance, but the kind will vary with the individual case. Little says that doubt as to the value of surgery in the treatment of bad stomachs has been somewhat suggested by the fact that of late years a few people have consulted him for stomachs which still gave them great trouble, and when noting the principal signs he found that there was a scar, five inches long, in the linea alba.

34. **Treatment of Non-Malignant Gastric Ulcer.**—Ball urges that all cases of uncomplicated gastric ulcer which have had a reasonable trial of treatment by rest and limited diet without very marked improvement, should be subjected to gastroenterostomy. He prefers the posterior operation.

35. **Gastric Ulcer.**—Lindsay says that the physician should recognize that the intervention of surgery in the treatment of gastric ulcer has been of great value, and that he should be careful not to postpone too long his appeal for assistance to a surgical colleague. He should seek that assistance in most, if not all, relapsing and chronic cases. On the other hand, the surgeon should recognize that his assistance is required only in a minority of such cases; that a full, and even patient trial of medical measures is always the first duty, and that he should be chary of mere exploratory operations.

36. **Id.**—In Mitchell's opinion, exploratory operation is an unscientific proceeding. He says that there should always be some definite diagnosis, and that operations should be undertaken with a deliberate object in view. It is wrong to open the abdomen, to see whether it ought to have been opened. He thinks that a properly performed gastrojejunostomy may be relied on to cure 90 per cent. of the patients, and that those in whom failures occur will be found to have some other ailment militating against success. He says that after a fair trial of medical treatment without satisfactory results, operation should be considered before the health of the sufferer is undermined and the stomach so deformed or adherent as to require some elaborate and dangerous surgical procedure.

Semaine Médicale, Paris.

37 (XXVII, No. 7, pp. 73-84.) *Torsion of the Great Omentum. (Torsions du grand épiploon.) F. Lejars.
38 (No. 9, pp. 97-108.) *IsThere Such a Thing as Acute Dilatation of the Heart? (Existe-t-il une dilatation aigue du coeur?) L. Cheinisse.
39 *In What Conditions Has a Physician the Legal Right to Employ a New, Non-authorized Serum. (Droit d'employer un sérum nouveau non autorisé.)
40 (No. 10, pp. 109-120.) *Decapsulation of the Kidney in Treatment of Eclampsia. (Décapsulation du rein dans l'éclampsie.) R. de Bovis.
41 (No. 11, pp. 121-132.) *Importance of Arterial Hypertension in Diagnosis and Prognosis of Eclampsia. (Ecl. puerp. et tension artérielle.) H. Vaquez.

37. **Torsion of the Great Omentum.**—Lejars reports what he thinks is the first case of volvulus of the great omentum diagnosed before operation. In the 66 cases on record, he says, the volvulus occurred in the majority with a right inguinal hernia, in others with an empty hernia or without hernia. His patient was a man of 37, sent to the hospital on a diagnosis of appendicitis at the eleventh day. He had had right inguinal hernia for 20 years, kept under control with a truss, and was suddenly seized with colic and diffuse pain throughout the abdomen, vomiting and slight rise in temperature. There was no constipation, and the pain finally settled in the right iliac fossa and flank. A large rounding mass could be palpated in the right half of the abdomen, extending from the crural arch to above the umbilicus. It was doughy, slightly nodular, nowhere fluctuating, and palpation was uniformly painful. Below, the tumor seemed to be connected with the contents of the hernia by a thick cord crepitating a little under the finger but not tender. There was dulness over the entire region occupied by the tumor and the hernia. By this time there were no reactions, no nausea, stool was apparently normal and temperature only slightly above normal. The connection between the hernia and the mass in the abdomen and the comparative mildness of the symptoms suggested the diagnosis of volvulus of the great omentum, which was confirmed by the operation. The part of the omentum involved in the hernia was twisted and again, close to the transverse colon, where the entire mass had twisted three times on its axis. The torsion at this point was readily corrected and the mass was cut away just above. The appendix was adherent to the mass and was removed with it. The wound was sutured over two small drains and the patient rapidly recovered. A hernia offers favorable conditions for the development of volvulus of the omentum, even if the hernia becomes spontaneously corrected in time, although seven cases are on record in which the torsion was entirely intra-abdominal, with no tendency to hernia. This group includes Stewart's case, published in The Journal, March 19, 1904. The evolution of a volvulus of this kind is generally slow, and the reactions mild, but nevertheless the condition is a grave one and may terminate in gangrene or complete detachment of the omentum from rupture of the twisted pedicle. In the 66 cases on record seven of the patients died. It is wise to operate at once when the condition is recognized, as adhesions grow constantly more numerous and harder to detach. It is also wise to examine the omentum up to the transverse colon, as there may be torsion at more than one point. In von Eiselsberg's case the volvulus in the hernia was resected, but at autopsy it was found that the omentum was twisted at three other points above, not suspected at the operation. He states that the entire "tumor" must be removed into sound tissue, even if it requires the ablation of the whole of the omentum.

38. **Acute Dilatation of the Heart.**—Cheinisse discusses whether or not it is possible for a sound heart in a healthy person to become suddenly dilated as a result of overexertion and then to subside rapidly again to normal. He reviews the recent literature on the subject of physical exertion and its effects on the heart as studied by various measures, including

radioscopy, and concludes that the evidence is rather against the possibility of physical exertion producing acute dilatation of a sound heart in healthy individuals. On the other hand, the evidence shows that this is liable to occur in case of sudden emotional stress, especially in neurasthenics. Cheinisse has already demonstrated that emotional stress, intense anxiety, is able to induce the development of acute organic affections of the nervous system, and he thinks that somewhat the same mechanism explains the acute dilatation of the heart observed in apparently healthy individuals. Marmorstein reported last year two such cases caused by the rioting at Odessa. The patients were Jews, and the emotional shock at the spectacle of murder and pillage in their homes induced acute dilatation of the heart, which subsided after a few hours. Both of these patients had a history of neurasthenia. The cases resemble those related by Kress in which acute dilatation of the heart was observed in two neurasthenics in the course of transient psychic disturbances. The emotional stress acts on the vasomotor nerves, the arterial spasm inducing a hypertension which reacts on the myocardium. It is also possible that the moral shock has, further, a direct action on the centers regulating the innervation of the heart. The suddenness of the moral shock annuls the power of adaptation which protects the heart against physical overexertion under the circumstances.

39.—See news item in The Journal for March 16, page 958.

40. **Unilateral Decapsulation of Kidney in Treatment of Eclampsia.**—De Bovis adds another to the five cases of eclampsia of which he has knowledge in which Edebohls' technic of decapsulation of the kidney was applied. His patient was a frail young woman with traces of albuminuria when she entered the hospital in labor at term. Four hours after 10 hours of labor and normal delivery, eclamptic convulsions occurred and returned about every hour, with 17 spasms in all between 9 a. m. and 6 the next morning. At this time the patient was still unconscious and extremely restless, with incontinence of urine, pulse 90, the lungs slightly congested, the face moderately cyanotic. The operation of decapsulation according to Edebohls' technic was performed at 10 a. m. on one kidney; consciousness returned by 5 p. m. and recovery was soon complete. This is the first case of unilateral decapsulation in eclampsia on record. In this case and in two others there were no signs of "renal glaucoma," as the condition of extreme congestion and hypertrophy of the organ has been aptly called. The kidney was smaller than usual, with a large ecchymosis on the convex side. There was not the least tendency to hemorrhage, so that the benefit could not have been due to loss of blood. The aim is to aid the functioning of the kidneys and an operation on one kidney alone might be sufficient, as in the case reported. De Bovis is inclined to believe that nephrotomy should be reserved for the cases with anuria or extreme oliguria. He cites Büttner's statistics, taken from the midwives' register in Mecklenburg, showing the mortality in 509 cases of eclampsia: During pregnancy, 4.5 per cent. of 22 cases; during labor, 24.4 per cent. of 323 cases, and after delivery, 30.4 per cent. of 164 cases. These figures justify intervention, he thinks.

41. **Eclampsia, Result of Arterial Hypertension.**—Vaquez reviews the various theories in vogue in regard to the etiology of eclampsia and points out their fallacies. None of them, he says, has taken account of the main and essential feature of eclampsia, the arterial hypertension, which he regards as the essential symptom, testifying to vascular disturbances whose existence and importance have heretofore been disregarded. Lesions in the liver or kidneys are not constant, and, when present, are the result of the disturbances which they are supposed to explain. The origin of the hypertensive vascular spasms which are the essence of the eclampsia, causing the convulsions and the modifications in the viscera, is still a mystery. The most plausible hypothesis ascribes it to some disturbance in the vascular glands, the thyroid, suprarenals or chromophile glands, which regulate the arterial pressure and which have such an important influence on the genital sphere in women (puberty, menstruation and menopause). During the last 10 years he has been studying the arterial pressure in cases of eclampsia, and with the Basch-Potain sphygmomanometer has always found it from 10 to 14 cm., mercury, higher than normal. When the sphygmomanometer reveals a great increase in the arterial tension the convulsions are not long in making their appearance. If the tension persists high, further trouble may be anticipated. The hypertension does not depend on the convulsions, but precedes them. In one case a woman had apparently recovered from puerperal eclampsia a month before, but intense headache and maniacal excitement persisted. The arterial tension remained high—23 cm.—and in a few days the patient died in delirium, after a few terminal convulsions. Another patient who had exhibited only symptoms of impending eclampsia, with persistent high arterial tension, succumbed three weeks later to sudden meningeal hemorrhage, complaining in the interim only of recurring headache. In cases with a favorable prognosis, the arterial tension rapidly subsides nearly or quite to normal, with a few transient rises at times. The patient may succumb after the arterial tension has returned to normal and all convulsions have long ceased, as the extremely high tension may have induced irreparable lesions at some point.

The practical conclusions of Vaquez' long article are that it is necessary to examine the blood pressure as systematically as the urine in case of threatening eclampsia, both for diagnosis and for prognosis. He affirms positively that eclamptic convulsions will never be encountered in women with normal arterial tension, while they may be apprehended whenever the arterial tension is found unusually and persistently high. There is no hypertension, he states, in physiologic pregnancy and parturition. Among the signs of hypertension are the accentuation of the second aortic sound and dilatation of the arch of the aorta. Percussion may also disclose dilatation of the left ventricle, and examination of autopsy records will show that hypertrophy of the left ventricle is frequently encountered in eclampsia. Both this and the dilatation of the aorta do not appear until the hypertension has lasted for some time, consequently they generally indicate, when found, that the hypertension has long preceded the vascular spasms and the eclampsia. In one case a woman had a pressure of 25 cm. when she entered the maternity and eclampsia was apprehended. Delivery occurred the next day, followed by eclampsia which soon terminated in fatal coma. Sometimes the high arterial tension is accompanied by amaurosis, tetany, mania or the like, without actual eclamptic spasms, although the tension may be at 25 or 27 cm. On the other hand, a tension of only 18 or 19 may coincide with true eclampsia, but it generally rapidly subsides in this case and the tension drops gradually to normal (13 or 15 cm.).

The modifications in the heart and vessels noted in impending or established eclampsia are not peculiar to this affection. They are encountered likewise in uremia, especially in the form with convulsions, and in lead colic even when there is no suspicion of kidney trouble. The modifications in the vascular system and heart are merely the expression—equally significant in eclampsia, convulsive uremia and lead colic—of the abnormally high arterial tension. Sudden and rapidly subsiding amaurosis, certain forms of tetany, the maniacal delirium of pregnancy and after parturition, and the cases of "eclampsia without convulsions," are all links in the chain of eclampsia, all depending on the arterial hypertension. In eclampsia these various manifestations may all be crowded into a few hours, while in uremia they may string along through months and years. There is no other affection, Vaquez adds, accompanied by such high arterial tension as eclampsia, and there is no other which is so habitually characterized by hemorrhagic phenomena.

Toxic or infectious processes have been supposed to be responsible for the hemorrhagic foci, but Vaquez thinks that they are explained much better by mere mechanical conditions. When the arterial pressure rises in a few days from 14 to 26 or 28 cm., actually doubling, the only cause for wonder is that the vessel walls do not rupture even more frequently. This is probably due to the fact that eclampsia generally occurs in young women with sound vessel walls, able to stand considerable strain. When rupture does occur, the amount of blood that escapes is usually in proportion to the degree of arterial tension. What he calls "meningeal epistaxis" is extremely frequent in eclampsia, revealed by the presence of red corpuscles in the cerebrospinal fluid even when there is no copious hemorrhage in the membranes. Ménétrier has recently reported a case of lead poisoning with convulsions in which the blood pressure measured 27 cm., without a trace of organic lesions to be discovered at autopsy. Vaquez believes that nothing but mechanical conditions will explain the sudden onset of the kidney disturbances in eclampsia, their intensity and the rapid return to normal—this "eclipse of the kidneys," as he calls it. In one case reported, the urine contained 0.5 gm. of albumin the first day; 62 gm. the second; 37 gm. the third, and 0.2 gm. the fourth day, with a corresponding increase and decline in the proportion of acetone and bile pigments and normal conditions by the fourth day. Any individual who has had repeated attacks of arterial hypertension from vascular spasm is threatened with chronic hypertension in after years, as he shows by examples from his clinical experience.

Archiv f. Gynaekologie, Berlin.

Last indexed, page 838.

42 (LXXXI, No. 1, pp. 1-270, *F. A. Kehrer Festschrift.*) *Chemical Differences Between Human and Cow's Milk. (Chem. Unterschiede der Menschen- und Kuhmilch.) P. Biedert.
43 *Abdominal Cesarean Section in Comparison with Other Operations in Case of Contracted Pelvis. (Suprasymphysäre Entbindung.) F. Frank.
44 *Physiology and Dietetics of Third Stage of Labor. (Nachgeburtsperiode.) K. Heil.
45 Two Cases of Complication of Pregnancy with Wandering Spleen. (Schwangerschaft, Geburt und Wochenbett bei Wandermilz.) K. Heil.
46 *Importance of Icterus During Pregnancy for Mother and Child. (Bedeutung des Ikterus für Mutter und Kind.) E. Kehrer.
47 Physiologic and Pharmacologic Researches on the Isolated Uterus. (Untersuchungen an den inneren Genitalien.) Id.
48 Three Cases of Repeated Ectopic Pregnancy. (Wiederholte ektopische Schwangerschaften.) Kuppenheim.
49 Embryonal Deductions from Case of Uterus Bicornis and Bipartitus. (Uterus bicornis—subseptus—unicollis cum vagina subsepta.) J. Schottlaender.
50 Regulations in Prussia for Notification of Suspected Cases of Puerperal Fever. (Anzeigepflicht für Puerperalfieber.) O. Zillessen.

42. **Chemical Differences Between Human and Cow's Milk.**—Biedert reviews the progress made since he presented an inaugural thesis on this subject 40 years ago, the first ever devoted to this theme, he believes. It was prepared under Kehrer's supervision and, among other points, emphasized the necessity for chemical examination of infants' stools as a guide to treatment. This will differentiate at once the cases in which the digestion of fats is defective from those in which fat digestion proceeds normally. The former require abstention from fat, while the latter thrive on it.

43. **Abdominal Cesarean Section in Comparison with Other Operations for Contracted Pelvis.**—Frank reports 13 cases in which he performed this operation. All the patients had been manually examined with little regard to asepsis before entering the maternity. The results of the operation were excellent in every instance. He regards delivery by the abdominal route as affording more favorable conditions for the mother than delivery by the natural passages later if accompanied by much trauma. This is particularly evident in already infected cases, as he shows by examples. Abdominal delivery he thinks is free from danger, comparatively speaking, and he believes it is destined to prove the standard procedure in cases of contracted pelvis. He recognizes certain indications for the pelvis-enlarging operative measures, but adds that unforeseen mishaps are liable to occur, as he knows from personal experience. The degree of contraction of the pelvis is immaterial for Cesarean section, and febrile conditions are no contraindication. The operation is not able to cure infection in the uterus any more than other measures, but the child is saved, fatal septic peritonitis is avoided, and better conditions are afforded for combating the uterine infection than by any other technic.

44. **Physiology of Third Stage of Labor.**—In Heil's experience with a series of 120 parturients the placenta was ready to be expelled within thirty minutes after the birth of the child. He tabulates the findings according as the uterus was still contracted and like a ball, or as it had "flattened out." He concludes that it is not advisable to wait longer than half an hour for expression of the placenta in case of physiologic delivery and, in the interests of the rest-requiring parturient, it is not desirable. He examines in from 10 to 15 minutes after delivery to see whether the uterus is still contracted into a ball or has flattened out. In case of the latter finding, it can safely be assumed that the placenta can be readily expressed at the end of the half hour. He regards this flattening of the uterus as a sign of the descent of the detached placenta into the passage below, and fully as reliable an indication as the lengthening of the umbilical cord.

46. **Importance of Icterus During Pregnancy.**—E. Kehrer adds another to the 11 cases on record in which catarrhal icterus developed during the course of a pregnancy. His patient had long suffered from occasional slight icterus, and it assumed serious proportions at about the sixth month of her first pregnancy. The case is distinguished by the prolonged catarrhal icterus, the severity of its manifestations and accompanying cutaneous hemorrhages, pruritus and diarrhea, by the hemorrhagic diathesis observed in the child—observed likewise in Frank's case—and by the signs of mild osteomalacia and crural neuritis during the puerperium. The icterus vanished after delivery. In 2 other cases icterus coincided with uncontrollable vomiting, albuminuria and ptyalism in pregnant young women. The icterus of pregnant women is a serious condition on account of the cholemic hemorrhages, the loss of sleep from the itching, the emaciation from lack of appetite and from diarrhea, the liability to periods of excitement and to infection from scratching the itching skin, and also the tendency to osteomalacia and neuritis from the elements of the bile circulating so long in the blood. But the condition is still more dangerous for the child in some cases. Premature delivery occurred in 26 out of the 30 childbirths of 8 women with this icterus during pregnancy. In only 2 cases did delivery occur at term, and only 11 of the 31 children were born alive. In another group of 7 cases of catarrhal icterus, cholecystitis or cholangitis, only 4 of the children were born alive, and one was scarcely viable. Lomer collected from the literature 57 cases of catarrhal icterus plus acute yellow atrophy of the liver in pregnant women, and the intrauterine death of the fetus was noted in 45 cases. Kehrer regards it as strange that pediatrists writing of the hemorrhagic diathesis in children never mention whether or not the mothers had icterus during the pregnancy. In 28 cases the child of a mother with icterus and acute yellow atrophy of the liver presented no signs of icterus, while in 7 other cases congenital icterus was observed also in the child. Experimental research is further related which shows that the healthy placenta in laboratory animals does not allow the passage of the elements of the bile to the fetus, but responds with extreme hyperemia to the intoxication of the maternal organism. In treatment, the usual measures for icterus are advised if the condition does not last more than two or three weeks. If it persists longer than this or increases in intensity, it is much better to induce delivery and to rear the child in an incubator with a wet nurse than expose it to the almost certain danger of the hemorrhagic diathesis or icterus, as every day new amounts of the elements of the bile are being poured into it, poisoning its blood more and more. As the bile acids pass into the milk of women with icterus, it is best to substitute the milk of some other woman, even when the children are born apparently sound. Some substance that will neutralize the bile salts in the maternal blood may yet be discovered, but, he states, none is known as yet.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

51 (XXXIII, No. 7, pp. 249-288.) Treatment of Impotence. (Impotenz.) Fürbringer.
52 *Proteolytic Ferment Action as Differentiating Test for Suppurations. (Müller-Jochmann'sches Verfahren.) H. Kolaczek and E. Müller.
53 Hay Fever in 1906. (Erfahr. über das Heufieber.) A. Wolff-Eisner.
54 Great Value of Calomel as Antiseptic in Obstetrics. (Antiseptik in der Geburtshilfe.) Theopold.
55 Later Literature on Dilatation of Pregnant Uterus. (Künstliche Erweiterung des Uterus.) J. Klein.

56 Protecting Devices for Roentgen Room. (Schutzvorrichtungen.) F. Davidsohn.
57 How to Prescribe Protargol. (Rezeptur des Prot.) F. Goldmann.
58 Causes of Inhibition of Growth of Bacteria in Cultures. (Ursache der Wachstumshemmung.) C. Eijkman.
59 (No. 8, pp. 289-328.) Breast Nursing in Medical Practice. (Natürliche Säuglingsernährung.) H. Neumann. Postgraduate lecture.
60 *Epidemic Cerebrospinal Meningitis. (Genickstarre.) Knauth.
61 Inefficacy of Atoxyl in 2 Cases of African Relapsing Fever. (Wirkung des At. bei afrik. Rückfallfieber.) A. Breinl and A. Kinghorn.
62 *Metastases of Hypernephroma. (Hyperneph.-Met.) E. Hoffmann.
63 *Treatment of Hemorrhoids with Injections of Alcohol and Carbolic Acid After Temporary Wire Ligature. (Behandlung der Häm.) E. Franck.
64 Corset for Scoliosis with Pressure from Interposed Rubber Sponges. (Neues aktives Korsett.) Heermann.

52. **Differentiation of Pus of Various Origins by Proteolytic Ferment Action.**—This article describes further applications in the clinic of the Müller-Jochmann test for differentiation of pus by the proteolytic action of the ferments. The test is proving extremely reliable, the high temperature insuring the sterilization of the material and hastening the action of the ferment. A few drops of the pus to be examined are placed on the smooth surface of a Loeffler plate, that is, a Petri dish containing a rather thick layer of hardened beef or sheep serum. The plate is then placed for 24 hours in an incubator at 122 or 131 F. In case the pus contains a proteolytic ferment, each droplet digests the serum below it and the result is a little hollow at the point of contact. In case there is no proteolytic ferment present, the droplets merely dry on top of the serum with no tendency to hollow it out. This is what is always observed in case of pus from pure tuberculous processes. More than 100 tests with pus from carbuncles, acute gonorrhea, appendicitis and dozens of other affections, all induced by cocci or colon bacilli, invariably showed pronounced proteolytic digestion and consequent dimpling of the hard serum on the Loeffler plate. The lack of evidences of pronounced proteolytic ferment action is therefore a sign of a pure tuberculous process. The presence of the proteolytic action, however, does not exclude tuberculosis, as there may be mixed infection or the findings may be disturbed by preceding iodoform treatment, or by admixture of fresh blood.

60. **Epidemic Cerebrospinal Meningitis.**—Knauth reviews the experiences of the last thirty years in the Bavarian army in regard to epidemic cerebrospinal meningitis. He ascribes it to various causal agents in different epidemics, the pneumococcus cases being apparently the least serious, although commencing with an unusually stormy onset.

62. **Metastases of Hypernephroma.**—Hoffmann reports 2 cases in which a hypernephroma had developed in the kidney without attracting attention. The patients applied to a physician only when metastatic affections in the bones or elsewhere were observed. In the few similar cases on record the bone affection was assumed to be primary and was treated as such. In Israel's case two small lumps in the ribs were the first signs of trouble. Albrecht has also reported 4 cases out of 28 of hypernephroma in which a tumor in the bone was the first lesion noted. In these cases, the tumor was removed on the diagnosis of myelogenic sarcoma or tuberculous osteoperiostitis. With Hoffmann's first patient, pains in the legs and shoulders were the first symptoms, explained by small tumors discovered at the autopsy with numerous other metastases in the spleen, pleura and elsewhere. In the second case, a tumor at the entrance of the urethra, another in the vagina and a third on the inner surface of the thigh were found at the first examination, and the structure of the latter tumor was found to be similar to that of a hypernephroma. These experiences suggest the importance of bearing the possibility of hypernephroma in mind when consulted on account of a tumor, especially a tumor in the bone, by a patient past 50, even when no local or remote symptom points to a kidney tumor.

63. **Treatment of Hemorrhoids.**—Franck applies a polyp snare to the nodule, under local anesthesia, and slowly tightens the wire loop around the base of the nodule until it becomes extremely congested. Holding the loop tight in the left hand, he injects with the other hand from one-fifth to one-third of the contents of a Pravaz syringe filled with 50 per cent. carbolized alcohol. In from 5 to 10 minutes the nodule has hardened completely under the influence of the injection and the constricting loop is then loosened, and the next nodule attacked. He advocates this technic for all chronically inflamed or bleeding hemorrhoids when there is any hesitation about applying general anesthesia. Deep fissures are the only contraindication; they require cauterization. The use of the polyp snare renders the operation much simpler and easier than when a silk ligature is used.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed, page 652.

65 (LXV, No. 1, pp. 1-128.) *Alimentary Intoxication in Infancy. (Al. Intox. im Säuglingsalter.) H. Finkelstein.
66 *Development of Children Who Had Convulsions During Infancy. (Entwicklung eklamptischer Säuglinge in der späteren Kindheit.) M. Thiemich and W. Birk. Concluded in No. 2.
67 Pathogenesis of Bone Changes in Infantile Scorbutus. (Knochenveränderungen bei Morbus Barlow.) G. Schmorl.
68 *Operative Treatment of Diphtherial Stenosis of the Larynx in Infants. (Op. Beh. der Diph.-Stenosen des Kehlkopfes bei Säuglingen.) W. Moltschanoff.
69 Pathology of Infantile Scorbutus. (Barlowsche Krankheit.) M. Flesch.
70 (No. 2, pp. 129-262.) *Tuberculosis of the Flat Bones of the Skull. (Tub. der platten Schädelknochen.) M. Reber.
71 *Obstipation in Consequence of Kinking of Intestine. (Obstipation infolge Darmabnickung.) R. Pfisterer.

65. **Alimentary Intoxication in Infants.**—Finkelstein relates his experiences in years of research on this subject, with special regard to the collapse, disturbances in consciousness, peculiar change in the rhythm of respiration, alimentary glycosuria, fever, diarrhea, albumin and tube casts in the urine, abrupt decline in weight and leucocytosis. The presence of these nine factors in the clinical picture is indispensable for the conception of what he entitles "alimentary" intoxication. The leucocytosis approaches but seldom reaches 30,000. The respiration is deeper and faster, and the gestures, instead of the "angular," rapid movements of health, become rare, languid and "rounded;" the corners of the mouth are drawn down; the arms and legs take unusual positions, sometimes stretched out, sometimes drawn up, relaxed or rigid. The lower blood pressure brings a livid tone to the complexion, with shadows around the eyes. It is important to see the child at rest to detect this intoxication in its incipiency; when the child is aroused these signs alter. The stools may be approximately normal even with these symptoms of serious intoxication. The sugar in the urine and the deep breathing differentiate this intoxication from the numerous infectious diseases which may be accompanied by some of the other signs. He suggests that these two signs may also prove useful for differentiating in adults brain affections from disturbances due to autointoxication, such as acetonemia and dyspeptic coma. In infants the appearance of the pathognomonic symptom-complex is an indication that a new specific process is going on in the organism. It is liable to be followed by specific, profound modifications of the metabolism. All the functions suffer, as he relates in detail. The intoxication is the expression of a regular reaction of the organism which always occurs when injury from any cause, such as an infectious affection or process or any deleterious influence, reaches a certain intensity. The intoxication is not the work of bacterial toxins, but of metabolic toxins; a sharp distinction should be made between them in this respect. Research is needed on the nature of the substances inducing the intoxication. The conditions are somewhat similar to those observed in uremia.

66. **Later Development of Children Who Have Had Convulsions During Infancy.**—Thiemich and Birk have traced the later history of 64 children known to have had convulsions in infancy. The only similar work which they have found in the literature was Bullard and Townsend's article in 1901, and this does not distinguish between the various kinds of convulsions, but lists all that are not true epilepsy. By "eclampsia *infantum*" Thiemich understands epileptiform convulsions, of the entire musculature, sometimes occurring in series, but lasting only a few minutes each time, with loss of consciousness, and, during the intervals, marked signs of "spasmophilia," such as tetany, laryngospasm, with the Trous-

seau or facial sign, or morbidly increased electric excitability. In the 64 cases reported, the onset of the eclampsia always followed metabolic disturbances. Only 2 of the children were even partially breast-fed. Dietetic measures were the main reliance in treatment, supplemented usually by phosphorus cod-liver oil. In 37 per cent. heredity was an unmistakable factor in the convulsions, and in 13 per cent. there was neuropathic heredity—a total of 54 per cent. of proven heredity. No instance of epilepsy was found in the parents or family of any of the children. Two-thirds of the children were found later to be below the average of intelligence or morals, and some of the others are only children. The writers add that the fact of being an only child, as is well known, affords a predisposition for nervous affections. An only child sometimes is helped at home with his studies, thus enabling him to be rated as normal at school—to the child's great disadvantage, as he succumbs sooner or later to the mental strain. Many an early maturing only child, who ranked high in his early school life, falls far below the average later, if he does not end as a "psychopath." The later development of the children with laryngospasm alone did not differ in any respect from that of the children with pronounced eclampsia. Only a very small percentage of the eclamptic infants developed into normal children.

68. **Operative Treatment of Diphtherial Stenosis of the Larynx in Infants.**—Moltschanow reviews the experience at Moscow with intubation in laryngeal stenosis from diphtheria. Out of a total of 193 intubated children, 21 were less than a year old. Ten of the infants recovered.

70. **Tuberculosis of the Flat Bones of the Skull.**—Reber reports 24 cases in children. None was under a year old, but 12 were between 1 and 2, and 11 between 2 and 10. In 134 cases recorded in the literature, the age is mentioned in 105, and 46 of the patients were between 10 and 20, 37 between 20 and 30, only 9 under the age of 2, while 5 were between 30 and 40, and 5 between 40 and 60. In his own experience with 24 cases, 11 of the patients were clinically cured in a comparatively short time; recent reports from 9 show that the cure was permanent, and also that concurrent tuberculous lesions elsewhere were also permanently cured at the same time. In 5 cases large depressions were left in the bones, but in one case regeneration of the bone was complete. The mild cases healed without local treatment. Others required puncture and injection of iodoform emulsion or scraping and resection far into sound tissue. Multiple tuberculous foci were found in all the cases that terminated fatally, and in 61 of the cases on record.

71. **Obstipation Due to Kinking of Intestine.**—Pfisterer was able to differentiate and to relieve this condition in a boy of 6. In an infant the presumptive diagnosis was confirmed by the postmortem findings. In the other case, the sigmoid flexure must have been unduly long, as whenever the child was allowed to go a day or so without a movement of the bowels, signs of complete occlusion rapidly developed, which yielded, however, to castor oil and copious rectal injections. As the intestine straightened out, the child experienced sudden sharp pain, after which the stools passed readily. The parents were instructed to supervise the child's intestinal functions and this put an end to further trouble. The anatomic conditions in early childhood favor this kinking of the intestine, and any disturbance in the digestive organs is liable to cause trouble from this source. The sigmoid flexure in children kinks easily, and the space in the pelvis, especially in boys, is contracted in comparison to the conditions in the adult. Rectal examination is important for differentiation, also the fact that large amounts of fluid can be introduced without its flowing out again. Fluid passes readily upward, but the valve-like closure of the kinked intestine prevents its escape. Pfisterer is convinced that a large proportion of the cases published as Hirschsprung's disease were, in reality, merely the result of this kinking of the intestine, generally at the sigmoid flexure, or the result of some primary or secondary anomaly in the mesentery. The assumption of a congenital deformity is sustained by the finding of other congenital malformations elsewhere.

Mitteilungen a. d. Grenzgebieten der Med. u. Chir., Jena.

Last indexed, page 1069.

72 (XVII, Nos. 1-2, pp. 1-248.) *Etiology of Appendicitis. R. Kretz.
73 *Gas in the Urine. (Pneumaturie.) C. Adrian and A. Hamm.
74 *Experimental Study of Functions of Kidney Parenchyma Remaining After Extensive Resection. (Nierenreduktion und Funktion des restierenden Parenchyms.) H. von Haberer.
75 Pathologic Anatomy of Appendicitis. (Wurmfortsatzerkrankungen.) P. Schrumpf.
76 Case of Unilateral Congenital Defect in the Pectoral Muscle with Absence of Corresponding Mamma. (Pectoralisdefekt bei Amastie.) F. Loening.
77 *Diagnosis of Occlusion of Artery in Gangrene of the Foot. (Arterienverschluss bei Gangraena pedis.) L. Moszkowicz.
78 Pathology of Circulation in Thyroid Gland. (Schilddrüsenzirkulation.) T. v. Verebely.
79 Inflammation of the Cecum and Intestinal Catarrh. (Blinddarmentzündung und Darmkatarrh.) E. Siegel.

72. **Tonsils in Etiology of Appendicitis.**—Kretz presents arguments to sustain the assumption that an acute angina may lead to bacteriemia and the bacteriemia to phlegmonous appendicitis. During the last 5 years appendicitis was the cause of death in 53 out of the 3,579 autopsies at the Vienna Franz-Josef Hospital. In only 14 cases was the autopsy complete, but in each of these there were evidences of recent tonsillitis. His experience in the clinic also favors the assumption of a connection between tonsillitis and appendicitis. The trouble is almost invariably the work of streptococci. From their primary invasion of the tonsils, with resulting bacteriemia, may result appendicitis, osteomyelitis, endocarditis, pleurisy, meningitis or myositis. Physicians in general fail to realize the connection between these affections, Kretz remarks, but they belong in a single group not only because they are the work of a certain pyogenic micro-organism, but because they are connected epidemiologically by the common link "angina."

73. **Gas in the Urine.**—Adrian and Hamm devote this communication to the study of spontaneous gas formation in the bladder exclusively the work of gas-producing bacteria. Three such cases have been published and they have had 4 similar ones under observation for some time. The patients were 4 men and 3 women, between 23 and 66. Two of the women were pregnant. There was no glycosuria in any instance. Cystitis was present in every case. In 4 cases the colon bacillus was found in pure cultures, in 3 the *Bacterium lactis aërogenes*, once associated with cocci. The prognosis is dubious, especially for elderly persons. Experience with 2 of the cases suggests the probability of some serious affection of adjacent organs (cancer), favoring the development of the pneumaturia. The production of gas is probably due to bacterial decomposition of the albumin in the cystitic urine. Treatment can be only symptomatic, they say, as no efficient measures against bacterial pneumaturia are known.

74. **Behavior of Remainder of Kidney After Resection.**—Haberer reports experiments on 3 goats and 38 dogs in which resections of the kidneys were made, as extensive as possible and at as brief intervals as possible, with implantation of fresh kidney tissue when more of the kidney had been resected than was compatible with life. His research is described in detail with illustrations. He was surprised to find that no less than 9 of the supposedly healthy dogs presented pathologic changes in the kidneys at the first operation. Among other facts learned is that some animals are able to survive two resecting operations on the remaining kidney after nephrectomy, even when all 3 operations are performed within from 25 to 34 days. The death rate, however, is very high for this series of experiments. At the same time they show that it is possible for dogs to survive extirpation of one kidney and reduction of the size of the other kidney to two-thirds its size, all within a week, or reduction to one-half its size by two operations following the nephrectomy within a month. The experiments further demonstrate that mild bilateral pathologic changes are liable to retrogress completely in the remaining kidney after a nephrectomy. Whether or not resection of the remaining kidney will be tolerated can not be foretold, even with cryoscopy and the phloridzin test. The latter proved an excellent index of the functional capacity of the renal parenchyma present. Whether general anesthesia

can affect the findings of the phloridzin test is still undecided. Repetition of the phloridzin test within brief intervals does not seem to influence the findings, but this test never reveals an anatomic lesion until it has induced functional disturbance. It is even possible that causes outside the kidney may entail functional disturbances revealed by the phloridzin test. It was astonishing in the experiments related to note the almost complete absence of even transient general disturbances from removal of one kidney.

77. **Diagnosis and Treatment of Occlusion of Arteries in Gangrene of the Foot.**—The application of a tourniquet for 5 minutes with the consecutive active hyperemia as the blood rushes back into the parts has proved a valuable means of determining the conditions of the blood vessels in the region. With sound blood vessels the region becomes red and warm, while with occluded vessels the pallor persists or the skin only slowly returns to normal tint. Moszkowicz's experiments on the cadaver and in the clinic demonstrated that the occlusion of the artery was always localized by the stoppage of the return flow of blood at this point or just above. Further clinical experience is necessary to determine whether amputation can be done at this point or whether it is wiser to leave more space and to amputate a few inches above the point where the active hyperemia is arrested. Another important question yet to be decided is whether or not it might be wiser to take the flap on the side where the hyperemia extends farther downward. He first raises the leg to expel the blood, then applies energetic constriction with an elastic band, as high as possible on the limb, and leaves the tourniquet in place for five minutes. On removal of the band the circulation is rapidly restored throughout the limb, even in case of arteriosclerosis, if the blood vessels are permeable. When the circulation is seen to be sufficient all through the leg except at the toes, expectant treatment is indicated, allowing the toes to drop off as in case of gangrene from freezing, or the whole or part of the foot can be amputated. But if the circulation is seen to be arrested above, the leg should be amputated without delay, above the point where the active hyperemia is arrested. If amputation is refused, by repeating the test the course of the case can be supervised and the development of occlusion from thrombi higher up can be determined. The patients can see for themselves the results of the test, and it much simplifies matters. Even with mere narrowing of the arteries, as in case of intermittent claudication, the active hyperemia test gives very instructive findings. It will differentiate the true cause in many conditions at present erroneously attributed to joint affections, flat foot, varices or hysteria. In conclusion, Moszkowicz suggests that possibly by repetition of this procedure of induced active hyperemia, the lumen of the vessels might become enlarged or the development of collateral circulation be promoted. Other measures to induce active hyperemia, including cupping apparatus, might also be tried, although great caution is necessary, especially with superheated air.

Books Received

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Kapiolani Girls' Home, Honolulu, T. H., and Proposed Boys' Home, Waimea, Hawaii. Paper. Pp. 7. Honolulu: Gazette Co.

Informe Mensual Sanitario y Demografio de la Republica de Cuba. By Hon. C. E. Magoon and Dr. Carlos J. Finlay. December, 1906. Paper. Pp. 51. Havana, 1907.

Report of the President of the Board of Health of the Territory of Hawaii for the Six months Ending Dec. 31, 1906. Paper. Pp. 117. Honolulu: Hawaiian Gazette Co., 1907.

Molokai Settlement. Illustrated. Territory of Hawaii Villages Kalaupapa and Kalawao. Issued by the Board of Health of the Territory of Hawaii. Paper. Pp. 50. Honolulu: Hawaiian Gazette Co., 1907.

Report of the Board of Managers of the National Home for Disabled Volunteer Soldiers for the Fiscal Year Ending June 30, 1906. Half Leather. Pp. 538. Washington: Government Printing Office, 1906.

Epilepsy. A Study of the Idiopathic Disease. By William Aldren Turner, M.D., Edin., Fellow of the Royal College of Physicians of London. Cloth. Pp. 272. Price, $3.25 net. London and New York: Macmillan & Co., 1907.

Auscultation and Percussion, Together with the Other Physical Examinations of the Chest. By Samuel Gee, M.D., Fellow of the Royal College of Physicians. Fifth Edition. Cloth. Pp. 325. London: Smith, Elder & Co., 1906.

Hints on the Management of the Commoner Infections. By R. W. Marsden, M.D., M.R.C.P., D.P.H., Honorary Physician to the Ancoats Hospital, Manchester. Cloth. Pp. 128. Price, $1.50. New York: E. B. Treat & Co., 1907.

Muscles of the Eye. By Lucien Howe, M.A., M.D., Professor of Ophthalmology, University of Buffalo. In Two Volumes. Vol. I. Illustrated. Cloth. Pp. 455. Price, $4.25 net. New York and London: G. P. Putnam's Sons, 1907.

Letters on Psychotherapeutics. By Professor H. Oppenheim of Berlin University. Translated by Alexander Bruce, M.D., F.R.C.P.E., F.R.S.E. Paper. Pp. 60. Edinburgh: Otto Schulze & Co., New York: G. E. Stechert & Co., 1907.

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Race Culture; or, Race Suicide? A Plea for the Unborn. By Robert Reid Rantoul, Doctor of Medicine; Member of the Royal College of Surgeons, England. Cloth. Pp. 182. Price 7s. 6d. net ($1.87). New York: The Walter Scott Publishing Co., 1906.

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Text-Book of Embryology. For Students of Medicine. By John Clement Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. With 212 Illustrations. Third Edition. Thoroughly Revised. Cloth. Pp. 432. Price, $3.00 net. Philadelphia and London, W. B. Saunders Co., 1907.

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NEW PATENTS.

Recent patents of interest to physicians:

844855. Formaldehyd generator. Robert W. Dodge, Kansas City, Mo.
844335. Syringe. Joseph H. Dodson, Chicago.
844715. Evaporator. Andrew A. Dunham, Adams, N. Y.
844860. Purifying pyroligneous acid. James R. Garroway, Glasgow, Scotland.
844449. Inhaler. Maurice Green, New York.
844450. Rectal dilator. Charles R. Harris, Los Angeles.
844798. Surgical appliance. Louis B. Hawley, Rochester, N. Y.
844362. Invalid-bed. Samuel C. Kagarice, Sioux Falls, S. D.
844952. Eye-protector. Elie Mirovitch, Paris, France.
844544. Hypodermic syringe. Gustav R. Schimmel, Detroit.
844478. Catheter-users' mechanical assistant. James F. Spalding, Kansas City, Mo.
844632. Hospital tent. Henry B. Thompson, Philadelphia.
845696. Eye guard or shield. Harvey S. Cover, South Bend, Ind.
845400. Dropping bottle. Robert H. Ferguson, East Orange, N. J.
845733. Massage apparatus. George W. Fitz, Boston.
845455. Apparatus for removing hairs. Manley G. Fowler, Rochester, N. Y.
845303. Syringe. Thomas J. Kernan, Akron, Ohio.
845099. Ophthalmoscope. Emanuel N. Klein, Cincinnati.
845249. Syringe nozzle. Norval T. Morris, Marietta, Ohio.
845587. Surgical instrument. Charles W. Sheldon, Clearfield, Iowa.
845383. Ear-massage apparatus. Kelley M. Turner, New York, and N. W. Johnston, Chappaqua, N. Y.
845208. Sterilizer. Georg Van Eyck, Oeflingen, Germany.
845790. Treating proteids. Mone R. Isaacs, Philadelphia.
846412. Massage apparatus. Johannes C. Johansen, Copenhagen, Denmark.
846232. Reservoir bleeder. John E. Mourne and H. J. Tinsley, Chillicothe, Ohio.
846142. Eye-cleansing device. Wm. Reeves, New Haven, Conn.
846895. Medicinal extract. Ludwig Bauer, Niederlossnitz, Germany.
847232. Apparatus for cooling, moistening and purifying the air of rooms. Dora Buhlmann, Kaiserslautern, Germany.
847239. Vibratory massage instrument. Benjamin T. Castleman, St. Louis.
846553. Automatic tilting vial case. Wilson W. Cummins, Lidgerwood, N. D.
846834. Combined bed-pan and douche. Naomi Egan, Danville, Cal.
847133. Trepan. Ramon Velasco, Gaudalajara, Mexico.
847218. Drop-regulating bottle. Alfred Wilkin, New York.
847542. Hinge for surgical and other instruments. George T. Barber, Philadelphia.
847311. Metatarsophalangeal protector. Joseph Bronnenkant, Racine, Wis.
848728. X-ray apparatus. Eugene W. Caldwell, New York.
847550. Bed-rest for invalids. George G. Campion, Manchester, England.
847758. Surgical appliance. Clara C. Frye, Tampa, Fla.
847942. Medicine spoon. George C. Hohein, Norfolk, Va.
847775. Truss-pad. Wm. H. Horn, Jr., Philadelphia.
847779. Surpensory. John R. Jarrett, Mishawaka, Ind.
847360. Massaging implement. Frederick J. Osius, Racine, Wis.
847619. Invalid-bed. Aiken C. Taylor, Charleston, S. C.

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Original Articles

SOME GENERAL PRINCIPLES IN CONNECTION WITH PROTOZOA AS FACTORS IN DISEASE.*

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At the risk of repeating statements already well known, I propose to discuss certain general principles concerning protozoa, especially in connection with disease. Such a discussion is not entirely free from the risk of laying myself open to attack, but I believe that it is a good plan to return occasionally not only to general principles but also to elementary facts. If such a discussion provokes adverse criticism, either in public or in private, the criticism itself may accomplish some good and thus justify this paper.

We have heard a great deal during recent years about protozoa in relation to disease, and during the next twenty years we shall hear much more, for, quite aside from studying these animals as a cause of disease, we can, I believe, conservatively hope to find in their study valuable clues to solutions of many obscure problems in cytology of higher animals. This phase of protozoölogy is capable of playing as important a rôle in medicine as the subject of pathogenic protozoa is now playing in pathology, and I am fully persuaded that eventual practical results would more than justify the establishment of several university chairs of protozoölogy, with the distinct understanding that the incumbents should devote a not inconsiderable amount of their time to a purely abstract and academic study, without even permitting the question of the immediate practical application of their conclusions to arise in their minds. I believe thoroughly in applied protozoölogy, but I look for equally important ultimate results in academic protozoölogy, and I hope that the very just and perfectly natural utilitarian tendencies of our times will not inhibit the obtaining of further fundamental, but at present academic, principles which this group of animals seems to offer.

Now, if protozoa are of such importance, both academically and practically, as they seem to be, let us ask the question: From our present standpoint of knowledge, what are protozoa? This question may seem absurdly elementary, for we are prone to consider that the conception of such a common word as "protozoa" is thoroughly established.

For myself I am free to confess that the more I read and study on protozoa the less clearly am I able to form a systematic conception of what really are protozoa and what really are not protozoa. I will go even further and lay myself open to attack by making what may seem to physicians to be an unscientific admission, namely, that, while in numerous instances I feel capable of reasoning out that certain organisms are or are not protozoa, in numerous other cases I feel as much confidence in a conclusion based on my intuition as in a conclusion based on my reasoning. Fifteen years ago I would not have wished to make this admission, but the more experienced one becomes the less fear he has of admitting his ignorance, the limitations of his ability, and, above all, the important fact that it is very difficult, often impossible, to draw sharp boundaries in Nature.

Let us turn for a moment to the systematic conception of the protozoa.

Most of us would probably not object very strenuously to defining the protozoa briefly as unicellular animals. As a general proposition, this definition is more or less acceptable to me, with, however, the important mental reservation that zoölogists, the men who spend their lives studying animals, are unable to give a definite, concise, uncriticisable definition of an animal, and, further, that the term unicellular as applied to the protozoa is not absolutely free from criticism.

As a matter of curiosity, I have recently examined a number of standard books to see how various authors attempt to describe the protozoa systematically. The study was interesting, but the results could be more or less clearly foreseen.

Several prominent authors speak of the protozoa in a way which might leave the unguarded reader under the impression that these organisms represent a distinctly defined group of animals. Prominent among the characters attributed to the group are the following:

1. A unicellular structure, with one or several nuclei.
2. If several cells unite to form a colony, these cells still preserve their independent nature.
3. Tissues and organs are absent, in the sense that tissues are structures composed of similar cells similarly united, and organs are combinations of tissues, for specific functions; but a quasi-tissue differentiation is more or less admitted for the protozoa, and organellæ are distinctly admitted.
4. The usually microscopic size, with numerous exceptions.
5. Simplicity of structure, the word simplicity being more or less qualified.
6. Non-sexual reproduction by division, budding and spore formation, and often sexual reproduction.
7. Habitat in water or in a moist medium.

It is no secret to zoölogists that these characters, singly or in combination, are not sufficient to enable us to determine definitely, in all cases, whether a given organism is or is not a protozoön, and we should recall that when authors speak of the protozoa in the manner indicated they are doing so with more or less pedagogic license, in order not to plunge the beginner into uncertainty and confusion.

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* Introductory address in a Symposium held before Section K, American Association for the Advancement of Science, New York, Dec. 27, 1906.

Turning from the class of works just referred to, and consulting the more philosophical and less didactic essays, the fact stands out very prominently that certain authors (Cobbold,[1] 1879; Doflein,[2] 1903; Leuckart,[3] 1879; Ward,[4] 1894) frankly admit their utter inability to give a concise and definite systematic definition of protozoa, while many other authors avoid the question by omitting a definition and confining their remarks to a general discussion.

There is nothing new or startling in what has just been said. These facts are known to every professional zoölogist and to many physicians. But I have a distinct object in bringing this matter to your attention to-day, namely: In our numerous discussions as to whether the causative agent of this or that disease is an animal or a plant parasite, let us recall that zoölogists may have a legitimate difference of opinion on certain cases, because of the fact that in the present state of zoölogical knowledge cases may come to our attention in connection with which it is impossible for us to eliminate completely the subjective element and to give an absolutely objective opinion. If now conditions are such that professional zoölogists may hold different opinions on a given case, without any implication that we are unreasonable or in our dotage, is it strange that physicians and pathologists, to whom zoölogy is a side issue, should differ in their interpretations?

To my mind, the natural conclusion is that two men may differ in opinion as to whether *Treponema, Plasmodiophora, Cercomonas, Lamblia,* etc., are animals or plants, and yet they do not thereby forfeit all rights to retain their systematic position as members of the species *Homo sapiens.* Let us expect in the future to meet wide differences of opinion in such cases, and let us accept these differences as having a certain amount of fundamental right to existence.

Admitting, now, the inability of zoölogy to concisely define the *Protozoa,* let us glance for a moment at certain conclusions which authors have reached regarding systematic limits of certain groups of *Protozoa.*

Several years ago zoölogy had a satisfactory classification for the *Protozoa.* We recognized the *Ciliata,* the *Flagellata,* the *Sporozoa,* the *Rhizopoda,* etc. To-day the limits and relations of these groups are by no means so distinct as formerly supposed. Some eminent botanists claim the flagellates, and two of the most prominent zoölogists were, until they died a few years ago, firm believers in the view that the zoölogists had as much right to the bacteria as did the botanists. In view of the recent results in the flagellates and sporozoa, showing that in neither group is the organization so simple as was formerly supposed, the limits of these two groups —once assumed to be so sharply defined—are now more or less confused, and I doubt whether even Calkins, whom I view not only as one of our leading living American authorities on protozoa, but also as one of the foremost protozoölogists America has ever produced, would care to go under oath as to whether certain forms are flagellates or sporozoa.

The second point which I wish to make, therefore, is that, for some years to come, we must expect to meet with a considerable legitimate difference of opinion among authors as to the exact systematic position of certain organisms, even when it may be generally admitted that they are protozoal rather than protophytic.

In what do these confusing conditions find their natural explanation? To my mind, the explanation is, to no little extent, historical. Up to a few years ago, or, at most, a few decades ago, the protozoa were very interesting little creatures which a zoölogist felt justified in studying provided he had nothing better on hand, or provided he became especially interested in them academically and was fortunate enough to be in a position to study them. Under these circumstances, it is not strange that the classification used to-day is not altogether satisfactory. Then the technic improved, and our friends, the pathologists, began to discover zoölogical principles which the zoölogists had overlooked, and now zoölogists are being forced to a more careful study of the protozoa. Let us not forget that we owe the impetus for this study chiefly to medical men like Lœsch, Laveran, Theobald Smith, MacCallum, Councilman and others. Had these men never pointed out the practical importance of the protozoa, it seems an open question whether zoölogy could now boast of a Thelohan, a Mesnil, a Nuttall, a Schaudinn or a Grassi as eminent students of protozoa. This statement is made, of course, without any reflection on the greatness of Balbiani, Buetschli, Stein, Schneider and other recognized protozoölogists who have studied the subject chiefly from more academic points of view.

Again, in studying any animal, the biology of which is not known to us, we naturally and very properly try to foresee theoretically what the life history probably will be. In this we reason on analogy. Such reasoning is thoroughly justified and is frequently confirmed by practical study. In this speculative forecast, our reasoning is based chiefly on known facts and known principles rather than on facts and principles as yet unrecognized. Further, terms are used with the conceptions attached to them at the time the forecast is made. These theoretical forecasts are subject, however, to two important modifications as time goes on, namely: First, to a change in the conception of systematic units, due to additional knowledge of taxonomic nature, and, second, to additional facts of a more strictly biologic character.

To take a specific example: Calkins has published a speculative life cycle for the alleged parasite of smallpox. There are certain points in his speculative cycle which have support in analogy; hence they are easily grasped; other points seem to be rather contrary to analogy. The fact, however, that you or I may have our misgivings as to whether the alleged parasite of smallpox may not possibly be the product of a parasite, rather than the parasite itself, and the fact that certain points advanced are difficult for us to grasp should not blind us to the possibility that, after all, the real fundamental difference between those who support the theory of a smallpox parasite, and those of us who have our misgivings regarding it, may perhaps simply be that the former are from 5 to 25 years ahead of us in taxonomic and biologic conceptions. By no means has the last word been said on the possible protozoan etiology of smallpox. The existence of a difference of opinion at present, however, is not unjustified; on the contrary, it is fortunate, for this very difference of opinion is bound to be one of the most important factors in bringing out the truth; further, it has its basis in truth, namely, in the fact that our present knowledge of the protozoa is so incomplete that such differences are inevitable.

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1. Cobbold: Parasites; A Treatise on the Entozoa of Man and Animals, 1879, p. 7.
2. Doflein, F., and Prowazek, S. von: Die pathogenen Protozoën (mit Ausnahme der Hämosporidien) Handb. d. path. Mikro-organismen, Jena, 1903, vol. I, pp. 865-1006, figs, 1-81.
3. Leuckart: Die Parasiten des Menschen, 1879.
4. Ward, Henry B.: Protozoa, Wood's Ref. Handbook of Medicine and Science, August, 1904, vol. viii, pp. 527-549.

Considering now the *Protozoa* as an ill-defined group of unicellular animal or animal-like organisms, and admitting the present complexity and confusion of the subject, let us turn to certain general rules in reference to their relation to certain diseases.

In May, 1901, in harmony with the trend of the thought of that year, I formulated two general rules with reference to parasites and disease. My original formulation was as follows:

> We may lay down two general biologic rules, which, I believe, are enunciated to-night for the first time: The first rule, to which at present a few exceptions are known, is that diseases which are accidentally spread by insects are caused by parasitic plants, particularly by bacteria. The second, to which no exceptions are as yet known, is that those diseases which are dependent on insects or other arthropods for their dissemination and transmission are caused by parasitic animals, particularly by sporozoa and worms.

The difference between the accidental (or, better, the facultative) carrier and the obligatory carrier may be well brought out if we call the first method of dissemination a mechanical transmission and the second method a biologic transmission. The first does not assume or imply that the transmitted germ necessarily undergoes any evolutionary stages in the arthropod (as, for instance, in the case of the bacillus of typhoid, or the egg of an ascaris or of a tenia in or on the housefly), while the second does imply that the intermediate host is necessary for the normal completion of the life cycle of the organism in question (as, for instance, the mosquito for the malaria parasite, or certain insects for certain tapeworms, nematodes and thorn-headed worms).

Novy and Knapp,[5] in their superb paper on *Spirillum obermeieri*, state that:

> Hitherto it has been assumed that insect transmission indicates a protozoal organism, and in so far as the spirochetes are concerned, the chief evidence which can be now adduced in support of their animal nature is the fact of such transmission in the case of *Spirillum duttoni* and *Spirillum gallinarum*. The persistence of the spirochetes in such insects for months, and the infection of their eggs constitute the remaining argument in support of this view.

This passage has produced, in the minds of several persons with whom I have discussed it, the impression that the biologic rules just quoted have been overthrown.

I would point out, however, that the hereditary transmission of a germ, by the female through the egg to her young, can not be accepted as an argument for the protozoan nature of a given organism, for, unless certain published (1904) observations are shown to be erroneously interpreted, plant parasites can be transmitted in this manner.

Further, it should be noticed that Novy and Knapp immediately add (contrary to the conclusions of Dutton and Todd,[6] 1905):

> There is as yet absolutely no evidence that the spirochetes (i. e., spirilla from their point of view) actually multiply in these insects, much less any indication of the existence of a life cycle in any way comparable to that of the malarial organism.

This last sentence is of great importance, for until it is shown that *Spirillum duttoni* and *Spirillum gallinarum* do undergo some necessary biologic changes in ticks it remains undemonstrated that the diseases caused by these germs are dependent biologically on ticks, and, if not dependent on ticks for their transmission, then the ticks are mechanical, not biologic, transmitters.

Certain forms of trypanosomiasis, for the sake of argument, may be admitted as commonly transmitted by certain insects; in certain forms of trypanosomiasis (as surra) it is not only theoretically conceivable, but the point is even claimed by some authors that birds can carry the disease; it is also perfectly reasonable theoretically, and this point appears to be well supported by published facts, that surra can be transmitted through wounds obtained in eating surra animals; it seems also theoretically possible that surra, like dourine, might be transmitted accidentally by coitus. All these possibilities go to show that surra is not yet proved to be biologically dependent on insects for its transmission, and this disease, though caused by an organism which is usually recognized as a protozoön, can not, therefore, be legitimately cited as disproving the biologic rules quoted. The possibilities of transmitting malaria by birds, by ingestion, and by coitus, is unknown and undreamed of; so far as we know or can reason, the life cycle of the malarial organism, hence also the existence of the disease in nature, like the life cycle of infection with *Dipylidium caninum, Filaria bancrofti, Gigantorhynchus gigas*, etc., are absolutely dependent on insects, hence malaria comes within the second biologic rule.

Are African tick fever and Rocky Mountain spotted fever of man and spirillosis of chickens valid exceptions to the second rule?

At present we can hardly argue conclusively on Rocky Mountain spotted fever in this respect, but it is to be hoped that the brilliant results obtained by Ricketts[7] and by King this past year will be continued next year and give us further definite facts as to whether the transmission by ticks in that case is mechanical or biologic, and it is also to be hoped that they may be able to succeed, where I failed, in definitely finding a culpable parasite.

As for African tick fever of man and American spirillosis of chickens, I am more than impressed with the brilliant work by Novy and Knapp, in which they argue that the parasites are plants rather than animals. At the same time, as they themselves emphasize, no necessary biologic stages of these parasites have been found in the ticks; hence I must submit that the possibility is as yet by no means excluded that these two diseases are not depndent on the ticks for their transmission. Who can say to-day that these diseases may not, like surra, be wound diseases, namely, transmissible through a wound made by almost any method which would at the same time contaminate the wound with infected blood? I am not yet, therefore, in a position to admit that an exception has been proved to the second biologic rule, and much less am I in a position to admit that the rule has been overthrown. I would not, of course, go to the extreme of claiming that no exceptions will ever be known, for our conceptions of animals and plants may change, and our knowledge of the protophytes is not yet complete. I do maintain, however, that the second rule holds to-day as well as it did in 1901, for no exception has yet been proved.

In connection with the interesting experiments of Dutton and Todd[6] it is pertinent to call attention to the fact that, while they have definitely proved certain points, other points brought out, although indicative of certain interpretations, call for further study under less complicating conditions than those which they describe.

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[5] Novy and Knapp: Studies on *Spirillum obermeieri* and Related Organisms, Jour. Infect. Diseases, May, 1906, vol. iii, pp. 291-393.

[6] Dutton and Todd: The Nature of Human Tick Fever, Liverpool School of Tropical Medicine, Memoir 17, 1905, pp. 9-12.

[7] Ricketts: The Journal A. M. A., July 7, 1906, p. 33; Aug. 4, 1906, p. 358; Oct. 6, 1906, p. 1067.

On analyzing their experiments, it seems to me that they have established the following points:

1. In tick fever a certain blood parasite is found which they interpret as probably identical with *Spirochæta obermeieri.* [But which has since been described by Novy and Knapp[5] as a distinct form. *Spirillum duttoni.*]

2. This parasite and this disease can be transmitted by inoculating blood from diseased animals into susceptible healthy animals.

3. This parasite and the disease can be transmitted to healthy susceptible animals by allowing the latter to be bitten by ticks collected from native houses, but not fed experimentally on diseased animals; accordingly, in Nature ticks can transmit the disease.

4. Ticks caught in native houses (but apparently not tested for infectivity), when fed on sick animals which had been experimentally inoculated with infected blood, were able six days later to transmit the disease to healthy susceptible animals.

[In this case it is not proved whether the infectivity of the tick dated from their feeding on the sick animal or whether they were infective when first caught; hence, a definite period of incubation in the tick can not be assumed from this experiment.]

5. Five days after animals have been inoculated by tick bite the parasites may be found in the blood.

6. Infectious ticks, collected in native houses, may remain infectious for at least 29 days after being collected.

7. An experiment to transmit the disease through unbroken skin, by placing on it blood containing parasites, was negative.

8. Dust and dirt from cages containing infected ticks did not transmit the disease through the abraded skin. (Observations covered 14 days. Experiments with blood on the abraded skin do not appear to have been made.)

9. So far as can be judged from the data published, tick fever can be hereditary in the tick from mother to young. [This does not, however, necessarily imply either a biologic cycle of the parasite or its animal nature.]

The following points seem to me to be indicated, but not proved yet; further study and experiments in these lines are necessary:

1. That tick fever can be acquired as a "wound disease," namely, by bringing infective blood into contact with abraded skin (Dutton's[1] infection).

2. That an infectious tick is not necessarily infectious at all times. (If infective only at intervals, this point would seem to support the contention that the parasite is protophytic rather than protozoal.)

Whatever any later experiments may show, and without prejudice to such results, the following points do not seem to me to have been established as yet:

1. That there is any minimum period of incubation in a tick experimentally inoculated, before this tick is able to transmit the disease.

2. That there is any necessary portion of a definite life cycle dependent on a passage of the parasite through the tick, hence this disease has not been demonstrated as biologically dependent on the tick.

Finally, it may be remarked:

1. The maximum period of incubation in mammals is not yet established, hence great conservatism must govern the interpretation of certain of the experiments.

2. The maximum period of infectivity of ticks is not yet established.

3. No experiments seem to have been made to determine whether or not infection may take place through food soiled by feces from infected animals.

Summarizing, without prejudice to results any later experiments may show, the point is not yet established that tick fever, though transmissible by ticks, is biologically dependent on ticks for its transmission.

In connection with the spirillosis of chickens, Marchoux and Salimbeni[8] have shown that this disease can be transmitted by ticks (*Argas miniatus*); but they have also shown that it is transmissible through ingestion of fresh feces, for their experiment animal No. 8, which was fed on fresh dejecta of a sick fowl, took the disease in 5 days. This latter experiment goes to show that the parasite in question (*Spirillum gallinarum*) is not dependent biologically on *Argas miniatus* for its life cycle; hence that it does not form an exception to the second rule under consideration.

In regard to a possible necessary period of incubation in the tick, the only reference I have been able to find is a statement by Marchoux and Simond[9] that:

> *Argas miniatus*, intermediate host of the spirillum of fowls, infects itself, like *Stegomyia fasciata*, by biting a sick individual. *Argas miniatus* (like the stegomyia) does not manifest infectious power until after a lapse of a definite time.

The premises of this conclusion are unknown to me; hence I can not judge it fairly; but nowhere in the literature have I as yet been able to find experiments which support it. Whatever the premises may be, the fact remains that, according to published experiments, the disease is also transmissible through the feces.

Turning now to yellow fever: In May, 1901, shortly after Reed, Carroll, and Agramonte published their epoch-making experiments, I said in the address from which I quoted above:

> The fact that yellow fever is transmitted by the bite of the mosquito not until a considerable time—namely, 12 days after the insect has sucked blood—indicates very strongly that yellow fever is caused, not by a bacterium, but by a sporozoön. (I was, of course, using the term sporozoön in its 1901 conception.) If this latter supposition can be demonstrated, then the conclusion will, from analogy, be warranted that mosquitoes, and probably only mosquitoes, can transmit this disease. If, on the other hand, the disease should be proved to be bacterial in nature, analogy would not at present (in 1901) warrant us in concluding that mosquitoes are either necessary to its transmission or that they are the only transmitters.

In 1904 Schaudinn suggested that possibly the parasite of yellow fever would eventually prove to be a spirochete. Arguing on his premises regarding the life cycle of spirochetes, this suggestion seemed to be a valuable one, but Novy's work appears to me to have weakened it somewhat.

Later Novy and Knapp[5] state:

> Transmission of spirillar diseases by insects, and the congenital infection of mammals and eggs of insects are properties which up to the present have been regarded as characteristic of protozoa. These properties are now known for the first time to be shared by this group of bacteria. Yellow fever presents a marked analogy to the spirillar infections and it is not improbable that the cause of this disease will be found to belong to this group of organisms.

Again (on pages 302-303) they say:

> The fact alluded to above finds a remarkable parallel in the causative agent of yellow fever, which likewise disappears from the blood in about two days. It goes to show that this unknown organism may be related to the spirochetes (namely, *Spirilla*, from their point of view), and as such, may belong, not to the protozoa, as is generally accepted, but to the bacteria.

Every suggestion and every analogy which can possibly be brought forward in connection with yellow fever is to be welcomed, and the suggestions just quoted are, therefore, more than justified. At the same time it may be pointed out that this suggestion, which, of course, may prove to be correct, is somewhat contraindicated by certain facts, namely, by the long period of incubation in the mosquito.

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[8] Marchoux and Salimbeni: La spirillose des poules., Ann. de l'Inst. Pasteur, September, 1903, vol. xvii, pp. 569-580.

[9] Marchoux and Simond: Etudes sur la fievre jaune. Ann. l'Inst. Pasteur, January, 1906, vol. xx, pp. 16-40.

Let us speculate on the life cycle of the parasite of yellow fever so far as reasonable biologic analogy would seem to justify us at present:

Note, first of all, that the incubation of the disease in man is very short when compared with its incubation in the mosquito; hence this fact seems to call for a parasite with very rapid reproduction. Note, further, that the non-sexual reproduction, both of bacteria and of protozoa, is potentially in geometrical progression; hence the assumption, or at least the consideration, of this non-sexual reproduction during the incubation of the disease in man seems justified. Assume, for instance, that each separate organism introduced by the mosquito gives rise to 100, to 1,000, or to 10,000 organisms within a few hours; follow this up in geometrical progression. Would not such a hypothetical case be in harmony with the short incubation in man? Note, however, the important fact that in the hypothesis, up to this point, either bacteria or protozoa could present the required conditions. The fact that the organisms in question disappear early from the blood does not seem to me to be a very strong point either for or against either the bacterial or the protozoan nature of the parasite.

Passing now to the mosquito, note, first of all, the relatively long period of incubation, of about 12 days. This must have some significance.

Let us first assume, for the sake of argument, that yellow fever is caused by a spirillum, namely, from the standpoint of Novy and Knapp, by one of the bacteria. When a mosquito bites a yellow-fever patient in the early stage of the disease she drinks in these bacteria with the blood; according to present conceptions, this blood first passes to the diverticula of the esophagus and later to the stomach: the point is clear that the diverticula have become infected with the yellow fever parasite. The probabilities that all the bacteria would leave the diverticula with the blood and pass to the stomach, leaving the diverticula yellow fever sterile, seem very, very, remote; on the contrary, the probabilities seem very great that some of these bacteria would remain in the diverticula.

The most recent conception of the process of biting on the part of mosquitoes is that after piercing the skin with their mouth parts they eject the contents of the diverticula into the wound. This conception seems to be based on rather good experimental evidence interpreted by a good observer (Schaudinn). If this conception is correct, it would appear reasonable to suppose that if the mosquito bites a non-immune at any time from 2 to 11 days after she has become infected from a yellow fever patient she would vomit some of the yellow fever bacteria from her esophageal diverticula into the person bitten and that this person would contract yellow fever. This conclusion is not, however, in harmony with the 12-day period of incubation in the mosquito and would appear to indicate an error in the assumption that the parasite is a bacterium.

If, however, it is assumed that the parasite of yellow fever undergoes part of its life cycle in the mosquito, the changes in question would naturally begin very shortly after the organisms gained access to the mosquito, and under such supposition they would probably not result in yellow fever even if vomited from the esophageal diverticula into a non-immune, because their life cycle in the mosquito has not been completed.

Novy and Knapp[5] have insisted that we have as yet absolutely no evidence that *Spirillum duttoni* and *Spirillum gallinarum* do undergo any necessary cycle, or even a multiplication in ticks, and at least the first part of this claim seems well founded. Have we not, on the other hand, a certain amount of indirect evidence in the 12-day incubation period that the yellow fever parasite does undergo part of its normal life cycle in the mosquito?

Since we have at present no analogy of such obligatory alternate cycles among the bacteria, and since we have good analogies for such cycles among the protozoa, does not this obligatory period of incubation seem, in our present state of knowledge, and, of course, without prejudice to any unknown cycles in bacteria, to indicate that the parasite in question is of protozoal rather than of protophytic nature?

So far as our present knowledge of unicellular organisms goes, I believe that to-day, as in 1901, the indications are that yellow fever is caused by a protozoön, but I am in doubt as to its exact systematic position, namely, whether it is a sporozoön or a flagellate. If, however, double life cycles can be proved for any of the bacteria, then the present data regarding yellow fever will be equally applicable to the view that the disease is caused by some sort of a bacterium.

What, now, is the meaning of the double life cycle, the alternation of sexual and non-sexual reproduction? Years ago academic protozoölogy showed that in certain protozoa the non-sexual reproduction is limited in extent and is rapid, while the sexual reproduction may be still more limited in extent and is slower in comparison. Just why this limitation exists, whether the non-sexual reproduction is brought to an end because of the animals' becoming exhausted, from a reproductory standpoint (perhaps an internal cause), or because of unfavorable surroundings (an external cause), or from a combination of both, can not be discussed here, fundamental as the question is. Suffice it to say that the non-sexual reproduction in many unicellular animals is limited in extent. It is fortunate for us that this is so, for were it not, every untreated case of malaria would necessarily be fatal, since the organisms in man increase (potentially) in geometrical progression. Note the important point, however, that in malaria, caused by a parasitic protozoön, this non-sexual reproduction is rapid while it lasts, but that it is limited in extent by some factors not altogether clear at present.

The exact causes of this limitation of non-sexual reproduction among the protozoa calls for extensive academic study, but the results of such study will be of far-reaching practical importance.

CHRONIC GASTRITIS.*

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Probably no term employed in the nomenclature of gastric diseases has been more misused than that of chronic gastritis. The disease has been and still is considered by some physicians a very common affection, yet Riegel says: "Chronic catarrh of the stomach is not a frequent disease. If we cease to force all known gastric disorders into a few disease categories, and rely only on positive signs of this condition, we shall soon learn that chronic gastritis is not so frequent as older physicians thought and as many modern ones still persist in believing." Stockton[1] says that "the comparative infrequency of chronic gastritis will be endorsed by experience if the cases are carefully studied." In my experience, primary chronic gastritis is encountered once in about every 300-400 adult patients in a general medical clinic, not so often as gastric cancer or gastric ulcer. Of 100 consecutive cases of gastric disorders, taken from my private records in which the stomach contents were examined, 9 presented the objective findings of chronic gastritis. This percentage (9 per cent.) of gastritis cases is greater than I had expected to find, but it should be stated that more than one-half of the number from which these were taken were cases referred by physicians and represent unusually severe types of gastric affections.

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* Read in part at a meeting of the Norfolk District of the Massachusetts Medical Society.

With the general practitioner the percentage of such cases is probably somewhat larger than is met in a clinic, for the reason that he does not see so many patients with trivial ills. Yet, however we approach the subject, it will be found that the percentage of cases of primary chronic gastritis is comparatively small.

DEFINITION OF CHRONIC GASTRITIS.

Because the above statements will seem surprising, perhaps incredible to some, let us come to an understanding of what is meant by chronic gastritis, and how the condition may be recognized. Briefly, then, chronic gastritis means a chronic inflammation of the gastric mucosa, an organic affection characterized by certain pathologic changes. This condition produces certain alterations in the gastric secretion, usually a diminution of the acidity, with more or less impairment of the ferments pepsin and rennin, and there is usually an excessive secretion of mucus. The degree of alteration of the secretion depends on the extent and severity of the inflammatory process. Now, by certain well-known tests we are enabled to detect the changes occurring in the secretions, and it is on these objective findings that we base our diagnosis. It was the custom in the past to base the diagnosis of this condition on the subjective symptoms of the patients. This older method has frequently resulted in the diagnosis of chronic gastritis in cases which have been proved to be cancer, ulcer, neuroses and other gastric conditions.

Herein lies the explanation for the prevalence of the different opinions regarding the occurrence of this disease. The original purpose of this paper was to consider the occurrence and etiology of gastritis, but since so little has been written on this subject, as compared to other features of digestive diseases, a further discussion of the disease may not be out of place, and the 9 cases referred to will help to present some points I desire to make.

DURATION.

In chronic gastritis the duration of the condition is known to be considerable. The average duration in the 9 cases exceeded six years, the shortest being over one year and the longest over twenty years from the beginning of symptoms.

SEX AND AGE.

The disease is more common in men than in women. These cases reported occurred in patients between the ages of 20 and 50 years. Ewald[2] considers that a large number of patients who are said to die of old age, really perish from gastric atrophy, but states that this is not generally recognized, since the symptoms are as yet not well known and because the microscopic changes in the stomach are not marked. Of the few elderly patients in whom I have suspected this condition, I have usually been surprised to find no evidence of it.

ETIOLOGY.

So many factors enter into the etiology of the disease that it is often difficult or impossible to attribute the condition to any single cause. The use of alcohol is considered by many as the most common cause, and it seems probable that this agent, by its direct action either on the gastric mucosa, or the liver and other organs, may cause primary or secondary chronic gastritis. The majority of my patients with gastritis have not used alcoholic liquors to excess, and many have not used them at all.

WEIGHT.

It is the popular opinion that patients with gastritis are usually emaciated or show considerable loss of weight. Strumpell[3] speaks of it, and Ewald says: "Emaciation soon occurs, and losses of from 30 to 60 pounds may often occur in a few weeks." On the other hand, Einhorn[4] states that "although there are exceptions to this rule, the general appearance is good, the patient looks well nourished and usually possesses a good panniculus adiposus."

Of the 9 cases cited (with an average duration exceeding six years) three patients had lost less than 5 pounds, and but one more than 10 pounds; my general experience coincides with Einhorn's.

OTHER SYMPTOMS.

Appetite.—This is generally considered as diminished, although most writers mention exceptions to the rule. I find that only one patient complained of poor appetite, four considered their appetites good, and four that their appetites varied from excessive to voracious. With good appetites and fairly good vicarious digestion by the intestines there is but little reason for much loss of weight.

Pain.—In only 2 of the 9 cases was pain complained of. In 1 of these cases it occurred from one to two hours after eating and was relieved by eating again. This case has been referred to in another article,[5] and is one of several of this kind which I have observed. Boas[6] refers to this peculiar type of pain in chronic gastritis, and remarks that "it has exactly the same character as the pain in hyperchlorhydria," with which statement I quite agree. Pain as a rule, however, is the exception.

Bowels.—Constipation occurred in 4 cases, while in 5 the bowels were regular. Constipation is considered the rule. Distress or discomfort (not pain) after meals occurred in 5 cases. This I find is a fairly common symptom. Excessive flatulence occurred in 3 cases, and was usually an annoying and obstinate symptom to overcome. Eructation of gas, with or without regurgitation, also occurred in 3 cases, as did also nausea and vomiting, which was soon relieved by treatment.

Thus it is seen that no one symptom, nor any particular group of symptoms is characteristic of gastritis;

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[1] Diseases of the Stomach, 1903: Nothnagel's Ency. of Practical Medicine.

[2] Ewald: Diseases of the Stomach, Amer. Edition.

[3] Textbook of Medicine.

[4] Einhorn: Diseases of the Stomach.

[5] Chase: Boston Med. and Surg. Jour., Sept. 14, 1905.

[6] Therap. d. Gegenwart, Berlin, xlvi, No. 1.

moreover, any symptom, or almost any group of symptoms, here mentioned may result from a neurosis, or an organic disease other than gastritis. It should be borne in mind that purely nervous symptoms may occur in cases of gastritis.

DIAGNOSIS.

The diagnosis must be based on the objective findings obtained from examination of the gastric contents; yet it is rarely safe to make a positive diagnosis from a single examination. I shall not enter into the details of diagnosis; they may be found in any recent work on diseases of the stomach.

In these 9 cases, free HCl was absent on repeated examinations, and combined HCl was, as a rule, diminished, with a corresponding reduction in total acidity. Mucus was present in excessive amounts in 7 of the 9 cases. Except in 3 cases of slight stasis, the amount of contents one hour after an Ewald test breakfast was always diminished, and in the majority of patients no contents could be obtained at the expiration of this period. "Acid gastritis" and secondary gastritis are not considered here.

Differential Diagnosis.—Nervous achlorhydria, some cases of cancer of the stomach and achylia gastrica are the conditions with which gastritis is most often confused when considering the gastric contents. Cases of transient achlorhydria are easily distinguished by observation, as the secretion soon returns in full strength, whereas the return of the secretion in chronic gastritis is always gradual and rarely or never appears in normal amount. Cancer is soon distinguished after observation by the continued loss of weight and the certain downward progress of the patient. The chemical findings of achylia gastrica can not be distinguished from those of atrophic gastritis, from which condition the achylia may and usually does result, although we occasionally see a case, one of which I have briefly reported,[7] in which it is difficult to conceive of a pre-existing gastritis, since there are no symptoms.

COMPLICATIONS.

A slight degree of stasis or motor insufficiency was observed in 3 of these 9 cases; it was soon overcome by treatment. I believe that marked degrees of stasis or atony rarely occur in uncomplicated cases of gastritis.

Hypermotility or pyloric insufficiency occurred in six of the patients, as indicated by the absence of gastric contents one hour after an Ewald test breakfast. In so far as I know, it has never been positively determined whether this premature expulsion of contents results from hypermotility, or from an insufficient pylorus. A factor to be considered in this condition is the fact that the diminished secretion naturally causes a diminution in the amount of contents. Whatever the condition may result from I have found it a difficult or impossible one to overcome, although in some cases in which the secretion has been restored, more gastric contents have been obtainable at later periods after the test meal than at the beginning of treatment. Some observers look on this condition merely as a compensatory one, whereby the chyme is hurried into the intestines where the greater part of digestion occurs. If viewed in this light it is not a condition to be overcome.

PROGNOSIS.

Riegel says: "Mild degrees of gastritis may be cured and frequently are cured. If severe degrees of atony have developed the prognosis is less favorable." According to Ewald, "the prognosis of this disease should not be considered too slightingly, especially as in prolonged cases of atrophy, an incurable and fatal lesion may be developed. Even in apparently cured cases the organ is left in such a sensitive condition that the slightest irritation or deviation from a specified diet may cause a fresh attack."

I believe that practically all patients with gastritis may be relieved of their subjective symptoms. Even in cases of achylia with gastric atrophy such results are often obtained, and these patients are seen to follow their occupations, to eat almost any kind of food with little or no discomfort, and to maintain their standard weight. In a large percentage of the simple and mucous forms of gastritis, the subjective symptoms are not only overcome, but the free HCl (which may have been absent for months or years judging from the duration of the symptoms) may be restored, at least in part. Such results may certainly be considered as cures.

It would seem that relapses are liable to occur in this disease, yet I have encountered only an occasional case, and in each, gross indiscretion in diet or the excessive use of liquor seemed the probable cause. During treatment most patients learn a valuable lesson in dietetics and profit thereby. For this reason I feel that they may be less liable to a recurrence than many individuals, who daily abuse their stomachs, are to the disease. The nine patients cited were treated from one month to several months. In every case the subjective symptoms were relieved or entirely overcome within a few weeks.

In 6 of the 9 cases free HCl was restored in amounts from .2-.5 of one part per 1,000 or .02-.05 of 1 per cent. The return of the HCl was always a gradual process, at first merely a trace appeared and later amounts sufficient to titrate. The earliest return of HCl in any case was after eleven days' treatment, while the longest time required for its appearance was seven months of irregular treatment. The average time of total treatment was about three months.

The results of treatment in those cases in which HCl was not restored seemed quite as satisfactory as in those in which it returned, in so far as relief from symptoms was concerned. At the time of discharge all these patients were partaking of a plain, wholesome diet. During the period of from twelve to nineteen months since their discharge, six of these patients have reported no recurrence of symptoms, and in 5 of the cases in which the HCl was restored it is still present. Three cases have not been followed.

It may be argued that these cases were unusually mild ones (the average duration was six years), yet I consider them fairly representative of the class of gastritis cases usually encountered. The question may arise, how long after the disappearance of subjective symptoms is one justified in treating a case in an attempt to restore the secretion? It may be said generally that the stronger or the richer the secretion the greater the possibility of restoring it to normal.

The strength of a secretion is best ascertained by the result of the quantitative test of its rennin or rennin zymogen. Boas[8] and Bourvere[9] have determined that normally rennin zymogen, after the addition of calcium chlorid, will coagulate milk with a dilution of 1 part secretion to from 150 to 160 parts water. Hence, the greater the dilution of a secretion, and a positive result from this test, the stronger it is. The above-mentioned writers have further decided that "a secretion which will not coagulate milk, after a 1-25 dilution, indicates a condition of advanced atrophy, in which there is but little probability that the gastric secretion can be restored." Usually the free HCl returns, if at all, within a few weeks.

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[7] Philadelphia Med. Jour., June 14, 1902.

[8] Deutsch. Med. Wochschr., No. 17, 1892.

[9] Gaz. Méd. de Paris, No. 22, 1893.

One of the objects of treatment is to restore the secretion as nearly as possible to its normal strength, consequently so long as examinations from time to time show an increase in the amount of HCl, treatment should be continued. I have found, however, that after the free HCl has reached the strength of about 0.5 of 1 part per 1,000, or .05 of 1 per cent., continued treatment fails to effect a further increase. I have never seen or heard this point discussed, therefore I do not know if mine has been a common experience with others.

TREATMENT.

The object of treatment is to overcome the inflammation and if possible to restore the secretion and the impaired motor power of the stomach. Since any single cause of the inflammation is rarely discoverable, we must remove all conditions which may be considered as contributing factors. Hence, good hygiene is advised, which means regular habits as to eating, exercise and action of the bowels, repair of carious teeth, etc.

Diet.—In this condition starches are better digested in the stomach than under normal conditions, while proteids are but poorly cared for here, being digested almost entirely in the intestines. Bearing this point in mind and remembering that all mechanical, chemical and thermal irritants are to be avoided, we have the key to dietetics in this disease.

The articles of food to be allowed I check from a printed diet list, usually advising three meals a day, with one or two lunches if desired. Of the more restricted diet in the beginning of treatment, patients will rarely eat too much, while if the scales show a maintenance or increase of weight, I feel that they are eating enough, regardless of the number of calories which the food represents. Cooked fats I have found are not usually well borne. No alcoholic liquors are allowed; my reasons for prohibiting them are given elsewhere.[10]

Mechanical Means.—To free the stomach of mucus and to stimulate secretion and peristalsis, douching of the stomach internally with a warm alkaline and saline solution, is, I believe, the most valuable means we possess. For this purpose I employ my stomach apparatus,[11] using the Rosenheim tube. The solution is injected with the amount of force desired, but it is always greater than that obtained by ordinary lavage. By the douche I believe that adherent mucus is more thoroughly removed than by simple lavage, while the stimulating action of the small forceful streams must be far greater than that produced by pouring water into a tube which has but one or two large eyes. In fact, I feel that douching of the stomach in gastritis and other conditions will become a more popular means of treatment when its technic and results are better known.

Riegel agrees that "the internal douche may frequently be employed with profit in chronic gastritis. It may be useful under certain conditions to force the fluid into the stomach under pressure." Douching or lavage should be done at least twice a week and always with the fasting stomach. The agents which I usually employ are sodium chlorid and sodium bicarbonate 30 grains of each to a pint of water at 100 F. "Washing out" the stomach with copious draughts of medicated water seems but a poor substitute for douching.

Drugs.—For the purpose of dissolving mucus and increasing the secretion I use from 10 to 15 grains each of sodium chlorid and sodium bicarbonate in a glass of warm water, to be taken about fifteen minutes before meals. Some of the saline mineral waters may serve the same purpose in a measure, so also may some of the more elegant preparations containing the various salts. The phosphate or sulphate of sodium may be used, especially if there is constipation; nux vomica, condurango and other bitter tonics may be of service, but of late I have rarely used them.

I have elsewhere expressed my views regarding the use of hydrochloric acid[12] and pepsin.[13] I believe that the large doses of from 15 to 20 minims of HCl fail to accomplish the desired object; moreover, I feel that they may do harm. Small doses of from 5 to 10 minims may in some ways prove beneficial, but I consider that there is no evidence to show that they stimulate the secretion of HCl.

Vacations and out-of-door exercise or occupation are important and at times seemingly necessary factors in the cure of gastritis.

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A GRAPHIC METHOD IN PRACTICAL DIETETICS.

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Professor Mendel, in an address on dietetics before an audience of Boston physicians, asked the very pertinent question: "Why do physicians take so much care in measuring their dosages of drugs, which are administered only occasionally, and so little care in measuring their food prescriptions, which are to be followed daily?" In prescribing drugs, a physician would be regarded as criminally negligent if he simply told his patients to take "a little" strychnia, but to be sure "not to take too much;" or to take a "big dose" of calomel. Yet in prescribing diet, physicians often give just such advice.

Doubtless in the scheme of Nature man was not expected to measure his food. He was provided with healthy, normal instincts instead. But, as often happens in diseased conditions, the food instinct has sometimes become perverted and can not be trusted. The consumptive requires, or at any rate is believed by most physicians to require, more food than his appetite calls for, and the victim of kidney diseases less. To re-establish the instinctive guides to food selection should doubtless be the ultimate aim of the physician; but, to that end, a quantitative determination of the food actually used, and a quantitative regulation thereof, may be advantageously employed. As yet, however, neither the quantity of food nor the proportions of its constituents have been often prescribed with precision.

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[10] Philadelphia Med. Jour., June 6, 1903.

[11] An Improved Stomach Tube, The Jour. A. M. A., July 28, 1906.

[12] Clinical and Laboratory Study of the Therapeutic Value of HCl in Diseases of the Stomach. Boston Med. and Surg. Jour., Sept. 14, 1905.

[13] Therapeutic Value of Some Digestive Preparations. Boston Med. and Surg. Jour., May 18, 1905.

What Dr. Burton-Fanning says of prescribing food for the consumptive applies to food prescriptions in general, that the whole art of such prescriptions is summed up in the word accuracy.[1] Until recently accuracy was impossible. But to-day, by the aid of elaborate tables of food values constructed by Atwater and Bryant in America, and of mineral salts by Koenig in Germany, and, if great accuracy is required, of coëfficients of digestibility, it has become possible to make a true measurement of diet prescriptions.

As to mineral salts, we know at least in which foods they are severally to be found. For instance, if a patient needs iron, he may, instead of taking the preparations of the druggist, have added to his list of foods one or more of the following: lentils, asparagus, lettuce, peas, figs, strawberries, spinach, beans, potatoes, prunes or apples, the order of which is that of the amount of iron contained in proportion to total food value.

Again, if calcium is needed, instead of limewater there may be administered milk, figs, cabbage or lentils. If sulphur is needed, the patient may be given potatoes, peas, beans, asparagus or cabbage; if phosphorus, beans, peas, rice, milk; if silicon, lettuce, cabbage, strawberries, rice, potatoes, barley or cucumbers; if magnesium, peas, beans, cocoanuts, barley and rice; if chlorin, cocoanuts, milk, lentils, asparagus, cabbage; if sodium, lentils, figs, asparagus; if potassium, beans, lentils, peas, cocoanuts, potatoes. Or if simply mineral salts in general are required, they are found in large quantities in proportion to food value, among lentils, peas, beans, cocoanuts, potatoes, milk, rice, figs, apples, barley, cabbage and chestnuts.

There are data also which describe the amount and kinds of acids in foods, their peptogenic qualities, their effects on peristalsis, etc.

THE BASIS OF COMPUTATION.

But the ordinary problems of dietetics are concerned not so much with these minor constituents and properties of foods as with the amount and proportions of proteids, fats and carbohydrates.

Two methods have hitherto been used for computing proportions of proteids, fats and carbohydrates. One consists in using the tables of percentages by weight of proteids, fats and carbohydrates; the other, Dr. J. H. Kellogg's, in using a table which gives the number of calories in the form of proteids, fats and carbohydrates per ounce of each kind of food. These may be described, respectively, as the method of weight per cent. and the method of calories per ounce. The method here suggested is different from either, and may be called the method of calories per cent. It takes as its starting point not a unit of weight, but a unit of food value, called a "standard portion" of each kind of food. A "standard portion" is defined as that amount of food which contains 100 calories. A table is constructed which gives the weight in a "standard portion" of each particular kind of food, and out of the 100 calories contained therein the number of calories in the form of proteids, fats and carbohydrates. The three methods were discussed and the last named explained in detail in another paper.[2] We shall, therefore, pass over this part of our subject very briefly in the present paper and devote our main attention to the practical application.

In order to carry out this method, foods should be served at the table in "standard portions" or simple multiples thereof. The amount of milk served, instead of being a whole number of ounces, should be (for average milk) 4.9 ounces—the amount that contains 100 calories. This "standard portion" constitutes about two-thirds of an ordinary glass of milk. Of the 100 calories which it contains, 19 will be in the form of proteid, 52 in fat, and 29 in carbohydrates. In other words, of the food value of milk, 19 per cent. is proteid, 52 per cent. fat, and 29 per cent. carbohydrates.

One advantage of this method is apparent at once. It enables us to make a true comparison between different foods as to the relative amounts of proteid, fat and carbohydrate. The other methods are misleading in this regard. For instance, though it is well recognized that milk is a higher proteid food than pecan nuts, yet if we compare milk and pecans on the basis of the method of "weight per cent.," we shall find that the pecans appear three times as rich in proteid, milk containing 3.3 per cent. and pecans 11 per cent. But if we compare them on the basis of "calories per cent.," we find that, while milk contains 19 calories of proteid out of each 100 of total calories, pecans contain only 6, milk showing three times as much proteid as pecans. The paradox that pecans are higher in proteid per ounce but lower in proteid per 100 calories is due to the fact that pecans are a much more concentrated food than milk; whereas 100 calories of milk weigh 4.9 ounces, 100 calories of pecans weigh only half an ounce. The weight of a "standard portion" of any food, i. e., of that amount which contains 100 calories, is a measure of the degree of concentration. The most concentrated of all foods is probably olive oil, which contains 100 calories in a little over one-third of an ounce (.38 oz.). Watermelon represents a food at the opposite extreme, of which over 1½ pounds are required to yield the 100 calories. In order that the "calories per cent." method may be easily put in practice, it is necessary to have a table giving the weight constituting a "standard portion" (i. e., the amount yielding 100 calories) and the calories of proteid, fat and carbohydrate in this portion. At the close of the present article such a table is given, computed chiefly from the tables of Atwater and Bryant and, for made dishes, from those of Dr. Kellogg. The chief advantage of this method of expressing food values is that it lends itself readily to graphic representation. The difficulty in the practical use of most tables of food values is that they can not be visualized.

THE GRAPHIC METHOD.

Different foods contain the three food elements, proteids, fats and carbohydrates, in different proportions. The tripartite constitution of any particular food is represented in the present method by the position of a point in the triangle[3] CPF (Fig. 1). The method of locating the point on the triangle is analogous to that of locating a city on a map by latitude and longitude: the per cent. of proteid[4] in the food is represented, like latitude, by the height of the point above the base line CF (the total height, CP, being taken as 100 per cent.) The percentage of fat is represented, like longitude, by the distance of the point horizontally from the vertical line CP (the total horizontal breadth, CF, being taken as 100 per cent.). Thus, the point O, representing milk, is located at a height above CF ("latitude") 19 per cent. of the total height of the triangle, which signifies that 19 per cent. of the food value of milk is proteid; and at a distance to the right of CP ("longitude") 52 per cent. of the total breadth of the triangle, which signifies that 52 per cent. of the food value of milk is fat. Foods high in proteid will be represented by points high up in the triangle. White of egg, of which the food value is all proteid, will be represented at the point P, representing 100 per cent. P is, therefore, called the "proteid corner" of the triangle. Foods rich in fats, as nuts, cream, butter, are represented by points far to the right. Pure fats like olive oil are located at F at the extreme right, representing 100 per cent. of fat. F is, therefore, called the "fat corner."

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[1] For a statement of the great divergences of sanatoria from this ideal, see "Statistics of Diet in Consumptive Sanatoria," Fisher, Tran. Second Annual Meeting, Nat. Assoc. for Study and Prevention of Tuberculosis, New York, 1907; also in Am. Jour. of the Med. Sci., October, 1906.

[2] Fisher: "A New Method for Indicating Food Values." Amer. Jour. of Physiol., April 1, 1906.

[3] For convenience, the triangle is drawn with one angle, C, a right angle and the two sides about it equal.

[4] I employ the term proteid, although in the tables the figures represent "protein" (i. e., 6¼ times nitrogen), the usual makeshift for proteid.

The point representing a food is completely located by means of the percentage of proteid and fat; no attention need be paid to the carbohydrate. If, however, it is desired to find the carbohydrate, its percentage is readily determined, being what is left of 100 calories not already accounted for by proteid and fat. Thus, a "standard portion" of cottage cheese, being 76 per cent. proteid and 8 per cent. fat, will have left 16 per cent. of carbohydrate. If one desires a graphic representation, it is found in the distance of the point O from the third side of the triangle, FP (the total distance of this side from the opposite corner being taken as 100 per cent.). Foods like bread, cereals and fruits, which are mostly carbohydrate, will thus be represented by points far away from the side FP. Foods such as sugar, of which the food value is wholly carbohydrate, will be represented at the remotest point C, representing 100 per cent. carbohydrate, which is, therefore, called the "carbohydrate corner."

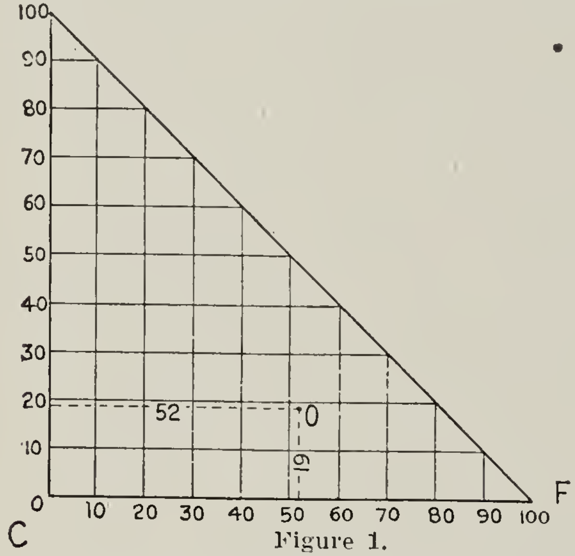

Figure 1.

Any food is thus represented on the "food map" by a point the relative distances of which from the three sides of the triangle represent the proteid, fat and carbohydrate.[5] On this food map, fatty foods are represented by points near the fat corner, F, starchy and saccharine foods by points near the carbohydrate corner, C. and proteid foods by points near the proteid corner, P. A food devoid of proteid is evidently located on the base line C; a food devoid of fat, on the side CP, and a food devoid of carbohydrate on FP. The chief classes are represented in the accompanying diagrams, flesh foods and cereals being shown in Figure 2, nuts and fruits in Figure 3, vegetables in Figure 4, puddings, pies, pastries and sweets in Figure 5, dairy products, eggs and meat substitutes in Figure 6, and soups, salads and relishes in Figure 7. In each case, the position of the point relatively to the sides of the triangle represents the proportions of the proteids, fats and carbohydrates, and the number opposite each name represents the weight (in ounces) of a "standard portion."

This method of representing food values reveals some striking facts—for instance, the great variations in the proportion of proteid in different vegetables. Vegetables are commonly supposed to be low in proteid. This is true of some vegetables, such as beets, artichokes and sweet potatoes; but others are high in proteid, such as asparagus, cabbage, cauliflower, celery, cucumbers, eggplant, radishes, spinach, squash, and tomatoes.[6] Among fruits also we find some instances of moderately high proteid, such as strawberries and blackberries, oranges and watermelon. These foods are as high in proteid, in proportion to total food value, as most nuts and cereals. On the other hand, dried fruits, which are sometimes mentioned as containing a higher percentage of proteid than other fruits, are as a matter of fact often much lower. Thus, dates contain but 2 per cent., prunes and raisins 3 per cent., figs 5 per cent.

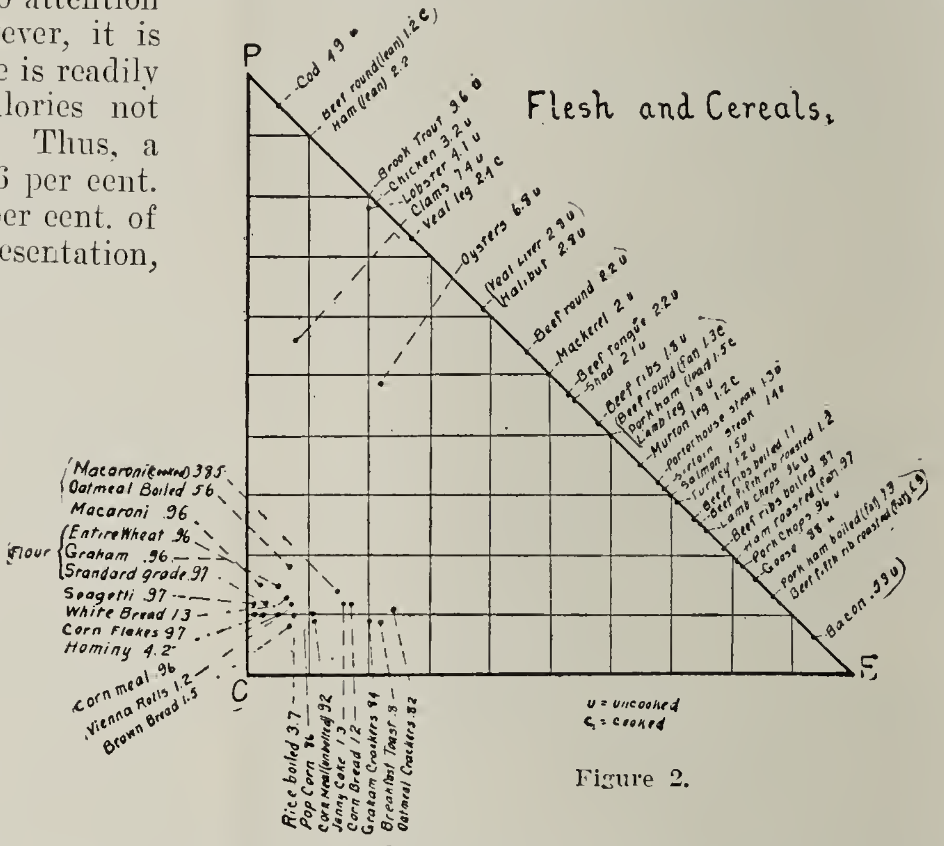

Figure 2.

It is evident that in most cases foods of the same class show a family resemblance. Meats and other flesh foods, with the exception of shellfish, are represented by points on FP, being devoid of carbohydrates. Cereals are represented by points near the carbohydrate corner,

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[5] It has been shown elsewhere (Amer. Jour. of Physiol., April, 1906, pp. 422-4) that this method of visualizing the composition of any food carries another method with it. If from the point O (Fig. 1), the position of which in the triangle indicates the food composition (of milk, for instance), we draw straight lines to the three corners of the triangle, thus resolving the triangle into three constituent triangles, it may be shown that if we call the total area of the triangle 100 to represent a "standard portion" (100 calories) of the food, then the three partial triangles will exactly represent the constituents for proteid, fat and carbohydrate. The triangle representing proteid is COF, i. e., the triangle whose altitude to O represents proteid in the first method. Similarly, COP represents fat, and POF carbohydrate. For the graphic representation of particular foods by this method of triangles, see the article already cited. In the present article only the method of lines, or, as we may call it, the "latitude and longitude" method will be employed.

[6] It should be stated, however, that all estimates of proteid are, strictly speaking, "protein," i. e., 6¼ times the contained nitrogen. In some cases proteid and protein are not identical, but the former is less than the latter, owing to the fact that some of the nitrogen is not in proteid but in a waste or useless form. This is true of almost all the proteid of meat soups, which have, therefore, practically no food value except a peptogenic one. As to vegetables, in default of exact data, no correction from protein to proteid is here attempted.

C; nuts, with the exception of chestnuts, are located near the fat corner, F; fruits, with the exception of olives, near the carbohydrate corner, C; vegetables show a large range within the triangle. In Figure 8 the range of each of these classes is approximately shown.

The foods eaten at a meal may thus be indicated by points on the "food map." Opposite each point should be written the amount eaten, measured in "standard portions." This array of points presents a picture of what foods and how much of each have been eaten, and shows at a glance their characteristics. But to use this properly we need to combine these points into one point, their center of gravity, which represents the entire meal. This may be done in various ways.

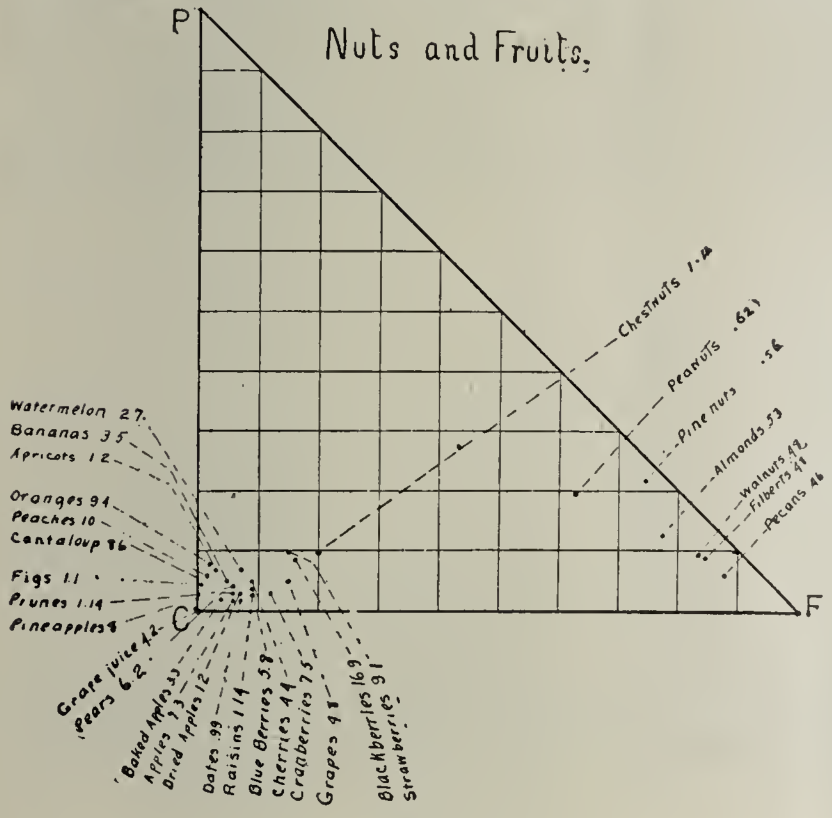

Figure 3.

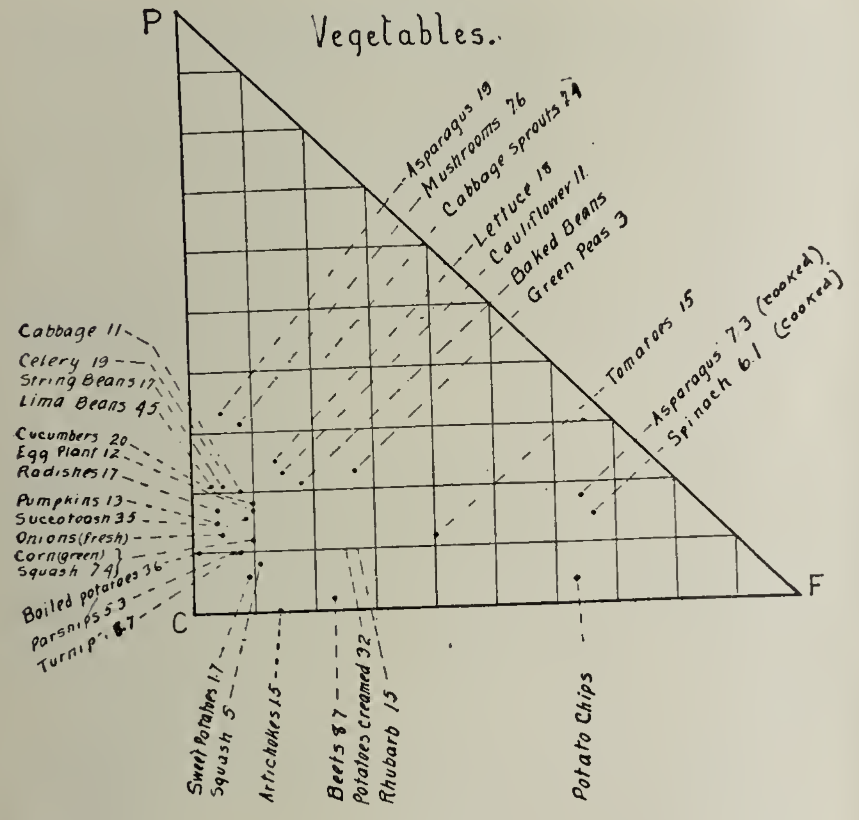

Figure 4.

DEMONSTRATING COMBINATIONS.

The combination of two foods equal in calories is represented by a point midway between them. Thus, to combine one "portion" of bread and one "portion" of butter (Fig. 9) draw a straight line between their points, and at the middle of it mark a cross and label it "2;" this point will represent two "portions" of bread and butter.

If the calories of the two foods are unequal, the point representing the combination will be proportionately nearer the point with the larger number. Thus, if one portion of bread is combined with one-half portion of butter, the bread-and-butter point will not be midway between the points for bread and for butter, but will lie twice as near the bread point as the butter point. Its approximate position may be found with great rapidity by the eye without making exact measurements.

When three foods are combined, the point representing the combination is, in like manner, the "center of gravity" of the three, and may be found by first obtaining the center of gravity of two, and then obtaining the center of gravity of the point thus obtained, and the third. Thus if, as in Figure 10, we have three points representing, respectively, 3, 4, and 5 calories of three separate foods, shown by the attached numbers 3, 4 and 5, the point representing the combination may be found by joining the points labelled 3 and 4, and finding their center of gravity, 7, situated nearer the point 4 than point 3, and dividing the line between them in the ratio of 3 to 4. The first two points, 3 and 4, may be consid-

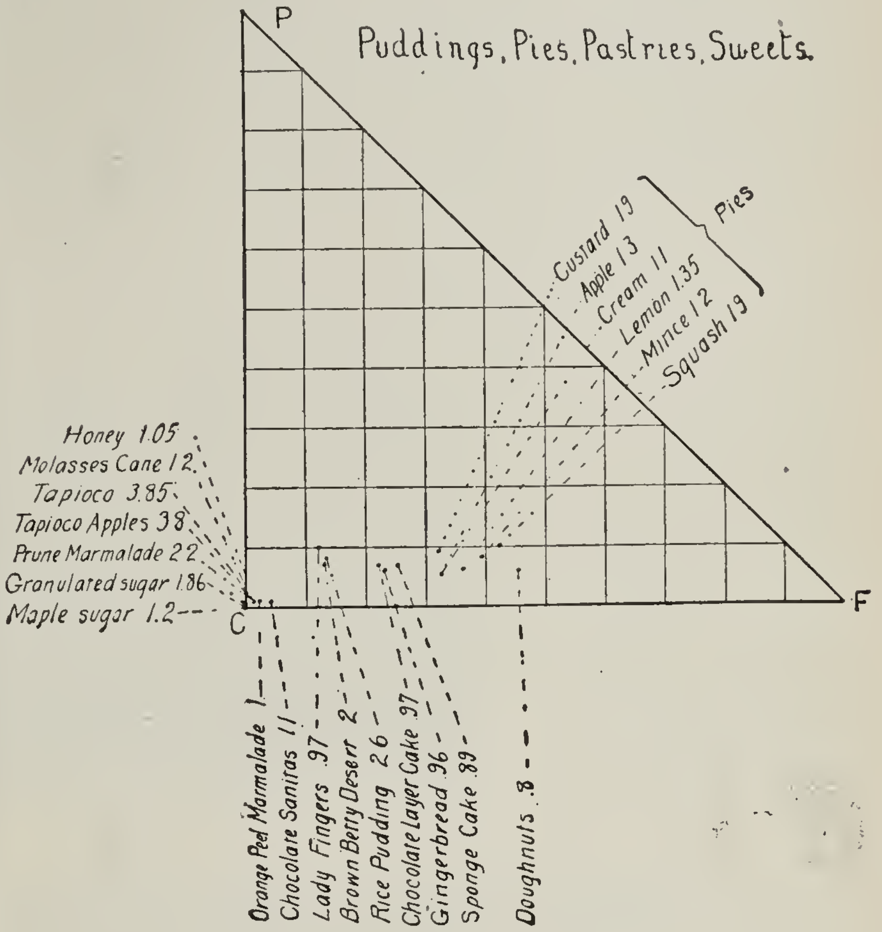

Figure 5.

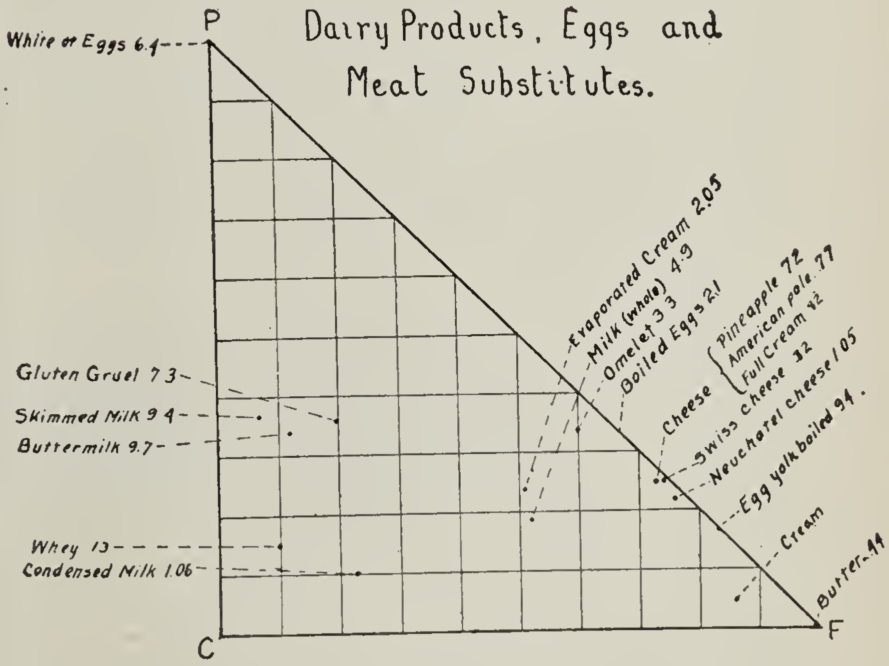

Figure 6.

TABLE OF FOODS GIVING THE WEIGHT (IN GRAMS, OUNCES AND ROUGH MEASURE) OF A "STANDARD PORTION" OF EACH FOOD AND THE NUMBER OF CALORIES IN THAT "PORTION" IN THE FORM OF PROTEID, FAT AND CARBOHYDRATE.

COOKED MEATS.

Name of Food.	"Portion" Containing 100 Calories Roughly Described.	Wt. of 100 Calories.		Per cent. of		
		Grams.	Oz.	Proteid.	Fat.	Carbohydrate.
†Beef, round, boiled (fat), 1099§	Small serving	36	1.3	40	60	00
†Beef, round, boiled (lean), 1206§	Large serving	62	2.2	90	10	00
†Beef, round, boiled (med.), 1188§	Small serving	44	1.6	60	40	00
†Beef, 5th right rib, roasted, 1538§	Half serving	18.5	.65	12	88	00
†Beef., 5th right rib, roasted, 1616§	Small serving	32	1.2	25	75	00
†Beef, 5th right rib, roasted, 1615§	Very small serving	25	.88	18	82	00
†Beef, ribs boiled, 1169§	Small serving	30	1.1	27	73	00
†Beef, ribs boiled, 1170§	Very small serving	25	.87	21	79	00
*Calves foot jelly, as purchased		112	4.	19	00	81
*Chicken, as purchased, canned	One thin slice	27	.96	23	77	00
*Lamb chops, boiled, edible portion, average	One small chop	27	.96	24	76	00
*Lamb, leg, roast	Ordinary serving	50	1.8	40	60	00
†Mutton, leg, boiled, 1184§	Large serving	34	1.2	35	65	00
†Pork, ham, boiled (fat) 1174§	Small serving	20.5	.73	14	86	00
†Pork, ham, boiled, 1192§	Ordinary serving	32.5	1.1	28	72	00
†Pork, ham, roasted (fat), 1484§	Small serving	27	.96	19	81	00
†Pork, ham, roasted (lean), 1511§	Small serving	34	1.2	33	67	00
*Turkey, as pur., canned	Small serving	28	.99	23	77	00
†Veal, leg, boiled, 1182§	Large serving	67.5	2.4	73	27	00

UNCOOKED MEATS.

Name of Food.	"Portion" Containing 100 Calories Roughly Described.	Grams.	Oz.	Proteid.	Fat.	Carbohydrate.
*Beef, loin, edible portion, average (lean)	Ordinary serving	50	1.8	40	60	00
*Beef, loin, edible portion, average (fat)	Small serving	30	1.1	22	78	00
*Beef, loin, porterhouse steak, edible por., av.	Small steak	36	1.3	32	68	00
*Beef, loin, sirloin steak, edible portion, av.	Small steak	40	1.4	31	69	00
*Beef, ribs, lean, edible portion, average	Ordinary serving	52	1.8	42	58	00
*Beef, round, lean, edible portion, average	Ordinary serving	63	2.2	54	46	00
*Beef, tongue, edible portion, average	Ordinary serving	62	2.2	47	53	00
*Beef, juice		395	14.	78	22	00
*Chicken (broilers), edible portion, average	Large serving	90	3.2	79	21	00
*Clams, round, in shell, edible portion, average.	Twelve to sixteen	210	7.4	56	8	36
*Cod, whole, edible portion	Two servings	138	4.9	95	5	00
*Goose (young), edible portion, average	Half serving	25	.88	16	84	00
*Halibut steaks or sec., edible portion, average.	Ordinary serving	81	2.8	61	39	00
*Liver (veal), as purchased, average	Two small servings	79	2.8	61	39	00
*Lobsters, whole, edible portion, average	Two servings	117	4.1	78	20	2
*Mackerel (Spanish), whole, edible portion, av.	Ordinary serving	57	2.	50	50	00
*Mutton leg, hind, lean, edible portion, average.	Ordinary serving	50	1.8	41	59	00
*Oysters, in shell, edible portion, average	One dozen	193	6.8	49	22	29
*Pork, loin chops, edible portion, average	Very small serving	27	.97	18	82	00
*Pork, ham, smoked, lean, edible portion, av.	Small serving	36	1.3	29	71	00
*Pork, bacon, smoked, med. fat, edible por., av.	Small serving	15	.53	6	94	00
*Salmon (California), ant. sec., ed. por., av.	Small serving	42	1.5	30	70	00
Shad, whole, edible portion, average	Ordinary serving	60	2.1	46	54	00
*Trout, brook, whole, edible portion, average	Two small servings	100	3.6	80	20	00
*Turkey, edible portion, average	Two small servings	33	1.2	29	71	00

VEGETABLES.

Name of Food.	"Portion" Containing 100 Calories Roughly Described.	Grams.	Oz.	Proteid.	Fat.	Carbohydrate.
*Artichokes, as purchased, average, canned		430	15	14	0	86
*Asparagus, as purchased, average, canned		540	19	33	5	62
*Asparagus, as purchased, average, cooked		206	7.19	18	63	19
*Beans, baked, canned	Small side dish	75	2.66	21	18	61
*Beans, Lima, canned	Large side dish	126	4.44	21	4	75
*Beans, string, cooked	Five servings	480	16.66	15	48	37

FRUITS (FRESH OR COOKED).

Name of Food.	"Portion" Containing 100 Calories Roughly Described.	Wt. of 100 Calories.		Per cent. of		
		Grams.	Oz.	Proteid.	Fat.	Carbohydrate.
*Apples, as purchased	Two apples	206	7.3	3	7	90
Apples, baked		94	3.3	2	5	93
Apples, sauce	Ordinary serving	111	3.9	2	5	93
*Apricots, edible portion, average		168	5.92	8	0	92
Apricots, cooked	Large serving	131	4.61	6	0	94
*Bananas, yellow, edible portion, average	One large	100	3.5	5	5	90
*Blackberries, as purchased, average		170	5.9	9	16	75
Blueberries		128	4.6	3	8	89
*Blueberries, canned, as purchased		165	5.8	4	9	87
Cantaloupe	Half ord. serving	243	8.6	6	0	94
*Cherries, edible portion, average		124	4.4	5	10	85
*Cranberries, as purchased, average		210	7.5	3	12	85
*Grapes, as purchased, average		136	4.8	5	15	80
Grape fruit		215	7.57	7	4	89
Grape juice	Small glass	120	4.2	0	0	100
Gooseberries		261	9.2	5	0	95
*Lemons		215	7.57	9	14	77
Lemon juice		246	8.77	0	0	100
Nectarines		147	5.18	4	0	96
Olives, ripe	About seven olives.	37	1.31	2	91	7
*Oranges, as purchased, average	One very large	270	9.4	6	3	91
Oranges, juice	Large glass	188	6.62	0	0	100
*Peaches, as purchased, average	Three ordinary	290	10.	7	2	91
Peaches, sauce	Ordinary serving	136	4.78	4	2	94
Peaches, juice	Ordinary glass	136	4.80	0	0	100
*Pears	One large pear	173	5.40	4	7	89
Pears, sauce		113	3.98	3	4	93
*Pineapples, edible portion, average		226	8.	4	6	90
Raspberries, black		146	5.18	10	14	76
Raspberries, red		178	6.29	8	0	92
*Strawberries, as purchased, average	Two servings	260	9.1	10	15	75
*Watermelon, as purchased, average		760	27.	6	6	88

CAKES, PASTRY, PUDDING AND DESSERTS.

Name of Food.	"Portion" Containing 100 Calories Roughly Described.	Grams.	Oz.	Proteid.	Fat.	Carbohydrate.
*Cake, chocolate layer, as purchased	Half ord. square piece	28	.98	7	22	71
*Cake, gingerbread, as purchased	Half ord. square piece	27	.96	6	23	71
*Cake, sponge, as purchased	Small piece	25	.89	7	25	68
Custard, caramel		71	2.51	19	10	71
Custard, milk	Ordinary cup	122	4.29	26	56	18
Custard, tapioca	Two-thirds ordinary.	69.5	2.45	9	12	79
*Doughnuts, as purchased	Half a doughnut	23	.8	6	45	49
*Lady fingers, as purchased		27	.95	10	12	78
*Macaroons, as purchased		23	.82	6	33	61
*Pie, apple, as purchased	One-third ord. piece.	38	1.3	5	32	63
*Pie, cream, as purchased	One-fourth " "	30	1.1	5	32	63
*Pie, custard, as purchased	One-third " "	55	1.9	9	32	59
*Pie, lemon, as purchased	One-third " "	38	1.35	6	36	58
*Pie, mince, as purchased	One-fourth " "	35	1.2	8	38	54
*Pie, squash, as purchased	One-third " "	55	1.9	10	42	48
Pudding, apple sago		81	3.02	6	3	91
Pudding, brown betty	Half ord. serving	56.6	2.	7	12	81
Pudding, cream rice	Very small serving	75	2.65	8	13	79
Pudding, Indian meal	Half ord. serving	56.6	2.	12	25	63
Pudding, apple tapioca	Small serving	79	2.8	1	1	98
Tapioca, cooked	Ordinary serving	108	3.85	1	1	98

*Beets, edible portion, cooked	Three servings	245	8.7	2	23	75
*Cabbage, edible portion		310	11	20	8	72
*Carrots, edible portion, average, fresh		215	7.6	10	8	82
Carrots, cooked	Two servings	164	5.81	10	34	56
*Cauliflower, as purchased, average		312	11	23	15	62
*Celery, edible portion, average		540	19	24	5	71
Corn, sweet, cooked	One side dish	99	3.5	13	10	77
*Cucumbers, edible portion, average		565	20	18	10	72
*Egg plant, edible portion, average		350	12	17	10	73
Lentils, cooked		89	3.15	27	1	72
*Lettuce, edible portion, average		505	18	25	14	61
*Mushrooms, as purchased, average		215	7.6	31	8	61
*Onions, fresh, edible portion, average		200	7.1	13	5	82
*Onions, cooked	Two large servings.	240	8.4	12	40	48
*Parsnips, edible portion, average	1½ serving	152	5.3	10	7	83
Parsnips, cooked		163	5.84	10	34	56
*Peas, green, canned	Two servings	178	6.3	25	3	72
*Peas, green, cooked	One serving	85	3	23	27	50
Potatoes, baked	One good sized	86	3.05	11	1	88
*Potatoes, boiled	One large sized	102	3.62	11	1	88
*Potatoes, mashed (creamed)	One serving	89	3.14	10	25	65
Potatoes, steamed	One serving	101	3.57	11	1	88
*Potatoes, chips	One-half serving	17	.6	4	63	33
*Potatoes, sweet, cooked	Half of av. potato	49	1.7	6	9	85
*Pumpkins, edible portion, average		380	13	15	4	81
Radishes, as purchased		480	17	18	3	79
Rhubarb, edible portion, average		430	15	10	27	63
*Spinach, cooked, as purchased	Two ord. servings.	174	6.1	15	66	19
*Squash, edible portion, average		210	7.4	12	10	78
*Succotash, canned, as purchased, average	Ordinary serving.	100	3.5	15	9	76
*Tomatoes, fresh, as purchased, average	Four av. tomatoes	430	15	15	16	69
Tomatoes, canned		431	15.2	21	7	72
*Turnips, edible portion, average	Two large servings.	246	8.7	13	4	83
Vegetable oysters		273	9.62	10	51	39

DAIRY PRODUCTS.

*Butter, as purchased	Ordinary pat or ball.	12.5	.44	.5	99.5	00
*Buttermilk, as purchased	1½ glass	275	9.7	34	12	54
*Cheese, American, pale, as purchased	1½ cubic in.	22	.77	25	73	2
*Cheese, cottage, as purchased	4 cubic in.	89	3.12	76	8	16
*Cheese, full cream, as purchased	1½ cubic in.	23	.82	25	73	2
*Cheese, Neufchatel, as purchased	1½ cubic in.	29.5	1.05	22	76	2
*Cheese, Swiss, as purchased	1½ cubic in.	23	.8	25	74	1
*Cheese, pineapple, as purchased	1½ cubic in.	20	.72	25	73	2
*Cream	¼ ordinary glass.	49	1.7	5	86	9
Kumyss		188	6.7	21	37	42
*Milk, condensed, sweetened, as purchased		30	1.06	10	23	67
*Milk, condensed, unsweetened (evap. cream) as purchased		59	2.05	24	50	26
*Milk, skimmed, as purchased	1½ glass	255	9.4	37	7	56
*Milk, whole, as purchased	Small glass	140	4.9	19	52	29
*Whey, as purchased	Two glasses	360	13	15	10	75

FRUITS (DRIED).

*Apples, as purchased, average		34	1.2	3	7	90
Apricots, as purchased, average		35	1.24	7	3	90
*Dates, edible portion, average	Three large	28	.99	2	7	91
*Dates, as purchased		31	1.1	2	7	91
*Figs, edible portion, average	One large	31	1.1	5	0	95
*Prunes, edible portion, average	Three large	32	1.14	3	0	97
*Prunes, as purchased		38	1.35	3	0	97
*Raisins, edible portion, average		28	1.	3	9	88
*Raisins, as purchased		31	1.1	3	9	88

SWEETS AND PICKLES

*Catsup, tomato as purchased, average		170	6.	10	3	87
*Honey, as purchased	Four teaspoonfuls	30	1.05	1	0	99
*Marmalade (orange peel)		28.3	1.	.5	2.5	97
*Molasses, cane		35	1.2	.5	0	99.5
*Olives, green, edible portion	Seven olives	32	1.1	1	84	15
*Olives, ripe, edible portion	Seven olives	38	1.3	2	91	7
*Pickles, mixed, as purchased		415	14.6	18	15	67
*Sugar, granulated	Three teaspoonfuls or 1½ lumps	24	.86	0	0	100
*Sugar, maple	Four teaspoonfuls	29	1.03	0	0	100
*Syrup, maple	Four teaspoonfuls	35	1.2	0	0	100

NUTS.

*Almonds, edible portion, average	About eight	15	.53	13	77	10
*Beechnuts		14.8	.52	13	79	8
*Brazil nuts, edible portion	Three ord. size	14	.49	10	86	4
*Butternuts		14	.50	16	82	2
*Cocoanuts		16	.57	4	77	19
*Chestnuts, fresh, edible portion, average		40	1.4	10	20	70
*Filberts, edible portion, average	Ten nuts	14	.48	9	84	7
*Hickory nuts		13	.47	9	85	6
*Peanuts, edible portion, average	Thirteen double	18	.62	20	63	17
*Pecans, polished, edible portion	About eight	13	.46	6	87	7
*Pine nuts (pignolias), edible portion	About eighty	16	.56	22	74	4
*Walnuts, California, edible portion	About six	14	.48	10	83	7

CEREALS.

*Bread, brown, as purchased, average	Ordinary thick slice.	43	1.5	9	7	84
*Bread, corn (johnnycake) as purchased, av.	Small square	38	1.3	12	16	72
*Bread, white, home made, as purchased	Ordinary thick slice.	38	1.3	13	6	81
Corn flakes, toasted	Ord. cereal dish full.	27	.97	11	1	88
*Corn meal, granular, average		27	.96	10	5	85
*Corn meal, unbolted, edible portion, average		26	.92	9	11	80
*Crackers, graham, as purchased	Two crackers	23	.82	9	20	71
*Crackers, oatmeal, as purchased	Two crackers	23	.81	11	24	65
*Hominy, cooked	Large serving	120	4.2	11	2	87
*Macaroni, average		27	.96	15	2	83
*Macaroni, average, cooked	Ordinary serving	110	3.85	14	15	71
*Oatmeal, average, boiled	1½ serving	159	5.6	18	7	75
*Popcorn, average		24	.86	11	11	78
*Rice, uncooked		28	.98	9	1	90
*Rice, boiled, average	Ord. cereal dish	87	3.1	10	1	89
*Rice, flakes	Ord. cereal dish	27	.94	8	1	91
*Rolls, Vienna, as purchased, average	One large roll	35	1.2	12	7	81
*Shredded wheat	One biscuit	27	.94	13	4.5	82.5
*Spaghetti, average		28	.97	12	1	87
*Wheat flour, entire wheat, average		27	.96	15	5	80
*Wheat flour, graham, average		27	.96	15	5	80
*Wheat flour, patent roller process, family and straight grade spring wheat, average		27	.97	12	3	85
*Zweiback	Size of thick slice of bread	23	.81	9	21	70

MISCELLANEOUS.

*Eggs, hen's, boiled	One large egg	59	2.1	32	68	00
*Eggs, hen's, whites		181	6.4	100	0	00
*Eggs, hen's, yolks	Two yolks	27	.94	17	83	00
*Omelet		94	3.3	34	60	6
*Soup, beef, as purchased, average		380	13.	69	14	17
*Soup, bean, as purchased, average	Very large plate	150	5.4	20	20	60
*Soup, cream of celery, as purchased, average	Two plates	180	6.3	16	47	37
*Consomme, as purchased		830	29.	85	00	15
*Clam chowder, as purchased	Two plates	230	8.25	17	18	65

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† Experiments on Losses in Cooking Meats, (1900-03), Grindley, U. S. Department of Agriculture Bull. No. 141.

§ Laboratory number of specimen, as per Experiments on Losses in Cooking Meat.

* Chemical Composition of American Food Materials, Atwater and Bryant, U. S. Department of Agriculture, Bull. No. 28.

ered as concentrated at 7 with their combined weight, 7. We then find the center of gravity of this new point 7 and the remaining point, 5. The center of gravity of this point 7 and point 5 will be a point, 12, on the straight line between them, situated nearer the 7 than the 5, and dividing the distance between in the ratio of 5 to 7. At point 12 the whole combination of 12 portions may be considered to be concentrated. It is evident that we could find the center of gravity of the same three points by combining them in a different order, but the result would be the same.

It is also evident that more than three points may be combined on the same principles by combining them by twos and threes and then combining the combinations.

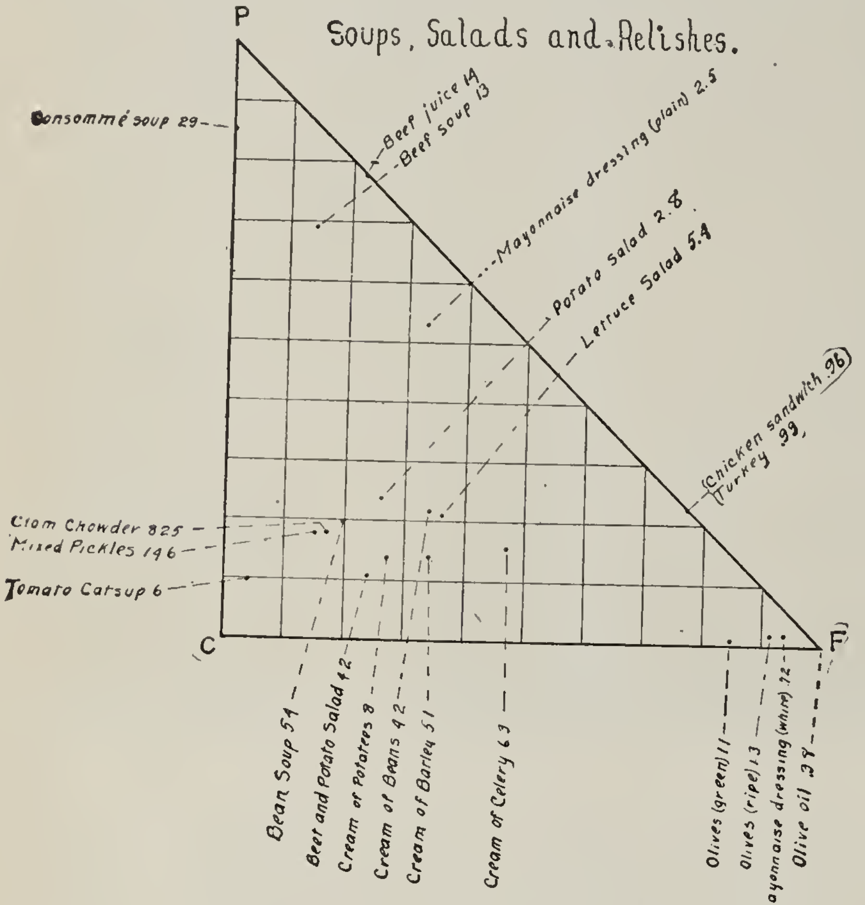

Figure 7.

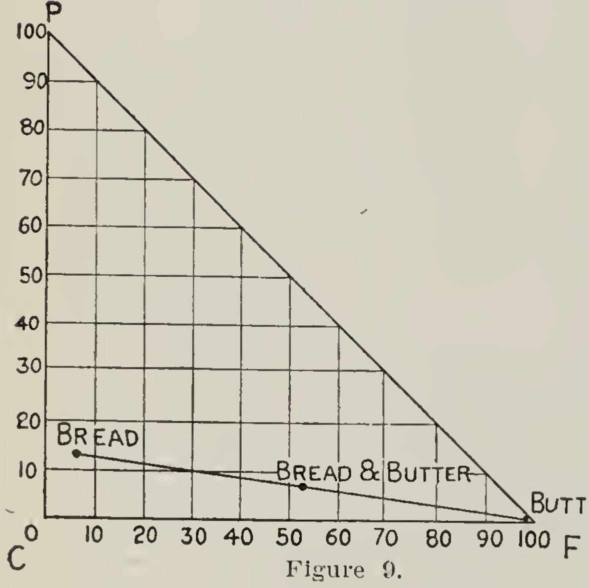

Figure 9.

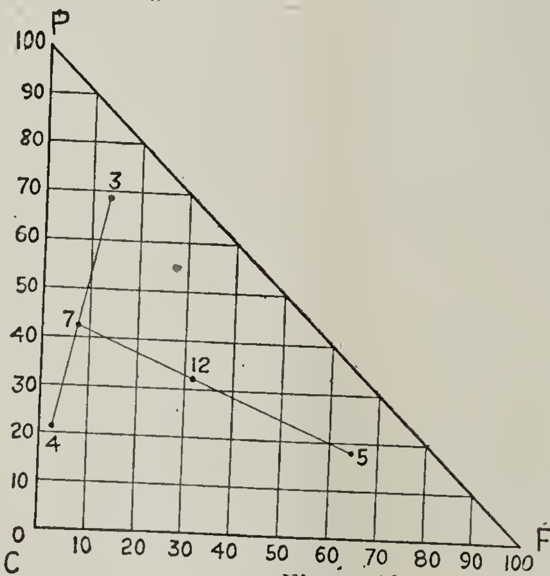

Figure 10.

When all the points are combined into one point, that point will represent the entire meal. If the final point thus found is labeled "22," and is located 20 per cent. up and 30 per cent. to the right, this shows that in all twenty-two "portions" (2,200 calories) have been consumed, of which 20 per cent. (440 calories) are proteid, 30 per cent. (660 calories) are fat, and the balance, 50 per cent. (1,100 calories), are carbohydrate.

The ration here exemplified contains too much proteid. If we accept Professor Chittenden's[7] results as to proteid requirements, a well-balanced daily ration for the average person will be represented by a point lying within the "normal rectangle," as shown in Figure 11. This shows that proteid should be near 10 per cent.

All foods may be classified according to their location relatively to this rectangle. Thus, all foods located above the rectangle are high-proteid foods; all below, low-proteid foods; all within, normal-proteid foods. Looking at the "food map" we see among the high-proteid foods, beginning with the lowest, graham bread, macaroni, tomatoes, whole-wheat bread, pine nuts, beans, buttermilk, cheese and meats. Among the low-proteid foods, beginning with the highest, are most fruits (except raspberries and strawberries), cream, pecans, olives, butter, olive oil, sugar. Among the foods normal in proteid are most breads, wheat flakes, corn flakes, strawberries, raspberries, chestnuts and most other nuts (except pine nuts and pecans). In the same way we may classify foods as to their richness in fat or carbohydrate; but there is a larger range allowable for these elements than for proteid. High proteid foods tend to make the

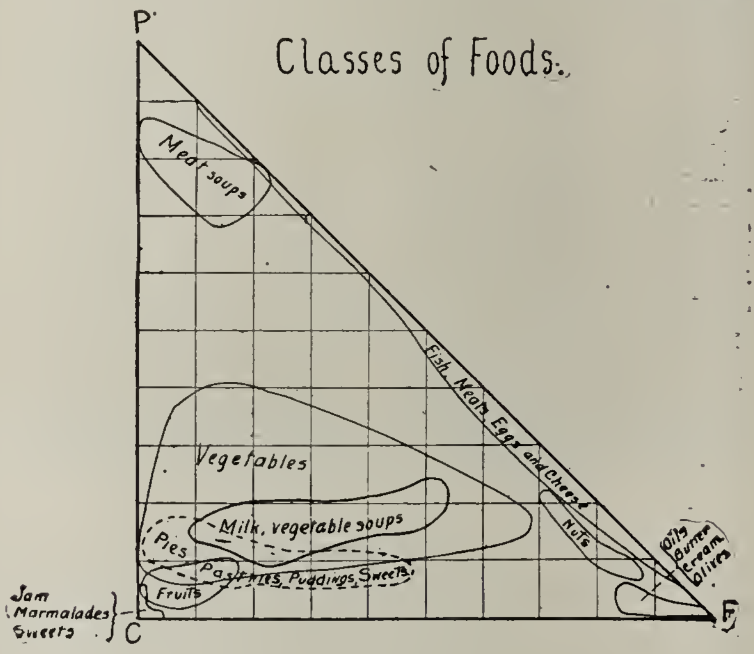

Figure 8.

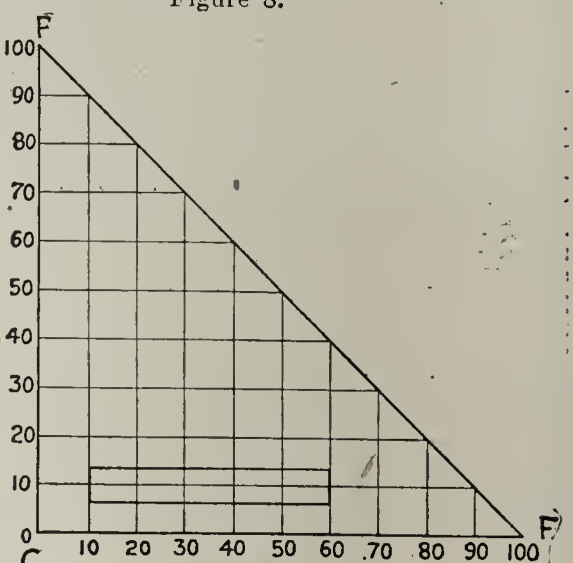

Figure 11.

ration high in proteid, and will do so unless balanced by low-proteid foods. Most persons consume much more proteid than that in the Chittenden standard. This excess may be avoided either by omitting foods high in proteid or by using them very sparingly.

Since the resultant point, representing the ration, is the center of gravity of the points representing its constituents, it is evident that it can be obtained by mechanical as well as by geometrical methods. For this purpose a mechanical diet indicator has been devised, as shown in Figures 12, 13, 14, 15.

The essential feature of this apparatus is a card on which is drawn the right-angled triangle with which we have already become familiar. Points on this card may be located to represent the various foods employed. These points may be easily found from tables given at the end of this article. Points representing the most common foods may be already printed on it. At points representing foods eaten, pins with heavy heads are thrust through the cardboard (Fig. 12), the weight of each representing one "standard portion." Similar pins, but one-half and one-quarter as heavy, are also provided to represent half and quarter "portions." When these pins are placed, the total ration which has been consumed is easily found, simply by counting the "portions" thus represented. For instance, if there are 15 pins representing "standard portions" and 10 pins representing half "portions" (and therefore five full "portions"), the total ration is 20 "portions," or 2,000 calories. In order to find the percentages of proteid, fat and carbohydrate in this ration, it is only necessary to obtain the center of gravity of all the pins. For this purpose the card is placed in a basket (Fig. 13) and suspended on a standard (Fig. 14) so that the center of gravity of the pins may assume a position vertically under the point of support. The position of this center of gravity is easily indicated on the card by means of a vertical pricker (Fig. 15), which may be pressed on the card. Thus, almost instantaneously, the center of gravity is found. The total time consumed in placing the pins, adjusting the card and basket, and finding the center of gravity, is found to be, for accurate work, about five minutes.[8]

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[7] See his "Physiological Economy in Nutrition," New York (Stokes), 1904.

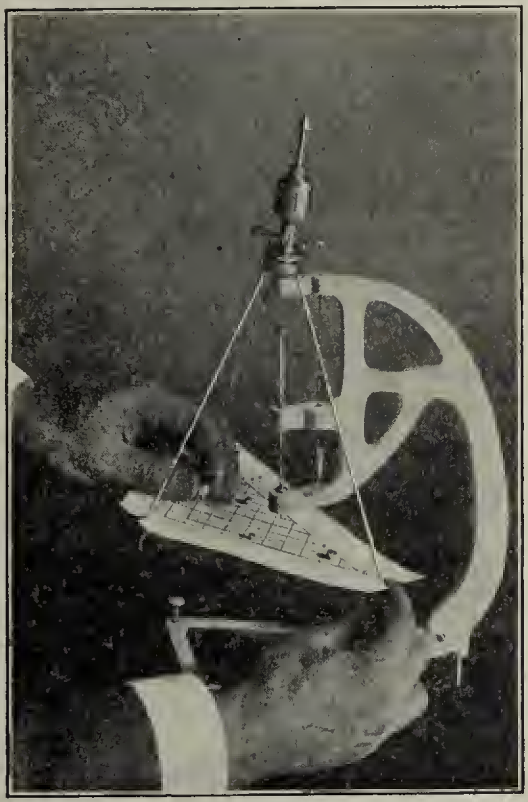
Figure 12.

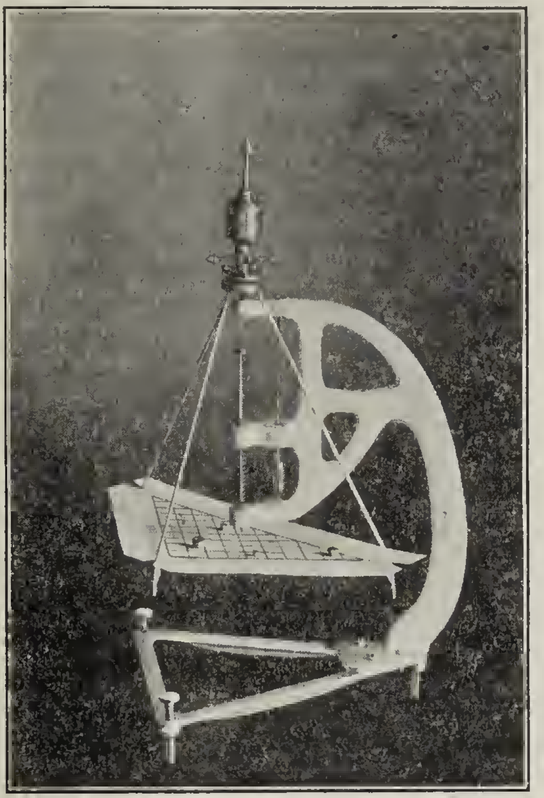
Figure 14.

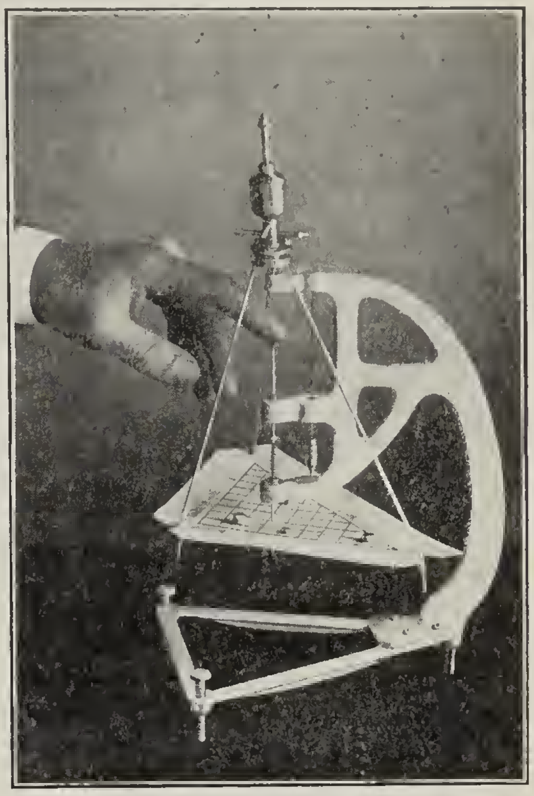
Figure 15.

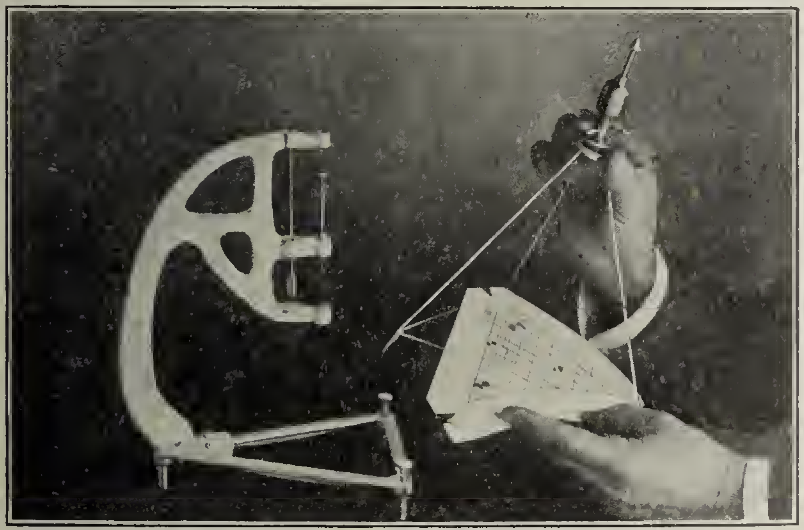
Figure 13.

The mechanism in which the cardboard triangle is held is so arranged that when the cardboard is horizontal the center of gravity falls at a point indicating normal food proportions. If the center of gravity is at some other point, the cardboard will tip, showing that the ration is not "balanced." If the proteid vertex tips down, it indicates an excess of proteid; if the fat vertex, excess of fat; if the carbohydrate vertex, excess of carbohydrate.

It is now evident that, by means of the mechanism and the rectangles marked on the card, it is a simple matter to discover whether a particular diet conforms to any given standard. It is equally simple to correct discrepancies thus found, and, if need be, the corrections may be made in advance and the balanced ration prescribed. A trial ration may be put on the card, and if it fails to balance, the pins may be rearranged and balanced with far greater rapidity than the corresponding operations could be carried out by arithmetical computations.

One advantage, however, of the foregoing methods is that, whether the object is merely to record what is consumed or actually to prescribe, the patient need not be annoyed by having scales at table. All weighing may be done in the kitchen and the food served in "standard portions" or in known multiples or fractions of such portions. It is only necessary that the patient, or some one else, shall report exactly what part of the various portions served has been consumed. The patient need not even know the food values of the portions served to him, and thus the introspection and trepidation, which often defeat the very aim of diet prescription for the sick, may be avoided. For well persons who desire to keep a record of their dietary, the method here given has the advantage that when it is once made familiar it can be employed without any apparatus. One soon becomes able to recognize the quantities of the ordinary foods which contain 100 calories, and to hold in memory the position on the triangle where these foods are indicated. A little reflection will then enable him to judge how many "standard portions" he has consumed at a meal, and also whether their center of gravity falls within the normal rectangle. If he has a good locative imagination, he can rely entirely on his mental image of the triangle. Any one who has once pictured the foods on the "food map" is not likely to forget their several locations. He will know that a meal in which soup, fish, meat, certain high-proteid vegetables, eggs, cheese, milk and ice cream predominate, must be too high in proteid; for all these foods are located above the "normal rectangle." Moreover, he will be able, after a little practice, to estimate roughly the calorific value of his food. A "portion" of 100 calories may be ascribed to each lamb chop, or its equivalent in other meat, each (large) egg, each two-thirds of a glass of milk, each ordinary potato, large slice of bread, large banana, ordinary pat or square of butter, shredded wheat biscuit or its equivalent in other cereal, eight almonds, half dozen English walnuts, one and one-half lumps of sugar, etc.

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[8] The weight of the cardboard and the basket containing it is eliminated by the construction of the basket. Its center of gravity (when containing the cardboard *without* pins) exactly coincides with the point of support. Hence, when the basket with the card (but *without* pins) is placed on the point of support, it tends neither to swing (which would imply stable equilibrium) nor to be top-heavy (which would imply unstable equilibrium), but is in "neutral" equilibrium, and will remain at any angle at which it is placed.

To illustrate the method by practical examples, let us suppose that for a particular patient the prescription is for 2,000 calories a day, of foods so combined that the food proportions will be represented by a point within the right half of the rectangle. To carry out this prescription the patient looks at the "food map" and finds no foods on it which themselves fall within the prescribed area. He observes, however, that bread and butter are located on opposite sides of this area, and his eye shows him that a combination of the two in equal parts (by calories, not by weight) will very nearly fall within it, though slightly too low. Corn flakes and cream combine within the set limits; milk and dates (a favorite oriental combination) fall near the mark; poached eggs on toast (with the whites left out) will also come near the proper spot, though slightly too high; any cereal foods or fruits (which lie at the left), combined with foods which lie at the right, as egg yolk, nuts or cream, butter, olives or olive oil will combine nearly right, provided the right-hand foods predominate. Choosing such of these combinations as are most relished, the patient eats his meal. Afterward he, his physician or nurse indicates on the triangle by pencil marks each food which has been eaten, or, if he has a mechanical diet indicator, by the weighted pins. The center of gravity will then show exactly where his meal is located on the "food map," and the total number of "portions" will show how much he has eaten. The cause of any deviation from the prescription will be very apparent. It may be that the point is too high, indicating excessive proteid, and this may be due to too much milk, eggs or meat; or too much cereal food may have displaced the point to the left. These errors may be rectified at the next meal. At the end of the day, from the cards used in the three meals, he selects the three centers of gravity and transfers them to a fourth card, from which, in the same way, the total calories and center of gravity for the three are found; this represents the total day's ration.

Or, again, a patient may at first be given *carte blanche* in his food, merely reporting the "portions" eaten. Each dish being served in "portions," this will require little trouble. In fact, a nurse may do it all by noting what is put on a tray and what is left after the meal. On the basis of the returns, the physician or nurse can tell exactly how much and what proportions the patient is eating, and his besetting dietetic sins will be evident. The physician will be enabled thereby to guide him intelligently, suggesting, for instance, that he reduce his ration to two-thirds of what he has been accustomed to, or reduce meat, eggs, etc., or take more cream and butter, etc. It goes without saying that any change in diet, unless it be a change in amount only, should be gradual.[9] Thus, if a person has been accustomed to excessive proteid, his stomach has probably become adjusted to this condition and secretes a large amount of gastric juice. When the reduction of proteid is sudden, the gastric juice will not at first decrease in proportion, and a large part of this secretion will therefore remain unused. This uncombined acid interferes with the digestion of starch and the person feels a "sour stomach." A gradual reduction of proteid, on the other hand, will avoid this difficulty. The reduction may be more rapid (for the hyperacid) if the proportion of fat is increased, as fat tends to restrain the gastric secretion.

In the winter of 1906 the mechanical diet indicator was employed for five months in an experiment with nine Yale students. No diet was prescribed, and the indicator was used only to record the diet which the men themselves chose. It was found that by following Mr. Fletcher's rules of thorough mastication and obedience to appetite, the men gradually and naturally reduced their proteid. The extraordinary effects on their working power are described elsewhere.[10] To what extent such "natural eating" can help in pathologic cases has not yet been shown, although some physicians are reported to have found it a very valuable aid in their practice. Certainly it could scarcely fail to be more serviceable than the unintelligent and reckless diet prescriptions so often made.

Whether or not diet prescriptions are given, the actual diet employed by patients should receive study. This study is made easy by means of the graphic and mechanical methods.[11] These methods may be used with advantage in the kitchen by housewives desirous of supplying balanced meals, and may be of special service in institutions where it is important to provide complete and well-proportioned nourishment at a minimum of cost. On the mechanical diet indicator the weighted pins may be placed to indicate any proposed meal, and this meal, by a slight adjustment of the weights, may be balanced as exactly as desired.

The accompanying table of foods is classified under several heads:

Cooked meats.
Vegetables.
Fruits.
Sweets and pickles.
Cakes, pastry, puddings and desserts.
Miscellaneous.
Uncooked meats.
Dairy products.
Nuts.
Cereals.

APPENDIX.

The preceding table gives the data for the ordinary foods, in a form most readily used for the graphic or the mechanical method. The figures for carbohydrate are included, although, as has been shown, they do not need to be used in practical application, the location of each food on the "food map" being completely determined by its "latitude" and "longitude," i. e., the proportion of the fuel value in proteid and fat respectively. The foods, so far as possible, are prepared foods such as are served on the table, but unfortunately, the main sources of information being *Bulletin No. 28* of the Department of Agriculture, for food materials, it has not been possible to include all prepared dishes desired. Moreover, recipes vary so that it would be impracticable to supply data for such dishes which could be used with advantage or certainty. It is easily possible, however, for any one who uses the table to add to it the necessary data for any made dish of known recipe. All that is necessary is to translate the weights of the various ingredients into a number of "standard portions," and then to locate these ingredients on the "food map" and find their center of gravity. This will indicate the position of the composite food. The weight of a "standard portion" of this food is found by dividing the aggregate weight of all the ingredients used by the number of "portions" in them, as above ascertained.

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[9] Hutchinson, Robert: General Considerations on the Therapeutic Uses of Diet. Practitioner, April 1906, p. 470.

[10] For a short abstract see Science, Nov. 16, 1906. A full report will appear in the Transactions of the Connecticut Academy of Arts and Sciences.

[11] There is no patent on this device; anyone is free to make and use it. The Battle Creek Sanitarium has had experience in constructing the apparatus. A regular instrument maker may take up its manufacture later if conditions warrant.

Thus, to locate sponge cake, when the recipe is 3 eggs, 1 "cup" (4 oz.) sugar, and 1 "cup" (4 oz.) flour; the eggs, if of ordinary size, weigh 4¼ oz. and constitute, as the table shows, 2 "portions;" the sugar, weighing 4 oz., constitutes 4.65 "portions" and the flour, weighing 4 oz., 4.2 "portions." This gives a total weight of 12¼ oz., and 11 as the total number of "portions." Dividing the former by the latter, we have 1.1 oz. as the weight of a "portion" of sponge cake. The position on the "food map" of sponge cake is now found by putting the pins at the points on the map as indicated by the table for sugar, eggs and flour. These weights, representing respectively 4.65, 2, and 4.2 "portions," the center of gravity shows the position of sponge cake, which is about 11 per cent. of proteid and about 12 per cent. of fat. This result does not agree exactly with sponge cake as given in the table, owing to the difference in recipe, that in the table probably including shortening.

Unless great precision is required, a sufficient approximation may be obtained in general by omitting fractional portions: thus, we may call the eggs 2 "portions," the sugar 5, and the flour 4. The resulting center of gravity may be found roughly by the eye, without even the aid of the diet indicator. It is surprising how close such a rough approximation will usually be found to the true value, as the influence of the errors in the particular ingredients, on the combined result, is small, and the various errors usually tend to offset each other.

Should the reader desire to add other items to the table, either of food materials or food stuffs, he may do so by using the sources from which the table is constructed. Thus, if he will obtain from the Department of Agriculture *Bulletin No. 28*, "Chemical Composition of American Food Materials," he may translate the figures there given into the form to be entered in the table as follows: The weight in ounces of a "standard portion" is found by dividing 1,600 by the number of calories per pound given in the table. The calories per cent. of proteid is found by multiplying the figure in the *Bulletin* table giving the weight per cent. of proteid, by 1860 and dividing the result by the figure giving the number of calories per pound. The same calculation and the same factor, 1860, apply to carbohydrate. For fat the same calculation applies, but with the substitution of the factor 4220 in place of 1860. The three results may be verified by adding the resulting figures for proteid, fat and carbohydrate, the sum of which should be 100 per cent. To weigh foods, letter scales will usually suffice, the food being weighed in dishes and the weight of the dishes subtracted.

Abuse of Medical Charity.—Is it presumption on our part to ask the trustees to protect the hospital physician from wasting his strength, time and skill, his capital in life, on those who have no right to them? And, furthermore, to ask them to show due consideration to the family physician by refusing to allow well-to-do people to obtain free treatment at the institutions under their charge?—G. W. Gay, Boston.

MYXEDEMA.

CAMPBELL P. HOWARD, M.D.
Outdoor Physician to the Montreal General Hospital.
MONTREAL, CANADA.

(Continued from page 1230.)

Case 4.—*White, female, aged 46; multipara; pronounced clinical picture; six years' duration; thyroid therapy; loss of 21½ pounds in eight weeks; recovery.*

Patient.—F. A., American; housewife; Nova Scotia, Canada, was admitted to the Johns Hopkins Hospital March 16, 1895, complaining of "swelling and apathy."

History.—Family and personal history were unimportant. Patient was married and the mother of several children. In her youth she had been a very beautiful woman, and always very active in family and social duties.

Present Illness.—This began insidiously about five or six years before admission, when the patient was about 40 years old, and progressed steadily until it resulted in almost complete physical and mental disability. The face became bloated, the eyeballs being especially full and baggy. Enormous pads developed above the clavicles. Her hands and feet gradually enlarged, and the skin everywhere was unusually harsh and dry. Her hair fell out and she became abnormally sensitive to cold. She was dull and apathetic, but hypersensitive on one point, her looks. She exhibited a dislike for society, and at one time refused to see even the members of her own family. Dr. Osler, who knew her in her youth, at his first visit "could scarcely believe that the bloated shapeless mass of humanity had twenty years ago been the belle of her town."

Physical Examination.—Examination on March 18, 1895, revealed a characteristic edematous facies; forehead was much swollen and infiltrated, but the wrinkles were not obliterated. Both eyelids were infiltrated and edematous, and there were bags of edema in the lower lids. The palpebral orifices were distinctly narrowed. The cheeks looked swollen, and the features were coarse. The movements of the facial and ocular muscles were good. Pupils were active; lips chapped. The tongue was clean, smooth and swollen. There was a distinct swelling above both clavicles and at the back of the neck. The hands were puffy and swollen (though this varied a good deal), and the skin was glazed and cracked.

The skin was universally dry and harsh. The teeth were loose, several were lost and the gums had receded. The hair, which was formerly very abundant, was very thin, and over the scalp there were several irregular bald patches. There was a marked depression, somewhat V-shaped, in the anterior triangle of the neck, and no thyroid gland could be felt. The intelligence was good. She was somewhat emotional, but had no delusions. Cerebration was slow.

The voice had become harsh and rough. The pulse was from 80 to 88 to the minute. The temperature was subnormal, 96.5 to 97.8 degrees. The weight was 158 pounds. The urine varied from 650 to 890 c.c. in twenty-four hours, specific gravity of 1008 to 1015, and contained a trace of albumin, but no casts.

Clinical History.—March 20, 1895: Thyroid extract, gr. iss, t.i.d.

March 22: There was sweating of the palms of hands and also burning pains in the limbs. She was very despondent.

March 28: The pulse gradually increased in rate, averaging 95 to minute. The puffiness of the face was greatly diminished and there was no longer edema about the lids. She was much brighter and showed an interest in her suroundings.

April 1: The temperature was often above normal and the pulse rarely below 100.

April 4: She had lost 12 pounds in two weeks and then weighed 146 pounds. The physical and mental improvement continued steadily.

May 11: She was discharged, having further improved and having lost in all 21½ pounds in weight (136½ pounds) in the eight weeks following the administration of about 287 grains of thyroid extract. She was cheerful, the swelling and puffiness had all gone, and she was an entirely different woman. The amount of urine had increased after commencing the extract and often reached 1,000 to 1,300 c.c. Subsequent to her discharge from the hospital Dr. Osler heard on several occasions that she had remained perfectly well, was bright and alert, and engaging actively in her former social and home duties. She still, however, was using at intervals the thyroid extract.

Case 5.—*White, female, aged 39; tripara; typical picture; four years' duration; thyroid therapy; loss of 24½ pounds; recovery.*

. *Patient.*—W. A., American, housewife, of Alabama, was admitted to the Johns Hopkins Hospital Feb. 20, 1896, complaining of "swelling of various parts of the body."

History.—Family history was negative for goiter or myxedema. Patient had measles and whooping-cough once each and pneumonia twice in childhood. She also had malaria in childhood and again at her thirty-fourth year. At her fourth or fifth year she had a swelling in the right side of her neck which finally broke down and discharged, leaving a cicatrix (tuberculous adenitis?). Menses were regular from fourteenth year to present illness. She had three children, the youngest of whom was 12; no miscarriages. She had swelling of her feet since birth of her first child, nineteen years before admission.

Present Illness.—Though for many years she had noticed "bloating of the feet," it only became pronounced when she was 35 years old, i. e., four years before admission. She thought that formerly the swelling occurred only in the spring time. This edema spread from the feet to the hands and eyelids. The eyelids were especially puffed in the morning. The skin was harsh and dry. At times the lips and tongue became so thick that she could hardly speak. The mind had been dull of late. The feet were constantly tired. Numbness and muscular cramps were all over the body. She was often very nervous. The menses became irregular and from her thirty-second year occurred only about once a year; she had not menstruated at all during the year before admission. The appetite was poor and the bowels were constipated. She got up once or twice each night to micturate.

Physical Examination.—Examination on Feb. 21, 1896, revealed a large framed woman of good color. There was marked pinkness of the cheeks in contrast to the excessive pallor about the eyes. The skin was extremely harsh and dry. There was a very marked puffy and edematous appearance of the face (especially about the eyes), the hands and also in the supraclavicular regions. The feet and legs gave the appearance of an enormous edema, but there was no pitting. The subcutaneous tissue had a peculiar resistant feeling.

The tongue was clean. The condition of the thyroid was not noted. The abdomen was full, but both the abdominal and thoracic viscera seemed normal. The pulse varied from 60 to 68 to the minute. The temperature was subnormal, 96.8 to 98 degrees. The weight was 240 pounds. The urine was 600 to 1,000 c.c. in twenty-four hours; sp. gr., 1,016 to 1020. It contained a faint trace of albumin on several examinations, but once only a few granular casts.

The blood examination revealed: Hb., 70 per cent.; red blood corpuscles, 4,232,000; white blood corpuscles, 3,600. The differential count was about normal, thus:

	Per cent.
Polymorphonuclear neutrophiles	70.5
Small mononuclears	17.5
Large mononuclears	9.5
Mastzellen	1.5
Eosinophiles	1.9

Clinical History.—March 3, 1896: She was given thyroid extract, gr. ss, t.i.d., which was increased to gr. ¾, t.i.d., on March 5.

March 7: There was a decided improvement in the condition of the skin of her hands, which was thinner and looser. The pulse rate was increased.

March 9: The patient had lost 10 pounds. She menstruated for the first time in one year. As, however, she was very nervous and hysterical, crying frequently and complaining of headache and pains in her back and limbs, the thyroid extract was omitted for twenty-four hours.

April 16: The improvement continued, the puffiness of the face and extremities disappearing, the facies losing their former dull apathy, and the voice becoming natural. The pulse rate also gradually increased to 88 to 100 for the minute, though there was little or no change in temperature. The hemoglobin rose to 80 per cent and the red blood corpuscles to 4,400,000. The quantity of urine showed no great difference, though occasionally amounted to 1,300 or 1,400 c.c. She was discharged, having taken 196 grains of thyroid extract and having lost 24½ pounds (215½ pounds) in eight weeks.

Subsequent History.—Oct. 6, 1905: A letter on this date from the patient stated that since discharge from the hospital her "general health had been very good," and she then weighed 170 pounds (i. e., a loss of an additional 45½ pounds). On one or two occasions she had slight returns of her previous affection, which, however, were relieved by the tablets, three of which she was using at the time of writing.

Case 6.—White, female, aged 38; tripara; case of moderate severity; five years' duration; thyroid therapy; loss of 4 pounds in 16 days; recovery.

Patient.—M. W., American, housewife of North Carolina, was admitted to the Johns Hopkins Hospital, Feb. 17, 1903, complaining of "swelling of the body."

History.—Mother alive, but has symptoms resembling those of the patient. Maternal grandmother and uncle died of "kidney trouble." Patient had whooping cough in childhood and measles at 22. The menses were regular until the present illness. Was married and had three children, the youngest 7 years old. No miscarriages. Average weight, 140 pounds.

Present Illness.—Began at her 33rd year (1898) with a gradually developing swelling and puffiness of the skin, which was of general distribution and more marked at night than in the morning. The complexion became pale, sallow and yellow. Giddiness developed at the onset and persisted. It was present sometimes for half a day at a time, even when she assumed the recumbent posture. At first this giddiness occurred only two or three times a year, but has recently become much more frequent. Indigestion developed in 1901, but was unaccompanied by nausea or vomiting. The appetite was good. The bowels had been very constipated except for an attack of "dysentery" in 1901 and again in May, 1902, since which she steadily grew more edematous, especially about the eyes. She had constant "buzzing in her head" since October, 1902. The eyeballs became painful and very sensitive, and there were neuralgic pains in the back and legs. Weakness and dyspnea on exertion developed and gradually increased. The menses became irregular and scanty in 1901, but more recently became very profuse and the flow almost continuous.

Physical Examination.—Examination on Feb. 18, 1903, revealed a striking appearance. The face was swollen and had a curious puffy edematous character, especially about the eyes. Cerebration and speech were slow. There was slight puffiness of both hands and feet. The skin was harsh and dry and more or less sallow in color. There was no enlargement of the thyroid gland. The tongue was clean. The abdomen was slightly full and the bands of the ascending and descending colon were readily felt. The heart and lungs were normal. The pulse was rather small, 72 to 76 to the minute. Temperature was subnormal, 96.8 to 98.4 degrees. Weight was 138½ pounds.

The blood count showed: Hb., 62 per cent.; red blood corpuscles, 3,736,000; white blood corpuscles, 6,700. The urine varied from 540 to 840 c.c. in twenty-four hours; sp. gr. 1,010 to 1,016; trace of albumin and an occasional hyaline cast.

Clinical History.—Feb. 20, 1903: Thyroid extract, gr. v, t.i.d.

March 6: The tonsils were enlarged and the fauces were injected. The temperature rose to 99.2.

March 8: The temperature gradually reached normal, but the pulse rate was practically unaltered. She had lost 4 pounds during sixteen days.

March 15: The amount of urine showed a decided increase from the day after beginning the thyroid extract, averaging about 1,500 c.c. in the twenty-four hours, but occasionally reaching 1,600 to 1,700 c.c.

The patient was discharged, practically well, after having taken 345 grains of thyroid extract in the twenty-three days, and having lost further in weight.

Case 7.—*White, male, aged 51; married twice; symptoms of moderate severity; six months' duration; thyroid therapy; loss of 4 pounds in six days; recovery.*

Patient.—A. M., Canadian, merchant of Quebec, was admitted to Johns Hopkins Hospital Nov. 29, 1903, complaining of "buzzing in head," "swelling of arms and hands," "coldness and numbness of feet," "catarrhal diarrhea."

History.—Family history was negative. Patient had measles and scarlatina in childhood, and neurasthenia in 1899. He had worked hard and constantly for years. His habits were good. He had married twice and had five children by first wife and none by second. His pulse had been slow for years, but never irregular before the present illness. The bowels were regular. His average weight was 185 to 190 pounds.

Present Illness.—In January, 1903, he first suffered from an attack of "catarrhal diarrhea," which had recurred at intervals. On July 1, after exposure to a hot sun while fishing, he first noticed a "buzzing sensation in the head like the sound of rapids." At the same time there was a sense of heaviness in the hands. On July 10 he noticed swelling of the face about the eyes. Three to four weeks later he suffered from cold and numbness of the hands and feet, which were slightly swollen. The swelling became more marked on the upper extremities as far as the shoulder joints. The skin of the hands and face was harsh, dry and inelastic. The voice became husky and "throaty," and the speech slow. There was constantly a peculiar flavor in the mouth. As the sclerotics and skin had a somewhat yellow tinge, he was treated for catarrhal jaundice. There was at times a sense of fulness below the heart, with periods of intermittent action of the heart. He had great difficulty in keeping himself warm, requiring a heavy undershirt and a hot water bottle at night. He had not attended to business since August, 1903, because of a disinclination for work and not because of any slowness of cerebration or loss of memory. He had consulted several physicians, who had always found his urine clear.

Physical Examination.—Examination by Dr. Osler on Nov. 27, 1903 (two days before admission) revealed a well nourished man, 5 feet 11 inches in height. The face was sallow, yellowish and waxy, and looked a little swollen. The eyelids were puffy and edematous as well as the skin above them. There was no special swelling of the ears. The skin was a little dry and hard. The hands were unusually dry, a little bluish and distinctly swollen. He thought that his right arm was a little swollen. The general surface of the skin of the body was unchanged except that it was a little dry and harsh. The pad above the left axilla was larger than above the right. His voice was husky. There was flattening in front of the trachea and no thyroid gland could be felt. The spleen and liver were both just palpable. There was no enlargement of the lymphatic glands. Cerebration was slow.

Nov. 29: On the day of admission, in addition to the above data, it was noticed that his expression was dull and facies heavy. The hair seemed normal. The gait was slow and he was deliberate in all his actions. The pulse was slow (45 to 52 to the minute), blood pressure was 100 to 110 m.m., hg.; the radial artery was sclerosed.

The temperature was subnormal, 97 to 98 degrees.

The blood showed: Hb., 70 per cent.; red blood corpuscles, 4,104,000; white blood corpuscles, 7,800.

The quantity of urine before treatment was 620 c.c. in twenty-four hours; the sp. gr., 1,011, and it contained neither albumin nor sugar, but a few hyaline casts.

Clinical History.—Dec. 1, 1903: Weight, 172 pounds. He was given thyroid extract, gr. v, t.i.d.

December 5: The amount of urine increased immediately after thyroid extract to 2,110 c.c. in the first twenty-four hours, to 4,025 c.c. in the second twenty-four hours. It always remained above 1,000 c.c.

December 6: The patient was discharged very much improved after having taken 90 gr. of thyroid extract, and having lost 4 pounds in the six days (168 pounds).

December 16: He returned to see Dr. Osler, who noted "a remarkable change in appearance; all the infiltration had gone from his face and eyes, though he still looked a little sallow. The face was no longer dry and the hands were not nearly so dry and not at all rough. The stomach was very much out of sorts, though the tongue was clean. The pulse was 82 to the minute.

Jan. 20, 1904: A letter from him stated that he continued to improve with the use of thyroid extract. His weight was 170 pounds.

Oct. 26, 1905: A letter on this date states that although he had not his former vim he was very well. He weighed 180 pounds without clothes. He had occasionally trouble with his bowels. He was taking daily one tablet of 5 gr.

Case 8.—*White, female, aged 44; decipara; atypical case; thyroid therapy; improvement; edema never entirely disappeared.*

Patient.—A. F. L., American, no occupation, of Baltimore, consulted Dr. Osler Feb. 28, 1895, and complained of "swelling of the lip and face."

History.—Father died of "heart disease," otherwise family history was negative. Patient had always enjoyed excellent health. She had been married twenty-three years, and had ten children, six of whom were living. Ever since maturity there was a tendency to swelling of the feet, particularly at night.

Present Illness.—For a year or more before consulting Dr. Osler she had been getting pale. In August, 1894, she noticed that her feet and ankles were swollen, the left much more than the right; and more recently the left hand had seemed a little puffy. The legs were more swollen at night than in the morning. The face had been a little swollen and flabby for several months and the eyelids became edematous in the morning. She thought that she had gained slightly in weight. She did not complain of any susceptibility to the cold. She still perspired. For some time she had been very low-spirited and despondent. In August, 1894, she had a rectal abscess, which, however, left no fistula.

Physical Examination.—She had a pale yellow, very muddy complexion; the skin was dry, but there was no great puffiness of the eyelids nor had she the broad features so characteristic of myxedema. There were no folds of skin on the forehead, which showed a little brownish discoloration. The skin of the backs of the hands was dry and not especially puffy, but she stated that on the morning of examination the left hand was swollen. The neck was not swollen; there were no large supraclavicular pads. The thyroid gland could be felt. The legs were swollen, particularly below the calves. The circumference at the ankle was almost the same as in the upper part of the leg. The swelling was particularly marked about the malleoli. There was no pitting on pressure. There was no change in the voice. The pulse was 70 and not of increased tension. The temperature was 98.5 degrees. There was no optic neuritis or retinitis. The urine was not increased in amount, sp. gr. 1,017, and always contained a trace of albumin, but no tube casts.

Clinical History.—April, 10, 1895: The patient had taken thyroid extract gr. iii, t.i.d., for a month, before any change was noted.

June 15: The dose of the extract was gradually increased until she took gr. x, t.i.d. The legs became softer, less swollen, and very much smaller. She became thinner, the appetite was better; the dryness of the skin disappeared and she was in very much better spirits.

December 17: She was then taking gr. xx. t.i.d. Her physician, Dr. A. F. Morris wrote that "her intellect is not at all dull, and she is full of energy, and she says she feels stronger than she did." The legs swell, however, on cessation of the drug. Her limbs felt heavy and her feet warm and tingling. There was also some swelling above the clavicles and over the abdomen.

Sept. 27, 1905: Her physician again reported that the patient was enjoying good health, except for a severe lobar pneumonia in the winter of 1903, from which she made a good recovery. There was still some edema of the limbs, yet not enough to trouble her. Some time ago she had discontinued the use of the thyroid extract, after having taken it regularly for some years.

Case 9.—*White, female, aged 55; quintipara; typical case; duration probably six to seven years; thyroid therapy; recovery.*

Patient.—I. K. P. H., American, no occupation, of Tennessee, consulted Dr. Osler Sept. 16, 1897, and complained of "weakness and swelling of face and extremities."

History.—No family history of goiter, myxedema or any neurosis.

Patient had always enjoyed good health, had been married thirty-one years, and had five children, all of whom were girls.

Present Illness.—She first noticed six or seven years before, weakness and tingling over the body, but chiefly on the left side. She then suffered from "sick spells" during which her color became yellow-brown, and there was numbness, weakness, and prostration. She next began to suffer with palpitation of the heart and feebleness and weakness became constant. During her fifty-fourth year (1896) she first noticed swelling of the face and extremities, though since 1890 or 1891 the face had looked "greasy and thick." On account of the latter one physician had treated her for erysipelas for six months. Later, the body became very much swollen; there was never diarrhea or uterine hemorrhage. For three months before consulting Dr. Osler she had taken thyroid extract, gr. v, t.i.d., with marked benefit.

Physical Examination.—Examination on Sept. 16, 1897, revealed an elderly woman with a very yellow anemic color. The face was not specially moon-shaped or infiltrated, though there was still a little fairly characteristic infiltration about the cheeks. The forehead showed remains of the former tension of the skin and she was unable to pucker up the forehead. There was no special pigmentation of the face. The tongue was clean. The neck was large and dark in color. The trachea was easily felt, but the thyroid was not palpable. There was no longer any infiltration over the trunk. The hands were a little suggestive, the skin being rather relaxed. There was marked infiltration of the skin of the left arm, while the dorsum of the left hand was also somewhat infiltrated. Further, on the palm of the left hand over the head of the metacarpal bone and first phalanx of the index finger, the skin was remarkably infiltrated and swollen, and she could not close the left hand well. The ankles were a little infiltrated, but did not pit on pressure. There was a remarkable degree of infiltration of the abdominal wall. There were no signs of any diffuse scleroderma.

Subsequent History.—Jan. 19, 1898: Her physician, Dr. C. P. Fox, reported that the patient was almost well.

Oct. 16, 1905: Her physician, Dr. C. P. Fox, wrote that she was in fair health, somewhat anemic, but showing no symptoms of myxedema except a slight scleroderma, principally about the hands and terminal phalanges. Temperature was normal and voice clear. Hair rather thin and dead looking. Mental faculties clear and memory good. Digestion regular. Urine has not contained any albumin. At one time she was troubled with an "irritable heart," due to excessive use of the thyroid tablets (gr. x, t.i.d.). She now takes gr. v, t.i.d.

Case 10.—*White, female, aged 29; primipara; typical case; duration two years; thyroid therapy; loss of 40 pounds in eight months; recovery.*

Patient.—M. L. A., American, no occupation, of New York City, consulted Dr. Osler Dec. 2, 1904, and complained of "swelling all over the body."

History.—Family history was negative except for the fact that her father and mother were first cousins. Patient had no serious illness until her twentieth year, when she had a severe attack of typhoid fever. She married at 21 and had one child, now 8 years old.

Present Illness.—This dated back two years. She rapidly became stout and within a year rose from 130 to 185 pounds. There were puffy swellings all over the body. There was one on the back of the neck which gradually disappeared. The hands became so swollen that it necessitated the filing off of her rings. Her feet became so swollen that she could not get her shoes on. The swelling of the body often prevented her wearing her corsets. Her hair fell out. She was always cold and could never get warm. She felt better in warm weather. She was always tired, and had no ambition or interest in anything. At times she felt restless. She became absent-minded and as often very melancholy. The menses were irregular and scanty. A diagnosis of myxedema was made by her physician, Dr. Edgar Smith, and she commenced thyroid extract, gr. v, q. d., in March, 1904, since which time the edema diminished and she lost nearly 40 pounds (weighing in December but 137 pounds). She consulted Dr. Osler chiefly for the mental depression and absent-mindedness.

Physical Examination.—Examination revealed a healthy looking woman. The facies were no longer myxedematous. There was plenty of hair. There was neither pallor or pastiness of the complexion. There was, perhaps, a little puffiness about the eyes. She seemed bright and active. There were no pads above the clavicles. The neck was not full. The outlines of the sternomastoid and sternothyroid muscles were very marked. There was a distinct groove between the thyroid cartilage and the latter. No definite thyroid gland was palpable. There was no special puffiness of the hands, which felt warm, though she complained of being cold. Over the hips there was still a little puffiness and the skin was a little lax, but did not pit. Skin was nowhere dry. The heart sounds were clear, and the pulse regular and of good volume: A letter to the patient in October, 1905, was not answered.

AMERICAN SERIES.

I have collected from American literature from 1881 to July 1, 1905, 92 undoubted cases of myxedema. Some few others were not accepted owing to an insufficiency of the data or a probable error in the diagnosis. Many cases reported as myxedema were examples of cretinism, which with operative myxedema, are not included in the analysis. Two of my 10 cases had been previously reported, so that the entire American series includes 100 cases. The latter I intend to analyze for comparison with the other published series.

RACE.

By far the great majority of cases occurs in the white race. It is usually stated that "no cases have been recorded in the colored race," yet in America, E. E. Maxey,[19] in 1895, reported a typical case in a negress. H. J. Berkely,[20] in 1897, reported 8 instances of localized myxedema-like deposits in the scalp of 8 colored patients in Baltimore. As the latter were not instances of true myxedema, only Maxey's case was included in my series. Hence there was an incidence of but 1 per cent. in the colored race. More recently (1905), instances of the disease in the natives of British India have been reported by Hamilton, Hope and Smith.[21]

NATIONALITY AND LOCALITY.

Myxedema occurs most frequently in cold climates, and is probably more frequent in Europe than in any other continent. Of the European countries, Great Britain produces the majority of the cases. In England it is more prevalent in the north and especially in the lower banks of the Tyne valley. It seems to be still more common in Edinburgh and Dundee in Scotland. The London committee found that of 76 cases, 26 were from England, 5 from Scotland, 2 from Ireland and 15 from France, of which 11 were from lower Brittany. In Germany and France the disease is rare. Of my series of 100 cases, 16 patients were stated to be of foreign birth (English 5, Scotch 3, Irish 2, German 3, Austrian 1, Polish 1, Italian 1). Of the remaining 84, 19 were stated to be American-born and an absence of note to the contrary in the other 65 may lead one to assume that they were also of American birth. Hence 84 per cent. of my series were presumably born in America.

As to the distribution of the disease in America, the data are rather inadequate. In only 31 cases was the locality definitely stated. Of these one patient had developed the disease in England and another in Poland. Of the remaining 29, 11 were reported from Canada or the northeastern states (Ontario 2, Quebec 2, Nova Scotia 2, Vermont 1, Massachusetts 1 and New York 3); 4 from the Middle West (Michigan 2, Wisconsin 1, Indiana 1); from the West (California 2, Colorado 2, Kansas 1, Idaho 1); and 8 from the South (Maryland 3, Virginia 2, North Carolina 1, Tennessee 1, Alabama 1). In 69 other cases though the locality of the patient was not stated, that of the physician may give some clue. In the group 56 cases were reported by northern physicians, 10 by western and 3 by southern.

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[19] Med. Sentinel, Portland, Ore., 1895, iii.

[20] Am. Jour. Insanity, 1897-98, liv.

[21] Indian Med. Gaz., Calcutta, 1905, xl.

Hence it would appear from a study of both of these groups that in America, myxedema is widely distributed, though apparently more prevalent in the northeastern districts. I say apparently, for one must allow for the greater population and the greater facility for observation and publication in the northeast. It is of interest to note that Dock is quoted by Messinger[22] as having commented on the rarity of myxedema in Michigan, although other diseases of the thyroid gland are common there.

Since I began the study of my cases H. C. Moffitt has stated that he believes that diseases of the thyroid gland are more common in California than in many other states in America. He collected 83 cases from California, of which 53 were from San Francisco. He found myxedema was more common in the "bay counties" of California which, however, were the most densely populated.

SEX, AGE AND SOCIAL STATUS.

It has long been recognized that females are more prone to the disease than males. The London committee collected 94 females to 15 males (6 to 1). In 150 cases, Hun and Prudden[10] found 113 females, 32 males and in 5 the sex was not stated (3.5 to 1). In 370 cases Murray gave a much higher proportion, viz., 322 women to 48 men (7 to 1). In my series there were 86 women, 13 men, and one case in which the sex was not stated (6.6 to 1).

As to age it has been found that no period of life, from infancy to extreme old age, is exempt. The cases before puberty do not interest us here. The London committee found that the first symptom of the disease manifested itself in the third to fifth decade in 49 of 84 cases.

Hun and Prudden's[10] tables (which unfortunately include cretins) show that the average age at onset was 38 years in 76 women, and 42 years in 20 men. In 274 cases Murray found that the disease developed between the fortieth and forty-fifth year in women and from the thirty-fifth to the fiftieth year in men. My table shows the preponderance of both sexes in the fourth and fifth decades. In one male the disease first appeared at the advanced age of 68 years. In 12 females the age at onset was betwen 50 and 60 years, and there was no patient over 60. On the other hand in a large proportion of females (13 of 87 females or 15 per cent.) the disease occurred between 20 and 30 years, in contrast to an incidence among the males for the same decade of 1 out of 13 cases of 7.6 per cent. Hence we may say that the disease is relatively more frequent in women from 30 to 60 and in men from 30 to 50.

Decade.	Males.	Females.	Total.
15-20 years..........	1	1	2
20-30 years..........	1	13	14
30-40 years..........	4	26	30
40-50 years..........	4	29	33
50-60 years..........	1	12	13
60-70 years..........	1	..	1
Not stated	1	6	7
Grand total	13	87	100

The social condition plays but a minor role as an etiologic factor. The London committee thought that the lower classes were most prone. In the American series the status of the patient was usually not given, yet it is interesting to remark that 9 of the 10 cases from this clinic were treated in the private wards.

FAMILY ANTECEDENTS AND HEREDITY.

Unquestionably there is a thyropathic tendency in certain families. In other words the disease may be transmitted directly from either parent, but more commonly from the mother. Again several members of the same generation may be attacked. Thus in the London series in 2 of the recorded cases the patients were sisters, in 2 they were relatives, while in one the father and in another the mother in all probability died of the disease. In other words there is a family history in 6.6 per cent. Hun and Prudden refer to one family in which 3 sisters had myxedema, one of whom had a daughter with the disease. Altogether they had 9 cases (16 per cent.) with a family history of myxedema and there was direct transmission in 8 per cent.

In my series some mention is made of the family history in 68 cases. Of these 8 had a history of myxedema in the family (11.8 per cent.), which, however, includes 2 of Hun and Prudden's[10] cases. Exclusive of the two latter, one woman had a brother die from myxedema and one sister living with slight myxedema. In another case a woman had an aunt and a cousin with pronounced myxedema. Another woman had a sister with myxedema, still another with a myxedematous mother; while the patients in cases 1 and 2 of my personal series were sisters, who had a third sister die with exophthalmic goiter. In the American series there was another woman whose mother presumably had myxedema. It is possible that consanguinity in the parents may predispose to myxedema. There are practically no statements as to this factor in the reported cases, but in the two cases in which this point was inquired into in my personal series it was found that in Case 3 the parents were second cousins while the grandparents were first cousins and in Case 10 the parents were first cousins. It would be interesting to get more data on this question. The London committee also include neuroses and tuberculosis as predisposing causes. Thus in 12 of their series of 16 per cent, in 13 cases or 25 per cent. of Hun and Prudden's[10], and in 8 cases or 11.8 per cent. of my series there was history of insanity or other neurosis. As to tuberculosis, there was a history of phthisis in the near relatives of 20 patients (28 per cent.) of the London cases, in 9 (17 per cent.) of Hun and Prudden,[10] and in 10 (14.7 per cent.) of my series.

PERSONAL ANTECEDENTS.

The usual anteccendents of chronic maladies, viz., alcohol and syphilis, play little or no part. In the London series there was a history of syphilis in 6 and intemperance in but 8 of the cases. Hun and Prudden[10] found a history of syphilis in 3, while in my American series there was a history of syphilis and alcohol in 2 cases each. In women myxedema bears some relation to the marital state. Of 81 cases in which this point is noted only 10 of the patients were single. Repeated and rapid child-bearing, according to most authorities seems an important predisposing factor. In the Hun and Prudden[10] series of 64 cases in which a statement is made in regard to the number of pregnancies, 4 patients were nulliparæ and the other 60 were multiparæ, having borne on an average 5 children. In the London series 62 of the 69 patients were married women who had borne children and 14 were single; 16 had given birth to 8 or 9 children each. Of the 71 married women in my series there is no statement as to the number of children in 22; of the remaining 49, 6 were nulliparæ, 3 had one miscarriage each, while 40 had one or more children with an average of about 5 children each. Fourteen women had six or more children, two of whom had 12 each. Five of my series and 15 of that of Hun and Prudden[10] dated the onset of myxedema from their last pregnancy. In 6 of Hun and Prudden's and in one of my series the onset occurred directly after a severe puerperal hemorrhage. It has been suggested that the menopause may also play some part. In only three of Hun and Prudden's cases, and in but one in my series was it definitely stated that the disease commenced at the menopause, although in a number of other cases it occurred about that time. Thus in 7 of my series the menopause preceded the onset of the disease. As myxedema is most frequent in women between the ages 49 and 45, the usual age for the menopause, atrophy of the thyroid gland and with it myxedema may have some fairly constant relation to changes in the menstrual function.

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[22] Trans. Mich. Med. Soc., 1894, xviii.

Of other possible predisposing factors mental shock and worry must be considered. There was a history of this in 27 of Hun and Prudden's series and in 18 cases of mine. The acute infections, except in so far as they may be associated with or followed by a thyroiditis and subsequent atrophy, can be left out of reckoning. In one case there was a history of glandular inflammation of the neck with subsequent atrophy of the thyroid gland. In another case a severe attack of malarial fever just antedated the onset of symptoms. In short we may say that excessive child-bearing and mental shock and worry may play no inconsiderable rôle in the etiology.

RELATION OF GRAVES' DISEASE.

I believe that a history of exophthalmic goiter preceding the onset of myxedema would be more frequently elicited if more careful inquiry were made. In three of the American series (of which one was Case 2 of my series) there was a definite history of Graves' disease preceding the onset of myxedema, 3, 10 and 14 years, respectively. Baldwin,[23] in 1895, reported 4 instances of myxedema following Graves' disease in from 2 to 5 years. Of further interest is a case reported in 1893 by Maude[24] of a woman with myxedema whose daughter had Graves' disease. Moffitt[17] refers to a similar case. In my series two sisters (Cases 1 and 2) had myxedema one following exophthalmic goiter while a third sister has since suffered from exophthalmic goiter. Both myxedema and Graves' disease have a special hereditary tendency of their own. That of the former has been referred to under the family history. That of the latter may be illustrated by the fact that in 5 of 40 cases collected by MacKenzie there was a family history of the disease. Osterricher reported the case of an hysterical woman who had 10 children, 8 of whom had exophthalmic goiter, one of whom in turn had 4 daughters with the same disease.

MORBID ANATOMY AND PATHOGENESIS.

The morbid anatomy of this disease has been fairly well studied. In my American series there were 5 autopsies, all fairly completely reported.

THYROID GLAND.

The thyroid gland, on the disease of which myxedema depends, is diminished in size and loses its dull reddish tint of health, becoming yellowish or pale. Occasionally the gland is increased in size, but in such cases is functionally inactive. A delicate fibrous tissue invades and replaces the proper glandular tissue. There is a small-celled infiltration of the walls of the vesicles, accompanied or shortly followed by epithelial proliferation in the vesicles themselves. Next the gland becomes converted into a delicate fibrous structure in which clumps of small round cells, evidently the remains of vesicles, are scattered. In the last stage the capsule is much thickened, while the parenchyma of the gland is made up almost entirely of fibrous tissue in which small islets of round cells are sparsely placed. There is also an endarteritis and periarteritis resulting in a diminution of the lumen of the vessels. Ord[25] writes:

> It appears to me that probably the atrophy of the gland productive of myxedema is frequently due to inflammatory destruction of the gland tissue.

The process is analogous to that in cirrhosis of the liver or kidney. There was atrophy of the gland in all five of the American postmortems.

SKIN.

The skin on section yields no serous exudate, but remains unaffected and jelly-like. Histologically there is nuclear hyperplasia and development of connective tissue, both of which changes occur chiefly in the neighborhood of the sweat and sebaceous glands and around the hair follicles. The epidermis may be atrophied and the lymph channels dilated. Sometimes there is an unusual interval between the bundles of fibrous tissue of the corium as found in ordinary edema. There is usually an endarteritis of the cutaneous vessels, but the nerves are generally unaffected. In the sweat and sebaceous glands the epithelium becomes swollen and later the nuclei proliferate and the lumen of the tubule becomes occluded. The hair follicles are surrounded by fibrous tissue which sooner or later contracts and causes atrophy of the roots. These changes, then, account for the loss of the hair and the diminution or absence of the secretion of sweat and sebum.

NERVOUS SYSTEM.

According to the Clinical Society's report, there is no important change in the central nervous system. Boyce and Beadles found a central endarteritis in one case of myxedema associated with insanity, and in addition a colloid material in many of the vessels and perivascular spaces. Cushier[26] found thickening of the vessels of the spinal cord and atrophy of the cells of the anterior cornua in one case. The hypophysis cerebri was found enlarged in 2 cases of myxedema by Boyce and Beadles and in 1 case by Ramsey Hunt.[27] An explanation of the origin and mechanism of the production of the nervous manifestation has been sought for by various authors. Hadden[28] believed them to be due to a contraction of all the peripheral lymphatics owing to a disturbance of certain centers seated probably in the medulla and acting through the sympathetic system. Clouston[29] ventured the following hypothesis:

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[23] Lancet, 1895, i.
[24] St. Barts. Hosp. Rep., 1893, xxix.
[25] Allbutt's "System of Medecine," v.
[26] Arch. of Med., New York, 1882, viii.
[27] Am. Jour. Med. Sci., 1905, cxxix.
[28] "Brain," 1882, v.

> The neuroglia of the cortex becomes to a slight degree waterlogged by mucin, which causes lowered anabolism and catabolism of the cells, whose reactiveness is thereby impaired.

The majority of writers, however, ascribed the nervous symptoms to the padding of the peripheral nerve endings by the myxedematous deposits which so interfere with the transmission of the afferent impulses that the central structures suffer secondarily by virtue of the defective afferent conduction. The most modern conception is the toxic theory, according to which there is an absence of the thyroid secretion, which is either itself essential to metabolism or neutralizes otherwise toxic products of metabolism.

HEART.

The heart frequently shows hypertrophy of the left ventricle in association with a slight fibrosis in the kidneys. There is a remarkable discrepancy between the symptoms of cardiac insufficiency in myxedema and postmortem degeneration of the myocardium. Slight atheroma of the large vessels was found in more than half of the London series.

KIDNEYS.

The kidneys have been enlarged in some cases owing to the presence of large quantities of a transparent or faintly granular material which interferes with the renal tubules.

CHEMICAL ANALYSIS.

A chemical analysis of the tissues will reveal an increase in the amount of the mucin in the skin, connective tissue, tendons, etc., especially in the stage of marked tumefaction, though not to the same extent as was first maintained. Hun and Prudden[10] found a normal amount of mucin in the skin in one instance, and they did not believe that the mucin is so invariably increased as to justify the name myxedema. In the later or atrophic stage there is no apparent excess of mucin. The excess of mucin results from the degeneration of the protoplasm of the epithelial cells, of the goblet cells of the mucous membrane and of the cells of the acini of mucous glands. The mucin forms a constituent part of the ground substance or stroma of the connective tissue in which the cells and fibers are buried. It is a muco-albuminous material of which one of the constituents is mucin, the other a proteid of the globulin class resembling the paraglobulin of the blood.

SYMPTOMATOLOGY.

ONSET.

The onset, as a rule, is very insidious. Several months or even a year may elapse before the symptoms are definite. For this reason it is often difficult to determine the duration of the disease. In a few cases, especially in young adults, the symptoms develop rapidly and become marked in a few weeks. A case reported by Osler[30] is a good illustration of this. The disease in a man, 31 years old, ran an acute course of 5 months with myxedematous symptoms associated with tachycardia, glycosuria, melena, mania and death.

The first symptom, as a rule, is languor. The ordinary daily duties become an effort, if not actually burdensome. Then a constant chilliness or perhaps merely a greater sensitiveness to cold than formerly may be noticed. Slowness of motion and increase in bulk make their appearance. Hun and Prudden[10] found that when the disease did not commence insidiously, it usually commenced with some nervous or cutaneous manifestation.

SOLID EDEMA.

This is the most characteristic symptom and that from which the disease derived its name. The edema is best developed in the loose subcutaneous tissues and is very slight where the skin is firmly adherent to the underlying structures. The edema has certain definite characteristics; it is sold and firm, does not pit on pressure, is not affected by gravitation, nor when pricked does it exude fluid unless a watery edema be also present. Hun and Prudden[10] explain the absence of pitting in myxedema by the fact that the edema is confined to the superficial layers of the corium where the interspaces are so small and the interlacement of the fibers so fine that the fluid is not easily driven away by pressure.

The swelling in the majority of cases is first detected in the face, though the London committee thought that the legs and feet were most frequently the primary seat of the swelling. Sooner or later the edema becomes general, with a consequent increase in the size and weight of the body. There was increase in both bulk and weight in 46 of 50 cases in the London series. In the American series there was a definite statement as to the weight in 30 cases, of which 27 showed an increase, 3 of 100 pounds or over, 3 of 50 pounds or over, 4 of 25 pounds or over, and only 1 under 25 pounds. In 16 cases no exact figures were given. In 3 cases there was some loss of weight. The edema may vary from time to time under differences of temperature, being greater in cold than in warm weather.

The Face.—The face is most frequently involved; thus in our series it was edematous in 91 cases, of which the eyelids alone were affected in six. In only one case was the face noted to be unaffected. The features are broad, puffy and coarse. The eyelids are sites of transparent swelling, often described as "translucent folds," with drooping of the upper lids, to overcome which the eyebrows are arched in a peculiar fashion. The nostrils are swollen and broadened. The lower lip is thickened, everted and livid. The mouth is widened transversely. There is also a well-defined hectic patch over the cheeks and nose in sharp contrast with the pallid orbital regions. There is great diminution in the mobility of the features, giving rise to a very characteristic facial expression. The latter may be best described as "heavy," "apathetic," mask-like," "stolid or cretinoid." The solid edema obliterates the special character of the individual features, resulting in a strong family resemblance between all cases of myxedema. Ord,[31] in 1898, tritely remarks that "the total effect is that of a mask of sorrowful immobility." The effect of the edema of the face is so characteristic that once seen will never be mistaken for anything else, and is as pathognomonic as the facies of cretinism. In my series there were the characteristic facies in 93 cases, in 36 of which the hectic flush was also noted. In the great majority of the 93 cases the description was in identical terms, and in only a few were such general terms as "cretinoid," "myxedematous," "mask-like," etc., used. The neck is considerably increased in circumference so that the ordinary collar feels uncomfortably tight. In 18 of my series it was enlarged in 2 cases, of which the edema was chiefly confined to the back of the neck, and in one of the latter it was so great as to tilt the chin forward on the sternum.

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[29] Jour. Mental Sciences, 1894, xl.
[30] Johns Hopkins Hosp. Bull., 1892, iii.
[31] Brit. Med. Jour., 1898, ii.

On each side of the neck above the clavicles are large soft projections, of dough-like consistency, consisting partly of fat, altered connective tissue and possibly in part of veins. These supraclavicular pads are similar to those seen in cretinism. Hun and Prudden[10] found them present in 90 per cent. of their cases. They were noted only in 25 of my series, though their absence was commented on in but two others.

Hands, Feet, Etc.—The hands are uniformly affected, being broad, clumsy and "spade-like"—a term first suggested by Gull. The fingers are swollen and moved with difficulty. The hands alone were involved in 47 cases. In several cases the fingers were said to be clubbed, and in one case the finger points were described as enlarged. In another 27 cases the entire upper extremity was attacked, though usually the edema is most pronounced in the forearms. The feet and legs may be similarly affected, as was noted in 57 of the American series. Slight watery edema of the skin, though not uncommon, is usually transitory and when persistent is certainly accidental. Pitting of the leg was noted in 7 of the series and in another 20 its absence was commented on. The extremities, too, are usually cold, often purple and livid. The abdomen is not uncommonly swollen and pendulous (27 cases in my series), due of course, rather to infiltration of the walls than an actual ascites. The navel may protrude as it does in cretinism, though the low position of the navel is not the rule. The genitals are sometimes involved in the process (2 cases). The entire trunk may be the site of the firm edema (10 cases), and, in fact, the edema may be general over the entire body (13 cases). In addition, there may be localized areas of infiltration of considerable size. Thus in one case a large tumor was present in the middle of the thigh.

CUTANEOUS SYSTEM.

The skin and its appendages show marked and characteristic alterations, which increase with the progress of the disease. The skin itself is most frequently involved, being abnormal in 95 of the 96 cases in my series (99 per cent.). In 4 other cases no comment was made on the condition of the skin. It is usually dry and harsh to the touch, owing to the diminished activity of the sudoriferous and oftentimes the sebaceous glands. In fact, sweat may be entirely absent, as was the case in 27 per cent. of my series. Desquamation often occurs in the form of a fine powder over the face, trunk and extremities. Sometimes the skin is desquamated in larger flakes, or even almost entire casts of the fingers or hands. The latter is more commonly seen following thyroid therapy. In early or mild cases the skin may be moist, smooth and otherwise normal except for a little puffiness and loss of elasticity.

The color of the skin, more particularly of the face, is usually altered. It may be merely sallow, gray or more often yellow. The skin was noted as yellow in 13 of Hun and Prudden's[10] series, as well as in 13 of mine (13.5 per cent.). This may be so deep as to be mistaken for actual jaundice (two cases). Areas of pigmentation are by no means infrequent, especially about the face and neck, as occurred in 12 cases in my series and in 5 in Hun and Prudden's. The areas may be small and deep yellow (chloasma) or they may be large and irregular and consist merely of a yellowish brown stain. In one of my series actual bronzing was noted. Warts and moles were relatively frequent and occurred in 4 cases of my series and in 12 of Hun and Prudden's.

Various forms of rashes occur, as erythemata (2 cases), vesiculi (2 cases), urticariæ (2 cases) and herpes (1 case). More serious inflammatory conditions may develop, as ulcers (1 case) and phlegmonous erysipelas with gangrene (2 cases). Pruritus was present in one case without evidence of diabetes. Lineaæ atrophicæ may be conspicuous. The hair is very commonly diseased, as was the case in 72 of 77 cases (93 per cent.) in my series. Hun and Prudden[10] noted loss of hair in 86 per cent. The usual indications of defective nutrition of the hair may be present, namely, falling out, dryness and coarseness, brittleness, a loss of luster or change in color. More commonly the hair of the scalp, axillæ and pubes is affected, but the eyebrows and eyelashes may become very thin, or even be entirely lost. More rarely there is loss of hair of the entire trunk, extremities and chin. Sometimes a crop of lanugo-like hair will devlop. The scalp itself is often dry, scurfy and brown, with many cracks in the epidermis. The nails may also show defective nutrition. They were diseased in 32 of 37 cases (86 per cent.) in my series, in 21 of 44 of the London series (47 per cent.) and in 10 of 13 of Hun and Prudden's series (70 per cent.). They are usually brittle and ridged and longitudinally striated. They may be stunted, discolored or abnormally curved. In two of my series there was actual clubbing of the fingers. While more commonly the nails of the fingers alone are affected, those of both the fingers and the toes or even of the toes alone (3 cases) may be diseased.

TEETH AND MUCOUS MEMBRANES OF MOUTH.

The teeth are frequently diseased. In 18 out of 20 cases (86 per cent.) of my series they were noted as either loose, brittle, carious or as having fallen out, while in Hun and Prudden's[10] series they were loose or lost in 64 per cent. and decayed or brittle in 28 per cent. The mucous membrane of the mouth and lips is frequently swollen and pale and very apt to be bitten during mastication. The lips are often enlarged (19 cases), everted and pendulous, and may be of a dark purplish or violet hue. More commonly the tongue is enlarged, swollen and hypertrophic (42 cases), often to such a degree as to interfere with speech. Rarely it protrudes from the mouth as in cretinism. It may appear anemic or more rarely purplish in color. The soft palate is sometimes swollen and will then hang down on the tongue; its mobility may be considerably impaired. The mucous membrane of the nose does not escape. One patient in my series consulted a rhinologist for nasal obstruction due to a myxedematous condition of the nose. The gums are often spongy and soft and recede from the teeth. They often bleed very easily and may be ulcerated. They were noted as abnormal in 18 or my series. With the involvement of the buccal mucous membrane there is frequently salivation (13 cases), more especially at night or when asleep. The saliva often runs out of the corners of the mouth, giving to the patient the facies of an idiot. Sometimes the mouth is very dry, with even total loss of the salivary secretion. Hun and Prudden[10] found the mucous membrane of the mouth was swollen in 95 per cent. and anemic in 47 per cent. The larynx also may be pale, swollen and edematous with separation of the cords and consequent hoarseness. The larynx was involved in 4 patients of my series, two of whom first consulted a laryngologist who in both instances made the diagnosis of myxedema. Hun and Prudden[10] found anemia of the larynx in 70 per cent., swelling in 56 per cent. and lack of approximation of the cords in 56 per cent. The nasal mucous membrane may present a similar picture as the other mucous membrane (2 cases). The frequency of rhinorrhea or nasal discharge (6 cases) would suggest a more usual involvement of the nasal mucous membrane. The conjunctivæ sometimes do not escape (3 cases) and lachrymation is not infrequent (5 cases).

(To be continued.)

THE DIAGNOSIS AND TREATMENT OF MALARIAL FEVER.

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The object of this paper is to lay emphasis on the accurate diagnosis of malarial fever, to review at some length the various conditions often ascribed to an infection with the malarial parasite, and to consider some points in the therapeutics of this malady.

DIAGNOSIS.

Blood Examination.—By this means only can a positive statement as to the presence of the malarial organism be made. The technic involved is certainly very simple and, as a rule, it is not a difficult matter to demonstrate the parasite in either the fresh preparation or in a blood film stained with any of the good eosin-methylene blue mixtures. In this connection I should like to lay some stress on the importance of the careful examination of the fresh blood, which can be done very readily, provided a clean slide and coverslip be used and a very small drop of blood be taken, thus insuring a thin, well-spread field. The pigmented forms are easily recognized and should not be confused with any structures found in normal blood. The pigment granules are fine and dark-brown in color, while the granulations of the leucocytes are more or less refractile. The eosinophile granules are much larger, round and regular in outline and not as dark as the pigment in the parasites. The plasmodium, of course, is regularly contained within the bodies of the red blood cells, although a few extracellular forms are often seen, due to the rupture of some of the cells in making the preparation. It is not uncommon, however, especially in malaria, for the leucocytes to contain small particles of pigment which they have ingested by their phagocytic action. Such cells should be recognized, of course, by their general structure, containing, besides the pigment, a nucleus and the refractile granulations. The beginner may be somewhat misled by small clumps of platelets with radiating strands of fibrin, the so-called "granular masses of Schultze." but these do not resemble at all the hematozoa. The crescents and ovoids of the estivo-autumnal fever are very characteristic and are readily recognized when seen, but they do not appear in the peripheral circulation until the fifth to the seventh day of the disease. The demonstration of the young hyaline forms, best found just after a chill, is more difficult, but in a tertian infection attention may often be drawn to a corpuscle containing the parasite by the fact that it is swollen and larger than those surrounding it. The recognition of the hyaline forms is rendered uncertain, except to the eyes of a well-trained observer, by the occurrence of the endoglobular degenerations which are invariably present sooner or later, depending on the condition of the blood and the mechanical insult offered the red blood cells in making the preparation.

It is generally stated that the parasites are most easily found in stained films, and this is undoubtedly so if they are few in number, but this should not discount the general value of the examination of the fresh blood. In stained specimens care must be taken not to confuse the platelets, which are usually numerous in malaria, with parasites, especially when they are superimposed on red blood cells or are gathered into clumps resembling somewhat a segmenting form. Small particles of sediment or detritus from the staining solution often have a blue color and may contain granules of dirt resembling pigment. These can be differentiated from the parasite by the absence of the small red-staining chromatin body. Certain cases of malaria in which the parasites are so few in number as to be missed in the ordinary examination may sometimes be recognized by the method suggested by Ross. For this, thick blood smears are made, so that a good many layers of blood corpuscles are superimposed one on the other. After drying in the air, they are carefully immersed in clear water until all the hemoglobin is dissolved out. They are then fixed and stained in the ordinary manner. The crescents of the estivo-autumnal fever stand out prominently, but the other smaller forms of the parasites would be lost among the mass of leucocytes present. The laking of the blood may be hastened by employing a dilute solution of acetic acid, e. g., 0.5 per cent., and afterward neutralizing with a weak solution of ammonia water. The best time to study the blood is just before a chill, as it then contains the adult pigmented forms which are the easiest to recognize.

The leucocyte count in malarial fever shows a normal or decreased number of these cells. This is a most important point in diagnosis and serves at once to differentiate this disease from many conditions associated with a remittent or intermittent temperature curve. In 82 recent cases of estivo-autumnal fever at the Johns Hopkins Hospital[1] the mean leucocyte count was 3,500 per cm., with only seven cases above 10.000; and in tertian infection the mean count was 4,500 in 70 cases, with five above 10,000. It is almost impossible to lay too much emphasis on the value of a leucocyte count in all cases of fever, as it immediately places the case in one of two groups, thus eliminating a large number of possible conditions which, like malaria, may be accompanied by chills and an irregular fever. A leucocytosis may occur in the paroxysms of pernicious malaria, in certain rare cases of malarial hemoglobinemia, and with the occurrence of complications.

The differential count of the leucocytes, while possibly not so instructive, is often most suggestive. In malaria there is a pronounced increase in the relative number of the large mononuclear cells, with a diminution in the number of small lymphocytes and the polymorphonuclears. Of late, much importance has been attached to these facts, especially in certain cases of probable malaria in which prolonged search has failed to demonstrate the plasmodium. Delaney[2] concludes that an increase in the proportion of the large mononuclear cells from the normal 1 or 2 per cent. to or beyond 12 per cent. is highly suggestive of malaria. Krauss,[3] of Memphis, has reported the findings in 204 cases in which the average proportion of the large mononuclears was

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1. Emerson: "Clinical Diagnosis," J. B. Lippincott Company, 1906.
2. Brit. Med. Jour., March 28, 1903.
3. The Journal, Oct. 22, 1904.

19.5 per cent., while that of the small lymphocytes was 14.8 per cent., and he lays particular emphasis on the relative increase of the large over the small mononuclears. The mean average in a large number of cases at the Johns Hopkins Hospital, as given by Thayer,[4] is 16.9 per cent. of large mononuclears. These cells may also be increased in typhoid fever (after the second week), measles, syphilis, and possibly in influenza, but not to the same extent as in malaria. Of course, an adenopathy must be excluded. It is not safe to rule out typhoid fever when the malarial variation is found, especially when the disease is of some duration, but in a gradually developing fever the absence of a marked increase in the large mononuclear cells during the first week speaks against malaria and suggests typhoid fever. A differential count of the leucocytes is not a difficult procedure and, in fact, can be done at the same time that one is searching for the plasmodium in a stained blood smear by counting and classifying the white cells as one goes over the field.

The anemia of malaria is of some importance in diagnosis, as it is an early symptom, and in severe estivo-autumnal infections there may be a destruction of 1,000,000 cells per cm. in one paroxysm. The regeneration of the cells is rather rapid, and in the tertian and quartan types the count may be restored before the next rigor, and the anemia only occur after a long series of chills. The hemoglobin suffers more than the red cells and returns to normal more slowly.

Therapeutic Test.—"An intermittent fever which resists quinin is not of malarial origin," Osler. Numerous clinical experiments have demonstrated that the tertian and quartan forms of the parasite are peculiarly susceptible to the action of quinin, and a common experience in my hospital service has been to put a stop to all subsequent chills by the administration of ten grains of quinin four or five hours before an expected chill. Of course, it does not prevent this chill, but the drug is in the blood in sufficient quantity to destroy most of the young hyaline forms produced by segmentation at the time of the paroxysm. The estivo-autumnal type of infection is more resistant to the action of quinin and it may require three or four days to sweep most of the organisms from the blood. That this form of malaria is quite amenable to treatment, however, is well demonstrated by Carter's[5] experience with over 200 cases of estivo-autumnal fever in the canal zone at Panama. His patients are given thirty grains of quinin a day and show an average duration of fever of 52 hours and an average stay in the hospital of five days. Next to the examination of the blood, the therapeutic test offers the most convincing proof that the disease at hand is malaria, and if the symptoms do not promptly abate with the proper exhibition of this drug one may be certain that he is dealing with a condition other than malarial fever. It is true that doubt may arise in mild cases of some of the maladies mentioned below from which the patient recovers from the rest in bed and the general measures employed in spite of the quinin!

SYMPTOMATOLOGY.

The clinical forms, as given by Osler, include: first, the regularly intermittent fevers, the tertian and quartan types, with the quotidian fever, due to a double infection with the tertian organism; second, the irregular, remittent, or continued fever, the estivo-autumnal type, which may be combined in a double infection with the tertian parasite, and, indeed, cases are on record in which all three forms of parasites have been demonstrated; third, pernicious malarial fever, which is always associated with the estivo-autumnal parasite, and fortunately quite rare in temperate climates. It is in this form that one meets with the real "congestive chill" or "yellow chill" and occasionally with hemoglobinuria; fourth, malarial cachexia, characterized by anemia and an enlarged spleen, the result in cases frequently exposed to infection over long periods of time and not thoroughly and energetically treated.

DIFFERENTIAL DIAGNOSIS.

There is rarely any doubt in one's mind when dealing with the regularly intermittent fevers. The acute onset without prodromal symptoms, the sharp rigors occurring with remarkable regularity, and the prompt disappearance of all symptoms on small doses of quinin give rise to a clinical picture that is at once appreciated. The estivo-autumnal infection, however, may run its course without definite paroxysms or may assume atypical forms and is most often diagnosed as typhoid fever. Experience in many cases at the Johns Hopkins Hospital have shown that it is impossible to distinguish these cases without a blood examination. It should be emphasized that this form of paludism is not at all uncommon in this climate, and it is of the utmost importance to recognize it. Pernicious malaria, in which thrombi of parasites may occur in the cerebral or mesenteric vessels, causing the so-called comatose and algid forms of the disease, may pass as meningitis, uremic coma, dysentery, yellow fever, or even Raynaud's disease (case with superficial gangrene). Malarial cachexia must be differentiated from pernicious anemia, leukemia, splenic anemia, Hodgkin's disease with splenic involvement, etc. It is only by a thorough study of the blood that the diagnosis can be reached in these atypical cases, and the discovery of a single crescent will give indication for most vigorous treatment.

The error is more often made on the other side, however, and the number of human ills placed in the category of "malarial fever" is legion. As a result, the municipal health is jeopardized by the infectious diseases that fail to be recognized, precious time is wasted in establishing the proper course of treatment for the case, the unfortunate patient is dosed with cinchona *ad nauseam,* the prognosis is in doubt, and naturally both the victim and the physician are dissatisfied. It is with some of these conditions that this paper has to deal. They are chiefly as follows:

Typhoid Fever.—That this disease is frequently diagnosed as malaria must be apparent to anyone who looks into the statistics as to the cause of death published by various health boards throughout the country. One reads with astonishment in the U. S. Census Report for 1890 that in Brooklyn the deaths from malaria for the preceding six years aggregated 1,413, while only 1,002 deaths were attributed to typhoid fever during this same period.[6] At the same time Brooklyn was credited with having a remarkably low death rate from typhoid fever. Now, any reasonable physician must admit that a death from malarial fever is a rarity north of Mason and Dixon's line, and much the same may be said of this locality. A study of the conditions in Richmond, however, is very interesting. The reports of the health department in this city for the twenty years ending 1905 give the following total number of deaths as turned in for these two diseases:

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[4] Johns Hopkins Hosp. Rep., vol. v.

[5] Dr. H. R. Carter: U. S. Marine-Hosp. Service, personal communication.

[6] Osler: Med. News, Nov. 23, 1895.

Typhoid fever	768 fatal cases
Malarial fever	282 fatal cases

Thus there were more than one-third as many deaths reported from malarial fever as from typhoid fever. In addition, during these same twenty years there were 79 deaths reported as due to "intermittent fever" and 29 fatal cases of "remittent fever." Add these to the number of fatal cases of malarial fever and we have a total of 390 deaths ascribed to malaria, intermittent and remittent fever, or more than half the number of fatal typhoid cases. As an evidence that these statistics are not the work of a passing generation of physicians, but are dependent equally on the diagnostician of the present day, it might be well to cite the record of Richmond's health board for the one year 1905, which shows:

Typhoid fever	28 fatal cases
Malarial fever	24 fatal cases

Such figures as these would seem to make it imperative, as some writers have previously suggested, that our health boards examine very closely into all deaths reported as due to malarial fever.

Failure to recognize a case as typhoid fever may be due to the occurrence of chills, which, it must be remembered, are not uncommon in this disease. In the first place, typhoid fever may set in with shaking chills. This happened in 13 out of the 79 cases treated at the Johns Hopkins Hospital during the year 1894.[4] In two cases there were several severe rigors; in three cases there were two, while in eight the rigor was single. Chills may also occur[4] at the onset of a relapse; as a result of treatment, especially following the use of antipyretics; at the onset of complications, as pneumonia or femoral thrombosis; and chills may be present throughout the course of the disease associated with sweats, the so-called sudoral form. How often may chills be due to a concurrent malaria? This brings up the question of typho-malarial fever as a clinical entity, which will not be discussed in this paper. Suffice it to say that the health board reports for Richmond show the return of 215 fatal cases so diagnosticated from the years 1887 to 1900, inclusive. After 1900 all cases reported under this head have been included under typhoid fever in accordance with the International Classification of the Causes of Death, adopted in that year. It is not to be denied that these two diseases may co-exist in the same patient, as was shown by Gilman Thompson[7] at the meeting of the Association of American Physicians in 1894, as in his cases the parasites were actually demonstrated in the blood. These cases must be excessively rare, however, as Osler[8] reports 829 cases of typhoid fever in which examination of the blood revealed the plasmodium only once.

Typhoid fever at its height is a continuous fever, and the temperature curve rarely shows daily variations of more than a degree. Malarial fever, on the other hand, is marked from the outset by remissions of a grade not seen in the early weeks of typhoid. Say what one will, however, estivo-autumnal malaria may simulate enteric fever very closely, and it is just in these cases that the diagnostic importance of a blood examination comes in. The practitioner should be able to exclude malaria, and in most states there are city or state laboratories where a specimen of blood may be sent for a Widal test. A reasonable reliance may be placed in the therapeutic test, but if distinct results are not produced at the end of a week it is worse than useless to continue dosing the patient with quinin. Dr. Osler[8] expresses it admirably when he says: "Learn to suspect typhoid fever, and not malaria, in every case of fever of six or seven days' duration, particularly if it resists the action of quinin. For too long you have employed the Anglo-Saxon method of procedure, and in a given case have assumed innocence of anything so serious as typhoid until in the onset of some serious symptom the guilt was only too evident. It is high time now that you adopt the Gallic usage, and regard every case of continued fever as guilty, that is as a typhoid, until the contrary be clearly demonstrated."

Pulmonary Tuberculosis.—Fever is often the initial symptom in pulmonary tuberculosis, especially in the more acute cases. It is either remittent or intermittent, continued fever being unusual except in some cases of tuberculous pneumonia. The similarity between the temperature curves of phthisis and malaria is sometimes very striking. Not long ago there was a young woman under my charge with acute tuberculosis of the lung whose daily variation in temperature was over seven degrees—96 to 103—for nearly two weeks. Special emphasis should be laid on the fact that tuberculosis may set in with shaking chills, fever and sweats, and combined with this there may be few, if any, physical signs. In such cases consumption may not even be suspected until at the end of several weeks, during which time the malady and perhaps the patient have been quite refractory to large doses of quinin, a beginning cough or even an hemoptosis may put the practitioner on his guard. On the other hand, malaria may be accompanied by a pretty marked bronchitis, and a distressing cough may take the place of the chill, as in a recent patient of mine, during the paroxysms. So in many cases the correct diagnosis can be reached only by a careful examination of the blood and sputum.

Pyelitis.—Infections of the pelvis of the kidney, as well as certain other inflammations of the genito-urinary tract, are probably more often mistaken for malarial fever than any other condition. The insidious onset without pain or local symptoms, the characteristic intermittent or remittent temperature line and chills occurring with peculiar regularity, all suggest malaria most strongly. The rigors in such cases are probably associated with a temporary blocking of the ureter-drain either by a calculus or by inflammatory products, as the urine during the fever may be clear and free from pus, while at the termination of the paroxysm turbid urine loaded with pus is voided. It seems very strange that these forms of pyelitis associated with fever rarely cause any symptoms even when the disease is extensive. Palpation may reveal an enlarged and tender kidney, but not necessarily so. In contrast to malaria there is usually a leucocytosis of moderate degree, 12,000 to 20,000, the blood does not show the plasmodium, while one or two urinary examinations usually puts one on the right track.

Chills and high fever following urethral instrumentation is an exceedingly interesting condition, not often, however, confused with malaria, as it occurs soon after the local manipulation. Chills and intermittent fever may ensue on the passage of a renal calculus.

Septicemia and Pyemia.—Originating not infrequently from an insignificant focus, which may not be discovered, these serious conditions pursue a course closely resembling malarial fever. While septicemia has often but one initial chill and then runs a more or less continuous fever simulating typhoid, which in itself is a septicemia, pyemia, on the other hand, has as its cardinal symptoms irregular fever, chills and sweats. The diagnosis of these infections from malarial fever is almost always suggested immediately by such a simple measure as a leucocyte count which shows a distinct increase in the number of colorless corpuscles. Of course, every means should be employed to locate, if possible, the initial lesion. Cases following a wound, surgical operation or child-birth are readily recognized, but the process may originate in the tonsil or accessory nasal sinuses, may follow gonorrhea or a prostatic abscess, or occur in several of the following conditions which, because of their importance, are taken up separately.

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[7] Trans. Assoc. Am. Phys., vol. ix.

[8] Osler: N. Y. Med. Journal, Nov. 4, 1899.

Acute Endocarditis.—Under the title, "The Pseudomalarial Types of Infective Endocarditis" Coleman,[9] in an excellent article, shows a good many temperature charts illustrating the following pseudomalarial curves: double quotidian, quotidian, tertian, quartan, and mixed types. He cites several illustrative cases, states that the paroxysms may be identical with those of malarial fever, presenting cold, hot and sweating stages, with fever-free intervals, in which the cold stage may be accompanied by a prolonged, hard chill. As is well known, an acute process may attack the heart valves and give rise to no physical signs or symptoms until broken compensation ensues. In both malaria and acute endocarditis the long-continued hemolysis results in the deposit of pigment in spleen, liver and bone-marrow so that postmortem it is unsafe to attempt to distinguish malaria from septic processes merely on the gross or microscopic appearance of pigment in the viscera. This author concludes that the only reliable method is the demonstration of the malarial parasites in cases of this disease and their absence in septic processes. In nearly all other respects the pathologic anatomy of pernicious malaria may be closely reproduced by septicemia.

Liver Abscess.—Suppuration within the liver is most frequently secondary to amebic dysentery, but may follow traumatism or occur as a part of a general pyemia, or as the result of foci of suppuration in the territory of the portal vessels. As regards symptoms, the hepatic abscess may be entirely latent, but as a general rule there is pain associated with fever and an enlarged liver. The temperature is usually intermittent and rigors are not uncommon, which, associated with the sweating, form a clinical picture not unlike malaria. In the case of the amebic abscess the patient may give no history of dysentery,[10] but a careful examination of the feces generally reveals the protozoön. The blood does not show the malarial parasite, but may exhibit an eosinophilia, Billet[11] having reported 32 cases in which this was a constant feature. Most of his cases showed from 5 to 12 per cent. of eosinophiles, with one case running as high as 47 per cent. My experience does not entirely confirm this, as my notes on 14 differential counts in cases of amebic dysentery occurring recently in the wards at Johns Hopkins show that the eosinophiles were less than 4 per cent. in seven, and the case with the highest number had only 9.8 per cent. Amberg[12] found a slight eosinophilia in some cases of amebic dysentery in children, in others none. As a rule, there is an increase in the number of leucocytes in abscess of the liver, but a certain proportion of the cases fail to show it,[10] so that absence of leucocytosis does not aid in the differential diagnosis.

Gall Stones.—One form of cholelithiasis so frequently simulates malaria as to be worthy of special notice. This is obstruction of the common duct with the stone lodged in the diverticulum of Vater and exhibiting a ball-valve action. This is apt to give rise to ague-like paroxysms, chills, fever and sweating, the so-called hepatic intermittent fever of Charcot. I have seen several such cases giving a history of intense rigors over periods of weeks and months with more or less irregularity, fever often mounting to 103 or 104, that had been treated continuously with quinin, in which Dr. Halsted operated and confirmed the diagnosis of stone in the common duct. The most careful search failed to reveal any malarial organisms in these cases. The patients all showed more or less jaundice which had been considered in the light of the icteroid tint so frequent in severe malaria. The pain in these conditions, while sometimes severe and colicky, does not always occur. A careful consideration of all the symptoms, the deepening of the jaundice after each paroxysm, the presence of bile in the urine and the absence of the plasmodium in the blood should lead one to the correct diagnosis.

Among other diseases that may run irregular and intermittent fevers should be mentioned the severe anemias, leukemia, and especially Hodgkin's disease in which periods of pyrexia may alternate with periods of normal temperature, or there may be a daily rise of three or four degrees, sometimes with a chill and sweat. The fever in the early secondary stage of syphilis may assume marked intermittent character and this may also be said of the fever in certain instances of malignant disease. In children, milder forms of osteomyelitis, when not attributed to "growing pains," are often ascribed to malaria,[13] and when a child is brought to us with limp paralyzed extremities how common it is to have the mother tell that the whole trouble began with an attack of malaria, when the acute symptoms were really the onset of an anterior poliomyelitis. These conditions, and possibly many others, are treated as malaria and will continue to be so diagnosed until the practicing physican realizes that malaria is a real clinical entity, with a well-known and easily found causative agent and with an antidote that is a specific in every sense of the term if properly exhibited.

TREATMENT.

The subject of prophylaxis will not be dealt with in this paper except in so far as it applies to the individual patient. In all well-directed hospitals every patient whose blood harbors the malarial parasite is covered at night with a mosquito net, at least during the months that the anopheles are present. Were this not done ward infections would not be infrequent owing to the habits of this mosquito, which does not migrate, but tends to spend its whole existence within the radius of a few hundred yards. This insect bites only at night, and a mosquito bar is not an inconvenience and we would all do well to insist that one be provided in each individual case we treat. If it were possible to isolate every case of malaria, including the instances in children that are only too often unrecognized, the disease could be quite eradicated.

In the treatment of the individual case emphasis must be laid on the following points: 1. The quinin must be absorbed and enter the blood. 2. The drug must be administered until every parasite is destroyed. 3. The patient should remain in bed until the temperature reaches normal and remains normal.

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[9] Coleman: Am. Jour. Med. Sci., March, 1905.

[10] Osler: Med. News, April 12, 1902.

[11] Comp. Rendus, Soc. de Biol., Paris, lviii, No. 18.

[12] Bull. Johns Hopkins Hosp., December, 1901.

[13] Johnston: Trans. Am. Surg. Assoc., 1904.

In order that the quinin be absorbed there are two essential features to which attention may be directed: 1. The patient's alimentary tract should be in a condition to favor absorption. To this end the bowels must be unloaded by means of a good dose of calomel or blue mass, followed by a saline. The diet should consist of soft, easily digested foodstuffs, and as long as there is fever liquid diet alone is preferable. 2. The quinin must be given in a soluble form. In this connection I should like to cite briefly a rather remarkable case that came under my notice a couple of years ago. A man was brought into the hospital in a state of collapse whose blood presented an extreme picture of pernicious malaria, nearly every other red cell-containing one or more parasites. He died in a few hours in spite of heroic treatment, and at the autopsy was found an ischio-rectal abscess which contained in its pocket-like recess a very large number of quinin pills which had passed through the intestine without being at all dissolved. Such an experience as this is certainly striking enough to condemn forever the administration of quinin in pill form. Undoubtedly the surest way to give quinin is in solution with a mineral acid, e. g., quinin sulphate 5 grains, dilute hydrochloric acid 5 minims, water to 1 dram. It is not very palatable, although the acid seems to offset somewhat the bitter quality of the quinin, and I have always found that patients take it without objection. The drug may be administered in powdered form in soft gelatin capsules, but it is not an uncommon experience to have them pass entire from the rectum. The solubility of the quinin when given in this form is aided by following the dose in a few minutes by 10 minims of dilute mineral acid. The best indication we have that the quinin is absorbed is the subjective sensation of ringing in the ears, and if this is lacking we may feel quite sure that the quinin is not in the blood except possibly in certain unusual cases of idiosyncrasy in this regard.

The necessity of giving quinin for a definite period after the fever and symptoms have disappeared is not always sufficiently appreciated. This fall I have had several patients brought to me who gave a history of chills and fever five or six weeks previously, who had been given quinin for a few days which caused the symptoms to abate, but they have never felt quite well since, complaining chiefly of periodic headache, malaise and occasional chilly sensations, and on examination the blood still showed the plasmodium. A good general procedure in the handling of ordinary cases is the following: 5 grains of quinin every four hours, or 20 grains a day, for the first five days; then 2½ grains every four hours, or 3 grains three times a day, for two and a half or three weeks. In severe cases larger amounts may be given, 30 to 40 grains daily. It is generally advisable to give one large dose, 10 or 15 grains, five hours before an expected paroxysm, and if this is done there is usually sufficient quinin in the blood to destroy most of the young hyaline forms that are produced by segmentation during the chill. But if a case is seen directly after the rigor and another is not expected for two days I much prefer to start the quinin at once as it is undoubtedly true that a certain number of parasites are destroyed by the quinin while still contained within the red corpuscles[14] and the succeeding paroxysm is much modified. Let it here be again emphasized that quinin is a specific in malaria, that if it enters the blood in sufficient quantity the fever should disappear in a few days, certainly within a week, and I doubt very much if it is possible under these conditions for malarial fever to run as long as thirty days, a remark that is sometimes heard. Dr. Carter's communication, already mentioned, touches directly on this point, as in over 200 cases of estivo-autumnal fever treated in the canal zone at Panama the average duration of fever was only 52 hours in this severe type of infection.

In pernicious malaria every means should be employed to get the quinin into the circulation as quickly as possible. The drug must be given hypodermically—or, rather, intramuscularly—or even intravenously, and may also be given by the rectum. Tyson objects to the hypodermic method, stating that he has had to abandon it on account of the frequency with which it is followed by abscess formation. Undoubtedly quinin is very irritating to the tissues, but if the precaution is taken of injecting it deeply into the muscles and not simply under the skin, abscess formation is less often encountered. At least, this has been the experience in Panama,[5] where this method is frequently used. The bimuriate of quinin, or the bisulphate of quinin and urea, are the two preparations most frequently used. These methods of administering the drug are dealt with in most textbooks on the subject.

The necessity for absolute rest in bed while actively combating the infection must be apparent to anyone who has tried the simple experiment of treating an ordinary case of tertian malaria by this means alone without the use of quinin at all. While by no means the best way to kill off the parasites, yet it is surprising to see what Nature can do when aided by rest, diet, care of the bowels, and general hygienic measures. It is very certain, however, that the rest plus the quinin is more efficacious than either alone.

Appropriate means should be employed during the paroxysms to make the patient as comfortable as possible—blankets, hot water bottles and possibly a hot whisky-and-water. The judicious use of morphia is often indicated, especially if there is much gastric disturbance. A tepid sponge or an alcohol rub is appreciated during the sweating stage.

The post-malarial anemia is best treated with some form of arsenic. I usually prefer Fowler's solution, running up to 10 or 12 minims three times a day, provided the patient takes it well. Some prescribe a combination of iron and arsenic in pill form. If there is any indication to continue quinin, such a tonic as the syrup of iron, quinin and strychnin phosphate may be given.

The whole question of the treatment of such a common disease as malaria is so simple if attention be directed to certain important details that this fact is probably the very reason we turn out so many students from our medical schools each year with only a hazy idea of the subject.

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Sudden Death in Apparently Healthy Infants.—C. J. Bartlett of Yale states, in *Yale Medical Journal*, that in cases in which an apparently well nourished baby dies suddenly without evident cause, he always expects to learn that it has been fed on condensed milk or some baby food in place of cow's milk, and that he is not usually disappointed.

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[14] Craig: Am. Med., Apr., 1906.

NUTRITIONAL DISTURBANCES IN INFANCY DUE TO OVERFEEDING.*

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That overfeeding in infancy is apt to be followed by indigestion is a universally recognized fact. The term, however, usually suggests the giving to an infant of a food that is too rich in one or more food elements, or that is unsuitable to age and conditions, or that is given in too great variety and at too short and irregular intervals. We have not been sufficiently impressed with the fact that even an appropriate artificial food and one properly adapted to the individual case, can give rise to the profoundest nutritional disturbances when given in quantities that exceed the actual economic needs of the infant. In this discussion the term overfeeding will be used in this restricted sense, the giving to an infant of too great a total quantity of good, clean, fresh, unexceptionable, properly modified cow's milk, usually, but not necessarily, at too short intervals.

Continental writers have emphasized the danger of overfeeding in this sense for many years. Biedert was among the first to teach a doctrine of minimum feeding (*Minimalnahrung*), which called for the smallest amount of food necessary to insure perfect development with normal increase in weight. This most desirable minimum daily amount of food he placed at from 150 to 200 grams of fluid per kilogram of body weight, this amount to contain about 80 calories.

Heubner determined along metabolic lines the number of calories, per day, per kilogram of body weight, necessary to insure proper development in normal breast-fed babies. This so-called energy quotient he found to be about 100 from the third week to the end of the sixth month; a gradually diminishing amount after that time to about 80 or 85 at the end of the first year. He established 70 as the approximate energy quotient necessary to maintain a weight equilibrium.

Clinical observations, each extending over many months, have been made on breast-fed infants by Feer, Beutner, Budin, Schlossman, Nordheim, Czerny and Keller, Reyer and others, that have all confirmed rather closely the figures set down by Heubner, so that these can be used as a standard.

Budin of Paris uses a simpler measure. He feeds all of his babies "especially after the fifth or sixth month, or better, weighing 6 or 7 kg., one-tenth of their body weight daily of pure, sterilized, undiluted milk," and claims to have no symptoms of the overfeeding against which he warns so emphatically.

In this country, through the teachings of Rotch, Holt and their followers, we have come to think of nutritional needs and overfeeding rather in terms of percentage than of amount. Certain standards are set up as guides to the strength of food a child should receive, and these naturally find expression in more or less elastic tables of percentages of different food elements adapted to average healthy infants at various ages. Weight is given comparatively little significance, and for conditions other than normal we have most indefinite data.

To Czerny and Keller we are indebted for a symptomatology of overfeeding that, in its totality, is new and original, and is so clean cut and palpable that it alone can serve as a real guide to determine when proper amounts are beginning to be exceeded. Their exhaustive and truly scientific work[1] that has appeared only in part has placed the whole subject of infant feeding on as firm a foundation in reason and scientific investigation as that on which any other department of medicine stands. Finkelstein has put it none too strongly when he says: "When in the future we shall speak of the attainments of scientific pediatrics, Czerny and Keller's work will be placed first, and everyone who wishes to occupy himself in a scientific manner with the problems of infant feeding must find his foundations there." I wish to acknowledge that this paper and our own recent work in infant feeding has been, in a large measure, inspired by this work, and especially by the chapter on *Milchnärhschaden*, a term perhaps most briefly and fully translated by the title of the present paper; a chapter in which they picture a definite and convincing symptom-complex resulting from overfeeding.

For some time we have recognized and studied this clinical picture; we have also, during that time, calculated energy quotients in all of our feedings and have been much impressed by the results. It seemed to me additionally instructive to study our old cases in this light. I have, therefore, recently gone over the histories of our old cases at the Northwestern University Medical School, as well as over my own private cases, to see what our past habits have been with reference to overfeeding, both from a calorimetric and a clinical or symtomatic standpoint, and from this, if possible, to make a deduction as to the prevalence of overfeeding under present conditions in this country.

Our conditions have been rather favorable for such a study. In practically all of these cases we have a complete history of the exact amount of certified milk or cream, of definite strength, that was used, together with the exact weighed amounts of other ingredients used in the mixture. Our weight record, on our own scales, is quite complete, and the rest of the history as to bowel movements, disposition, etc., sufficiently so for this purpose. In nearly all cases the foods were prepared at the diet kitchen—always individually for each case. We have, then, all the necessary data for calculating approximate energy quotients. We have considered the caloric value of 1 ounce of 4 per cent. milk at 21; 1 ounce of 16 per cent. cream at 54; 1 ounce of skimmed milk at 10; 1 ounce of sugar at 120; 1 ounce of cereal water at about 3. It is a simple matter, then, to multiply the number of ounces of each ingredient in the twenty-four-hour food by its caloric value, to add the products, divide by the number of pounds the baby weighs, and multiply the result by 2 1/5 to reduce from pounds to kilos. The end product is the energy quotient. By caloric value is meant the number of large calories, the latter being the universally recognized unit of measure of food value as expressed in terms of heat production and representing the amount of heat required to raise 1 kilogram of water from 0 C. to 1 C.

The dispensary babies were fed by a number of different instructors connected with the department of pediatrics. Until recently we all used the percentage method. We have, however, gradually come to look on fats with that feeling of caution that pervades our own literature (Holt, Southworth, Jacobi, etc.), and I believe that all of us fed considerably under the usual amounts rather than above them, especially of fat. In the last year most of us have stopped using cream altogether and have used only milk dilutions with the addition of carbohydrates. I believe, then, that I can assume that our conditions were representative, or at least not an exaggeration, of what is being done in this country by those who use these methods only.

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* Read before the Chicago Medical Society, Nov. 28, 1906.

[1] Des Kindes Ernährung, Ernährungsstörungen und Ernährungstherapie.

I was convinced before looking over our records that overfeeding was a factor in our results, but after studying them, *I am positive that, in our past, overfeeding has been a factor in the production and maintaining of nutritional disturbances in infants that towers above all others.*

It seemed impossible to tabulate these cases and have the results of any more value than are general statements, so I have not attempted it. As far as calorimetric overfeeding is concerned, according to Heubner's standard, it can safely be stated that all of our cases were overfed ultimately, except those that were, at the time, suffering from some acute disorder. By overfeeding is not meant simply the exceeding of Heubner's energy quotient of 100, but rather using energy quotients of 120, to 150, to 200—in one case, fed by a physician not connected with the dispensary, who had had peculiarly valuable experience in infant feeding by the percentage method, an energy quotient of 330 was given for two weeks.

SYMPTOMS OF OVERFEEDING.

As to symptoms due to overfeeding, it can be said with equal certainty that they were present in the great majority of our babies, at some time, during the period that they were under our care. So typical and uniform are these symptoms that we associate with overfeeding that they form a clean-cut, easily recognized clinical entity. Individual cases differ from the well-marked type only in the number and the degree, rather than in the character of the symptoms, that make up this symptom-complex. Many of our cases gave only a few slight manifestations of trouble that had little or no bearing on the general condition of the child; in others there was every evidence of the profoundest nutritional disturbance.

An infant that is overfed becomes restless, often most strikingly shown by broken and restless sleep at night. At the same time it becomes constipated in a very characteristic manner; the bowel movements that were yellow in color and were soft and moist, become pale gray, hard and dry, will not mix with water, and are of the color and consistency of putty—so that they will roll from the diaper without leaving it soiled. The odor is strong and suggests decomposition. The urine has commonly a strong ammoniacal odor and easily produces irritation of the skin.

At the same time it is noticed that the child gives evidence of a fundamental disturbance of nutrition. It becomes pale, its tissues lose their tone, the abdomen becomes soft and moderately distended with gas. The child becomes less active; it plays less. A striking symptom, often the only one that gives any concern to one not familiar with this picture, is a failure to gain in weight on the same food, or a greater quantity of food, that up to this time has produced normal or even abnormal gain in weight. Still more striking is the fact that a continuation of the same amount of food, or of an increased amount, will regularly produce, not only a stationary weight, but after a time, a steady loss in weight. A further increase in food may again produce a temporary gain, often a large one, but it only makes surer and quicker the ultimate loss in weight.

OTHER RESULTS OF OVERFEEDING.

If this course is persisted in one of two results will follow: The child finally presents the picture of atrophy or marasmus. This we see, not rarely, in the pale, constipated, marantic baby that gives the history of having had a stationary weight, or steady loss in weight, for months, in spite of the fact that it has taken enormous quantities of cow's milk and has had no diarrhea or evident digestive disturbance.

The other result is the acute gastrointestinal catastrophe that may occur at any time in this course, and that is characterized by vomiting, diarrhea, prostration, loss in weight, often by fever, and, usually, by the inability to take more than the smallest amounts of cow's milk, sometimes for many weeks. This condition we have seen more commonly in weaker children, with poorer digestion, especially in those who were rapidly or excessively overfed; while in more robust children, with better digestion, in whom the overfeeding was a more gradual process, though excessive, there has been more of a tendency to the typical chronic course outlined above. In weaker children one often sees one catastrophe follow another, especially in hospital cases, the only progress being made during the period of low feeding generally recognized as necessary after such an upheaval; while in the stronger children the severest symptoms of overfeeding may be present for months before such a catastrophe occurs, if it occurs at all.

In many of these more chronic cases there is evidence of rickets, with the train of nervous symptoms that accompanies that disease. Two other symptoms very frequently appear at some time during the period of overfeeding. One of these, eczema, has been very frequent in those of our cases that have shown other well-marked symptoms of overfeeding, especially the characteristic constipation. It varies from the small, rough, reddish spots in the cheeks that are so well known, to the most extensive and intractable involvement of the cheeks, forehead, scalp, chest and back, and other parts of the body.

The other symptom alluded to is anorexia. Loss of the normal keen appetite of infancy, so that the child needs to be coaxed to finish its bottle, is very common in these cases that are well marked, but a refusal to take more than an ounce, or even less, at a time, is characteristic only of the graver cases, and then often forebodes a catastrophe. We have come to look on this symptom as due to overfeeding in practically all cases in infancy in which there is not some other evident acute, or chronic disorder. There is at present at Wesley Hospital a child of 17 months weighing 16 pounds in whom an increase of food from 26 ounces of milk, 10 ounces of barley water, 1 oz. of cane sugar, to 30 oz. of milk, and 6 oz. of barley water produced in one day a florid eczema of chest and back, spreading later to the cheeks and scalp, and within five days, loss of appetite, restlessness at night, fever and constipation, with hard, dry, gray bowel movements.

While most of our babies gave some evidence of overfeeding, and many of them had well-marked manifestations, such as constipation, pallor, restlessness, eczema, stationary weight, etc., there were very few in whom the final outcome was wholly bad. The ultimate picture of marasmus, of course, came to us in its finished state and was never produced by us. Some of our cases showed undoubted rickets, although under satisfactory control throughout. In general, we considered our results excellent. In some cases this was due not so much to our methods as to the fact that these cases can often stand a surprising amount of overfeeding. While many of our cases did well for weeks and months on energy quotients of 150, many gave evidence of serious trouble on those of from 110 to 120 or even less. Since calculating energy quotients in all of our cases we have seen few, if any, cases that required over 100, and we have usually regretted it if we have exceeded that "unsurpassable amount" (Heubner). In general, we have found the energy quotients of from 100, at the beginning, to 80, or less, at the end of the first year, as a wholly satisfactory working basis as to the approximate amount of food a child should get.

FAT THE DISTURBING ELEMENT.

There seems little doubt that the disturbing element in this condition is the fat of cow's milk, and that its non-digestion, non-assimilation and the resulting disturbed intermediary metabolism are the cause of this train of symptoms. Outside of the negative evidence that proteids and carbohydrate and salts can not produce this picture, there is very positive evidence that fat does. The characteristic dry, hard, pale bowel movement has been found to consist largely of the insoluble salts of the fatty acids (*Seifenstuhl*). If the amount of fat is increased all symptoms are increased. If the fat is sufficiently diminished, and the other food elements are left undisturbed, or increased, there will be rapid improvement. No other result in infant feeding is more striking than the mathematical certainty with which the dry, gray bowel movements of these infants, no matter what their ages, are replaced by characteristic smooth, nearly odorless, curdless, brown, salve-like bowel movements, when they are fed straight, undiluted skimmed milk—a food that is nearly fat free, but contains the maximum amount of proteids and carbohydrates. Nor is the general improvement less certain than that of this one symptom.

The immediate cause of this condition is probably an acidosis (Czerny and Keller), as shown by increased excretion of ammonia in the urine. This is due to the fact that alkalies are withdrawn from the body by the fatty acids produced in the intestines, and to satisfy the normal acid products of metabolism ammonia is called on.

The following three cases may be cited as typical cases of overfeeding, in which the percentage method was used:

Case 1.—Baby F., well developed, strong, healthy baby. Birth weight, 9 pounds 12 ounces. Maternal nursing alone for three weeks, with severe indigestion and considerable loss in weight. After the first month fed artificially on cream and whey mixtures; later on cream and milk. At four months weighed 13 pounds 8 ounces. At five months weighed 13 pounds, a loss of 8 ounces in one month. During this month the child had received a food mixture containing fats 3.6, proteid 2.0, sugar 7.0. Seven feedings of 5 ounces each were given at three-hour intervals. The energy quotient here was about 116. It did not take the food well and would often leave one or two ounces of a 5 ounce bottle. Child was rather pale and thin, but muscular and active. Cranio-tabes well marked. Bowel movements were pale yellow and somewhat dry and offensive. During the fifth month a sudden severe diarrhea occurred, with from twelve to fifteen green bowel movements a day. It was put on barley water for a short time and milk, later cream, was slowly added. Baby now took food eagerly and after the initial loss due to diarrhea and hunger diet, gained one pound in two weeks. Soon began again to refuse to take all of the 5 ounces of food, so the food was made more concentrated: Fat 4, proteid 2, sugar 7.5; the number of feedings was kept the same, as also was the frequency and the amount. The energy quotient now was about 137. Child became rather constipated, the bowel movements were pale, greenish yellow, and offensive, but it gained 20 ounces in eighteen days on this stronger food. Two weeks later there was no gain in weight, the bowel movements were dry, pale and offensive, the baby was pale, and refused food more and more. Finally it would take only an ounce or two at a time, and was losing in weight. In three months it had gained only 1½ pounds. The mother then, on her own initiative, fed the child potato, bread and gravy, porridge, cracker, soup, etc., and stopped coaxing her to drink milk, the child soon taking less than a pint a day. There was immediate improvement. The child was happier and slept better, bowel movements became normal, and the child gained a little over a pound a month for four months. At eleven months the child weighed 19 pounds. Still rather thin and pale, but marked improvement over former condition. Only very slight evidence of rickets.

In this case the most serious results of overfeeding were avoided by the mother unconsciously meeting the two therapeutic indications, decreasing the milk and increasing the carbohydrates.

Case 2.—Baby B., weight 11 pounds at birth; maternal nursing insufficient. Was rather underfed for two months, with stationary weight; for the next four months it gained steadily about 6 ounces a week on cream and milk mixtures. During the last two months of this time the child was badly constipated, one or two hard, dry, smooth, pale yellow bowel movements a day, offensive in odor. Eczema was first noticed about this time on cheeks, and later about the ears, then on the forehead and scalp, with one or two small spots on the body; it was variable in intensity. Child always rather pale, but very active and a good baby. During this time the food had a percentage never stronger than, fat 3.6, proteid 2.0, and sugar 6.5, but the energy quotient was from 160 to 165. The cream was diminished and the milk increased so that at nine or ten months the child was practically on about 40 ounces of whole milk, with the energy quotient under 100. Weighed 19 pounds at nine months, and the general condition was excellent. The eczema, which in this case was the chief symptom, had slowly disappeared, and was practically gone at nine months.

Case 3.—Baby O., a typical case with all the classical symptoms, weighed 7 pounds at birth, was wet-nursed five months, when it weighed 16 pounds 4 ounces. Had been on milk and cream mixtures since then. At seven months the food mixture consisted of fat 3.0, proteid 1.5, and sugar 6.0, with an energy quotient of 86.

At eight months the child weighed 18 pounds and the food mixture was: Fat 4.0, proteid 2.0, and sugar 7.0; the energy quotient being 128.

At nine months: Fat 4.0, proteid 2.8, sugar 6.0, with energy quotient 130.

At ten months: Fat 4.0, proteid 3.0, and sugar 6.0; energy quotient 130.

At eleven months the child weighed 18 pounds 14 ounces—a gain of 14 ounces in three months; the energy quotient was 128.

When one year old the child weighed 19 pounds 8 ounces. The food was milk 40 ounces, sugar 1 ounce, with an energy quotient of 108. During the last few months this child has had no acute illness. Has been out of doors almost constantly. Bowel movements have generally been rather dry, grayish, often nearly white and offensive, typical *Seifenstuhl*. Has had slight eczema for some months, especially recently; is rather pale, does not drink well, and often leaves an ounce or two of food. When thirteen months old, had for several days refused bottle more and more, and finally would not take it at all. The eczema was well marked, and vomiting and diarrhea now set in. Baby was put on barley water for eight days, then milk was added slowly to 40 ounces. At sixteen months of age the child weighed 20 pounds 10 ounces, a gain of 10 ounces in two months. In the last few months the child had taken a daily mixture of milk 40 ounces, sugar 1 ounce, in addition to some carbohydrate food, granos, flaked wheat, etc. During the greater part of this time the stools had been hard, light-colored, and dry.

The child at sixteen and one-half months was rather pale, the anterior fontanelle measured 1 inch across, the head was rather large and square, and the tissues soft. The ribs were slightly beaded and the costal borders somewhat flared; the abdomen was soft and moderately distended.

This child lived under very favorable hygienic conditions, was out of doors nearly all of the time, was only moderately, but persistently, overfed, and yet developed mild rickets and gained only 24 ounces from the eighth to the eleventh month, or 2 pounds 10 ounces from the eighth to the sixteenth month.

TOO LARGE AMOUNTS VERSUS TOO LARGE PERCENTAGE.

So far cases have been cited in all of which high percentages of fat have been used—only once a little above 4 per cent., in the rest 4 per cent. or under. In a paper read before the American Pediatric Society in May, 1904,[2] Holt cites five cases resulting from too high percentages of fat (5 to 7+ per cent.). These he details under the following headings:

HOLT'S SERIES.—CASE 1.—Overfeeding with high fat, rapid increase in weight and progress in development till 8 months old; then general convulsions followed later by tetany, laryngismus, fatty liver (?). Recovery after three months' illness.

CASE 2.—Prolonged feeding with high fat, notwithstanding which constipation and the development of moderate rickets followed by acute disturbances of digestion with repeated convulsions.

CASE 3.—Overfeeding with high fat; convulsions.

CASE 4.—Habitual vomiting aggravated by high fat; serious gastric catarrh produced; finally cured by stomach washing.

CASE 5.—Feeding with high fat; eczema, habitual constipation and finally habitual vomiting.

So striking is the similarity of this symptomatology to that of the cases I have just cited that there can be no reasonable doubt as to an identical cause, i. e., too much fat. This excess Holt repeatedly states in terms of percentages as if the essential point were too high a percentage of fat—not too great an amount. It may seem a trivial matter to point out this difference of viewpoint—and yet right here is the very kernel of the matter—the essential difference between feeding by a percentage method and a method that determines the amount of food that should be given. That these digestive disturbances are not due to too high percentages of fat *per se*, can be demonstrated with the ease and certainty of a laboratory experiment by any one who will feed a number of babies on low milk dilutions in excessive amounts; they will get the identical symptoms that Holt has described and that are undoubtedly due to too much fat.

A year ago I started about a dozen babies on simple milk and water, or milk and cereal water dilutions (1 to 3, to 1 to 0), with about 5 to 7 per cent. sugar. Most of these babies were sick and required a preliminary one or two days' hunger diet. Such immediate results in the form of smooth, rich yellow, well-digested bowel movements I had never seen before. Gradually all those assisters in proteid digestion from alkalies to peptonization were dropped without any appreciable difference, except, in some cases, a beneficial one. These babies were not constipated, they gained rapidly in weight from the start—there was not that long anxious wait in the sicker cases that we were accustomed to in those we fed on whey and cream and cereal water mixtures. One after the other, however, these babies did become constipated, often very much so, with pale, hard, dry bowel movements. Some failed to gain after the first rapid gain. They became restless and did not sleep well at night. Many had eczema and some would not take all of their food. Some of them gained steadily and well and seemed in good condition. Practically, all were ultimately constipated except those in whom sudden severe attacks of diarrhea broke out, often without any apparent reason. We had been taught, and had ourselves taught, that simple milk dilutions would "invariably cause constipation," so this result was not unexpected, and the other symptoms were considered secondary to it. In certain cases I added cream and found, to my astonishment, that the condition was not only not relieved, but often made much worse.

I then began to estimate energy quotients in all cases, and found that all of these cases had been overfed, being given usually energy quotients from 120 to 170 during the period of eczema and maximum constipation, or just before the catastrophe. Since we have calculated energy quotients in every case constipation has given us comparatively little trouble and the other symptoms of overfeeding no longer occur. We have heard much of "fat diarrhea" in the last few years. Fat constipation deserves at least an equal place in our nomenclature. We have come to look on fat as the constipator—and the one condition in which we have never seen constipation is the use of straight, skimmed milk, the maximum proteid and minimum fat food. A single case from this series will illustrate what has been said:

CASE 4.—Baby E., born March 14. Weight 10 pounds (?) and was wet nursed one month, but lost in weight; so was then fed on modified milk. Was first seen May 12, when it weighed 8 pounds 12 ounces. Had had a good deal of colic, with three to four bowel movements daily, but was now constipated. Started the child on barley water for twenty-four hours, then 5 ounces of milk was added daily until it received the following: Milk, 15 ounces; barley water, 25 ounces; sugar, 2 ounces. The energy quotient was 154. The composition of the food was: Fat, 1.5; proteid, 1.5; and sugar 6.0. Eight 5-ounce feedings were given daily at three-hour intervals.

May 5: Weighed 9 pounds 12 ounces, a gain of 1 pound in one week! The baby was well in every way, so the food was continued. *This enormous gain in weight is characteristic of early rapid overfeeding, and we now consider such a gain an imperative indication for reduction in the amount of milk unless the energy quotient is very low.*

May 30: Weighed 10 pounds 3 ounces; had two or three bowel movements a day; yellow, not offensive, but a little too hard and pale, so that baby grunts a great deal in passing them. Slight eczema. The same food was continued.

June 9: Weighed 10 pounds 13 ounces. Food the same; energy quotient, 123. Two bowel movements daily, which were whitish, dry, formed and offensive. Eczema increased, spreading to chest and back as well as face. On account of the small gain of 2 ounces in one week, 2 ounces of milk was added, and three days later 2 ounces more. The food mixture was: Milk, 19 ounces; barley water, 21 ounces; milk sugar, 1½ ounces, giving an energy quotient of 126. The food strength was: Fat, 1.9; proteid, 1.9, and sugar, 6.0. The number of feedings, quantity and intervals remained as before.

June 30: Weighed 11 pounds 11 ounces, a gain of 14 ounces in fourteen days.

The increase in food, as often happens, even when there was no previous gain, increased the weight, but brought on the catastrophe: a diarrhea for ten days. For a time there were bowel movements every ten to fifteen minutes of a pale, yellow, curdled, cheesy, sour and offensive character. Child was restless, slept little and cried much.

July 3: Baby was put on barley water for two days and the crying stopped, and it slept well. Five ounces of milk were added, with six to eight bowel movements daily resulting, so child was put on barley water for four days longer.

July 7: Weighed 11 pounds 6 ounces. The addition of milk produced the same bowel condition as before. After several attempts to relieve conditions, including trying buttermilk (?) (not fat free), the mother decided to take the baby to the country and the further history is unknown. The child never had 2 per cent. of fat, although 3½ months old when the food disagreed, and was typically overfed on 1½ per cent. of fat.

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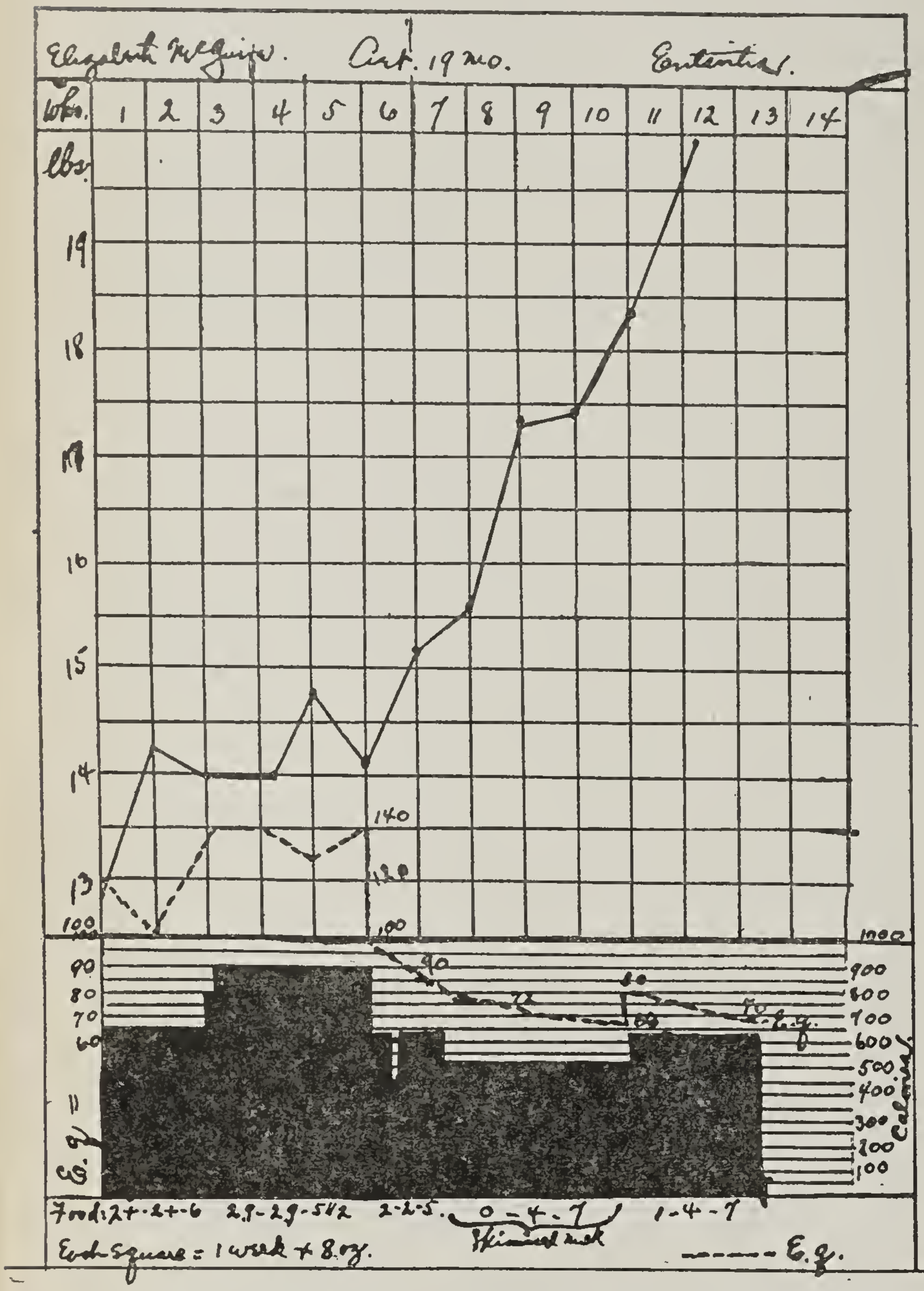
[2] Disturbances of Digestion in Infants Resulting from the Use of Too High Fat Percentages.

The following case had less than 3 per cent. of fat at 19 months, but had severe symptoms of overfeeding on an energy quotient of 140 from which she recovered at an incredible rate on less milk—later skimmed milk with very low energy quotient; gaining 5 pounds 14 ounces in 51 days, nearly 13 ounces a week for over seven weeks.

Case 5.—Baby McGuire (see chart).

August 20: Entered Wesley Hospital, 18 months old; had an enteritis of three weeks' standing; was thin, pale, haggard and listless, with eyes sunken and a temperature of 101 F. Frequent green, curdy, slimy bowel movements. She was given stimulation and placed on cereal water for four days, then milk was added, three ounces a day.



Case 5.—Baby McGuire. Rapid gain on e. q. of 120 followed by loss. No gain for 3 weeks on e. q. of 140. Enormous gain on e. q. of 66 to 80. In general as e. q. is lowered gain is increased, and vice versa. Maximum gain of 1 lb. 11 oz. in one week on e. q. of about 70. Food at this time: Skimmed milk 40 oz., cane sugar 1 oz.

August 29: Weighed 12 pounds 13 ounces; bowel movements had been normal for several days, but had been losing to this time. Energy quotient was slowly raised to about 120. Food mixture consisted of: Milk, 25 ounces; cereal flour, malt, water, 23 ounces; cane sugar, 1½ ounces. Six 8-ounce feedings were given daily at three-hour intervals.

September 5: Weighed 14 pounds 4 ounces, a gain of 23 ounces in seven days. Food was the same, with an energy quotient of about 100.

September 14: Weighed 14 pounds, with food as before; bowel movements were normal. On account of loss, the food was increased to milk, 35 ounces, barley water, 13 ounces, cane sugar, 1 ounce, fed as before, with the energy quotient 140.

September 21: Weighed 14 pounds on same food. One bowel movement daily; several days none; dry, pale, gray and hard. Child had not slept as well as before and showed eczema about the chest.

September 26: Weighed 14 pounds 12 ounces. Had gone home. The bowel movements were hard and dry, so that the child played with one, as with blocks; the eczema was worse. The same food mixture was given in five 10-ounce feedings at four-hour intervals.

October 3: Weighed 14 pounds 1 ounce. Child had not taken food well since she went home and will only take a few ounces at a time. Had five or six bowel movements daily, always gray or whitish; these were at times hard and formed, again soft and cheesy. Never green. Child was cross and peevish and restless at night, but had no fever. The milk was cut down to 20 ounces; barley water, 20 ounces; cane sugar, 1¼ ounces, giving an energy quotient of 98.

October 10: Weighed 15 pounds 3 ounces, a gain of 1 pound 2 ounces in eight days. Had not been cross since the food was changed and took it well almost at once. Slept well and the diarrhea had stopped, but bowel movements are still a mass of whitish curds; the rest pale and yellow.

October 13: On account of the curds was put on straight skimmed (centrifuged) milk, 40 ounces; sugar, 1 ounce. Energy quotient of 75.

October 24: Weighed 15 pounds 10 ounces. Two good, yellow, normal bowel movements daily; no curds two days after being put on skimmed milk; the same food continued.

October 31: Weighed 17 pounds 5 ounces, a gain of 1 pound 11 ounces in one week. Energy quotient 66. Bowel movements normal.

November 7: Weighed 17 pounds 7 ounces. Still on the same food. On account of the small gain child was put on whole milk, 10 ounces; skimmed milk, 30 ounces; cane sugar, 1 ounce. Energy quotient, 80.

November 14: Weighed 18 pounds 5 ounces, a gain of 14 ounces in one week. Child had perfect digestion, good color, good disposition and slept well. Is getting solid; laughs and plays.

November 23: Weighed 19 pounds 15 ounces, a gain of 1 pound 10 ounces in nine days, on the same food. Energy quotient, 70. General condition excellent. Since this child went home it has received a small amount of additional food. I asked the mother many times as to just what this consisted of. She always stated positively that the child had one thin slice of bread about 2 inches square and a half cup of beef soup daily,, and, every other day, she chewed a piece of meat the size of one-half a finger. This child had been so sick that the mother had given her up; the latter had been cautioned so often and so hard against giving too much food, and her faith in the last milk was so implicit that I believe her statement is accurate. To make doubly sure I asked the nurse in charge of the diet kitchen to go to the home and investigate the matter. She was equally convinced that the child was getting no more than the mother stated. For a study in actual, rather than relative energy quotients, the caloric value of these could be added to the milk.

Such enormous gains are not so alarming nor do they carry the same therapeutic indication, as when whole milk is given, especially in excessive amounts. The offending fat is not present in sufficient amount to cause trouble.

From all that has been said I believe the inference is justifiable that overfeeding to the point of producing well-marked symptoms is not only widely prevalent in this country, but the rule. Our present methods, especially the percentage method, must then be inadequate to prevent this. If by one method—that of using simple milk dilutions with the addition of carbohydrates, and with no definite check on the total amount to be given, a 7 months' old child among our cases, whose food is increased from 10 to 15 ounces of milk can develop extensive eczema, restlessness, typical constipation, later diarrhea, fever and loss in weight, then this method alone is not so accurate as it would be if combined with a procedure that would tell us in advance that that child's energy quotient was being sent up from a dangerous height of 130 to a disastrous one of 152. And if a "schedule for an average healthy infant (Holt) of 6 months calls for a fat 4, proteid 2, sugar 7 mixture of 30 to 48 oz. then that schedule is not even approximately safe in itself when it permits us to go from a proper energy quotient of 90 to a decidedly dangerous one of 145 if our healthy child weighs 16 pounds, as it ought to. These tables uniformly recommend excessive amounts and too short intervals that must lead to overfeeding unless we are familiar with the above picture of overfeeding and have had an unusual experience. The percentage alone is an unreliable and irrational check even in the healthy child. If we could have our cases under ideal control at all times we might be satisfied with recognizing symptoms of overfeeding as they arise. But with our conditions, especially in those of limited experience, something safer and more tangible is necessary—something that will forestall symptoms rather than permit us to recognize them. We have become convinced that in our feeding cases determination of energy quotient is simply indispensable. Those of us who have adopted it have become enthusiastic over it as we have over no other procedure in infant feeding. It is this point that I wish to emphasize especially, that this determination of energy quotient is not merely an interesting study in physiology, but an intensely practical procedure of the greatest value not alone to the scientific pediatrician, but to any man who feeds babies and wants to be sure of results. It alone enables him to tell approximately how much food his baby really needs, and by keeping this in mind, and departing from it only when clearly indicated, he will avoid on the one hand a prolonged underfeeding that is by no means uncommon and, on the other hand, a still more disastrous overfeeding.

It is true that caloric value represents only one function of food, that of heat production. It is equally true that in our overfeeding we have to do with a real milk overfeeding and that the amount of milk, and not the caloric value, would perhaps be the surest guide to the prevention of this symptom-complex. In a child at Wesley of 17 months and weighing 16 pounds that has been mentioned before, a change of milk from 26 oz. to 30 oz., but with an actual lowering of energy quotient from 96 to 90, due to lessening of sugar and barley water, produced nearly all of the symptoms of overfeeding within a few days. And yet these symptoms would doubtless have arisen with less increase of milk if the higher energy quotient had been maintained. These are theoretical considerations. For practical purposes the method advocated is amply sufficient, and the most desirable one so long as we are all using well balanced but widely different food mixtures and need a common measure.

It need hardly be mentioned that this method is not to be used to the exclusion of other things. To feed a baby one needs all the help obtainable from every source. The baby itself must be seen, it must be weighed regularly and accurately, its disposition must be inquired into, its bowel movements must be seen, not alone described by the mother, the actual preparation of the food must be supervised. Nor is this method applicable only to the simpler milk dilutions, plus carbohydrates, that we use. Its use is indicated nowhere so much as in the use of high fats in the conventional percentage method, for obvious reasons. Such indications for increase of food as apparent hunger, restlessness, failure to gain or loss in weight, or mere lapse of time, need hardly be discussed after what has been said.

The treatment of this condition, after it is present, is more or less evident from its pathogenesis. In general the fat must be reduced and the carbohydrates increased to take its place. In milder cases it is enough to do only the former, together with lengthening the interval to at least four hours. In severer cases the milk must be greatly reduced and a gruel or flour water added. If this is not sufficient to produce normal bowel movements and gain in weight, more sugar must be added, either as cane sugar, or preferably, according to Czerny and Keller, as maltose. Milk sugar has not shown itself serviceable clinically. To meet this one indication of overfeeding with milk Keller's *Malzsuppe*[3] is intended. This or another combination of milk, flour and cane sugar or maltose, modified to meet the individual conditions, is best kept up for a number of weeks because these children are not readily lead back again to normal amounts of milk. The milk is then gradually increased and the carbohydrate diminished until the usual milk modification is again reached. Rapid improvement and ultimate cure are the rule.

We are handicapped in not having a desirable maltose, or a serviceable malt preparation, in this country. The ordinary malt extracts can not be used in large amounts on account of their laxative action, and the use of maltose itself is not feasible. In some cases we have used for this purpose a well-known "baby food" that is composed largely of maltose, with excellent results.

In all of these cases, but especially in the severer ones, the most rapid and certain *immediate* improvement is produced by the use of a fat-free milk as we would expect. I believe it is a matter of indifference whether this fat-free milk is sweet, i. e., skimmed milk, or whether it is buttermilk. So uniformly certain is the action of buttermilk in these cases, as in nearly all other digestive disturbances of infancy, that its well-deserved popularity is easily understood, and we can see why Baginski considers its use in dyspepsia, for example, as "almost a specific, like antitoxin in diphtheria." After a considerable experience in the use of skimmed milk I am convinced that its action is the same as that of buttermilk, and that in both cases the striking results are due to the fact that we have a nearly fat-free food. If this is true then the use of skimmed milk has obvious advantages over that of buttermilk. It can be used in practically any strength, and is, of course, best prepared with the addition of sugar, and often also of flour, or a gruel, so that the absence of fat is compensated by the greater amount of carbohydrate in its place. The only objections to the use of skimmed milk in these cases of overfeeding are that it is rarely necessary to eliminate the fat so completely, and, secondly, it is often difficult to return from a fat-free to a fat-rich food in a reasonable length of time. Constipation and curds in the bowel movements quite regularly follow the addition of even a small amount of whole milk, i. e., of fat, and the change must usually be made very gradually.

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[3] Wheat flour, 50 g., are stirred up in .33 l. of cow's milk and run through a sieve. In a separate vessel 100 g. of Loeflund's Malzsuppen extract is dissolved in .66 l. of lukewarm water. The two mixtures are then poured together and under constant stirring are brought to a boil.

Just what part food intervals play in the production of overfeeding is difficult to estimate. Of the therapeutic value of longer intervals than the customary two or three hours there can be doubt only in the minds of those who have not tried it. If cow's milk does not leave the healthy baby's stomach before the end of 2½ to 3 hours, and much later in the case of the sick one, then it would certainly seem indicated theoretically that the minimum interval should be 3 hours in health and 4 hours in pathologic conditions. A considerable and remarkably uniform experience has convinced us that the 4-hour interval is indicated in all pathologic cases and is preferable in all normal cases. Besides giving the stomach more rest and making the baby more comfortable, this long interval is a potent factor in preventing overfeeding, for it is manifestly more difficult to put enough food into a baby's stomach to overfeed it if that organ is filled only five or six times a day than if that process is repeated eight or ten times a day.

A word as to the ultimate results from feeding less fat. This consideration naturally limits itself to rickets and to the prevalent teaching as to its etiology, i. e., that these children get too little fat. There certainly is at the present time no real evidence that too small an amount of fat is an important factor in the causation of rickets, and there is an ever-increasing conviction that rickets can, and does, develop under our very eyes in spite of the fact that our cases are fed much fat—yes, often because of that fact (Holt and see babies O and F). Moreover, it is far from any one to recommend a small amount of fat. The child needs proportionately more of it early in the first year than at any other time in life, but that amount need never exceed an equal amount of proteid that the child can take with ease.

CONCLUSIONS.

1. Overfeeding is so prevalent in this country that it is the rule.
2. Overfeeding is second to no other factor in the pathogenesis of infant feeding.
3. Overfeeding presents an easily recognizable, definite symptom-complex.
4. The percentage method is inadequate to prevent overfeeding, the well-known feeding "schedules for an average healthy infant" of a given age fostering it by recommending excessive amounts; and, moreover, mere percentage leaves undetermined the amount of food the baby gets.
5. To feed rationally and especially to prevent overfeeding it is necessary to know how much food the baby is getting in proportion to its body weight, best expressed in terms of energy quotient.
6. The disturbing element in overfeeding with cow's milk is the fat.
7. Fat in excessive amounts regularly produces constipation—proteids never do so.
8. It is never necessary to give more fat than proteids of cow's milk.
9. The interval between feedings should be 4 hours.

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Rising by Another's Downfall.—A man may become grasping and avaricious, remarks the *Chicago Clinic*, even in the pursuit of knowledge, but when that avarice begins to work destruction to others, he becomes a menace to the general weal, however virtuous his quest. No individual in the medical profession has the right to pursue any course for his own benefit which is carried on at the expense of others and without their consent.

CHOICE OF METHODS FOR DILATING THE GRAVID UTERUS.

EDWARD P. DAVIS, M.D.
PHILADELPHIA.

During the early months of gestation the induction of labor by gradual dilatation is not indicated. Circumstances arising which make the emptying of the uterus necessary, demand that this should be done as a surgical operation under anesthesia. Dilatation by graduated metal bougies, aided by bladed dilators and followed by curetting and gauze packing form the procedure most available in these cases. The indications for this procedure are pernicious nausea with fulminant toxemia, incomplete abortion, and hemorrhage from the uterus caused by or accompanying disease of the ovum. Gradual dilatation should be declined in these cases, because of the inefficiency of the gradual method and its danger of septic infection.

After the early months of gestation it may be necessary to dilate the uterus artificially for acute and threatened toxemia, placenta prævia and for the premature separation of the normally situated placenta.

IN TOXEMIA.

In selecting indications for this procedure we must distinguish between the nephritis of pregnancy and acute toxemia of hepatic origin. The nephritis of pregnancy is not an indication for the rapid emptying of the uterus. These cases can be safely managed by other means. Should treatment not prove successful, placental changes will occur which will ultimately bring about the death of the fetus and be followed by its expulsion. Should treatment be successful, the mother may proceed to full term, while in some cases the treatment addressed to the condition results in exciting labor. The presence, then, of albumin in considerable quantity and of casts in the urine with symptoms of nephritis does not indicate a rapid emptying of the uterus.

When the patient has altered pulse tension, however, the nervous disturbances of toxemia, obstinate constipation and evidences of disintegration of the blood which accompany this condition, the uterus should be emptied as soon as is consistent with the patient's safety. Remembering the tendency to thrombosis and embolism and the hepatic congestion in these cases, that method must be selected which will do the least violence to the patient's tissues, thus avoiding the products of such violence, which received into the circulation increase the danger of thrombosis and embolism in the viscera. For rapid dilatation of the uterus, in these cases, whenever possible, the hand should be the instrument of choice. If one finger can not be introduced, metal bougies or bladed dilators may be employed until one or two fingers can be inserted. Bimanual dilatation with one or more fingers of each hand working synchronously in opposite directions is, in my experience, the most efficient method. This may be carried to the point where the membranes may be ruptured and version performed, or the membranes ruptured and the forceps used for delivery. Should the cervix prove unmanageable by the fingers, in my experience, Bossi's dilator employed to one-half or two-thirds its full capacity during thirty to forty-five minutes with anesthesia has proven harmless and efficient. Except in rare cases, full dilatation with Bossi's dilator should be avoided, because of the danger of serious laceration. Should these methods not prove sufficient, incisions of the cervix have given good results.

Vaginal Cesarean section for acute toxemia or threatened eclampsia is at present under wide discussion. I have not yet seen a case in which it was clearly indicated. In the hands of those accustomed to perform vaginal and abdominal section, this method may be available. It requires, however, assistants and technic which can not always be commanded. It is best available in well-equipped maternities. It is questionable whether the extensive dissection required in some of these cases would not add to the patient's danger.

In acute toxemia with threatened eclampsia, I have found elastic bags too slow in their action to be satisfactory. The continued pressure of these bags without anesthesia tends to excite eclamptic convulsions. Bags and bougies, in my experience, are contraindicated in this condition.

I desire to call attention to the fact that in a considerable number of cases of virulent toxemia with eclampsia, the patient is hopelessly ill when the physician is summoned. Beginning changes in the lungs, whether edematous or necrotic, forbid the use of anesthetics, and in these cases recovery under any form of treatment is exceedingly rare. The analogy between these cases and patients with extensive pneumococcus infection of the lung is close; and as the surgeon would hesitate to anesthetize a patient seriously ill with pneumonia, so he should avoid anesthesia and direct interference with a pregnant patient suffering from acute toxemia and eclampsia in whom pulmonary lesions are either beginning or well pronounced. Bleeding followed by saline transfusion, inhalation of oxygen and the very cautious use of veratrum, with rectal stimulation, give more hope of success.

Abdominal Cesarean section in acute toxemia with eclampsia is no more indicated than are other operations requiring anesthesia and incision and suture of the tissues.

IN PLACENTA PRÆVIA.

In placenta prævia experience shows that the hand is far superior to any other instrument for dilatation. Until the operator is ready to proceed the use of the gauze tampon is indicated to lessen hemorrhage and prepare the way for dilatation. When, however, the necessary assistants and appliances for asepsis are at hand, dilatation should be performed. In these cases the operator must use the hand in accordance with the conditions found on examination. When the placenta completely covers the os it must be perforated by the fingers, and if possible, a foot seized and brought down. Using the fetus as a plug, the operator should not proceed to immediate delivery, but promote gradual dilatation with the body of the child, utilizing the opportunity to stimulate the mother. In cases in which the placenta does not completely cover the os, the membranes may be ruptured, cervix dilated, and if the head be low down forceps may be applied and the child delivered. If the head is not engaged version may be selected. While the bimanual method of dilatation may be employed in placenta prævia in some cases, it will be attended with more hemorrhage than dilatation by the one hand only.

While in some cases of placenta prævia the elastic bag may be useful, its action as a rule is too slow, and its liability to promote hemorrhage too great to bring it into direct comparison with the hand.

In my experience Bossi's dilator is an exceedingly dangerous instrument in placenta prævia. The cervix and lower uterine segment are so softened by the increased vascularity accompanying the condition that the tissues tear readily and often fatally. In a successful effort to secure a living child in central placenta prævia I have seen the anterior portion of the lower uterine segment torn and the urethra ruptured.

Multiple incision of the cervix, vaginal Cesarean section or abdominal Cesarean section must be very rarely indicated in placenta prævia. Only in the well-equipped maternity and under exceptional circumstances, should these operations be chosen. While we must believe that cases of placenta prævia are sometimes seen in which the cervix is so hard as to be dilated with great difficulty, these cases must be exceedingly rare and should be exceptions to our rules of practice.

IN PREMATURE SEPARATION OF NORMALLY SITUATED PLACENTA.

In premature separation of the normally implanted placenta immediate delivery is demanded. Here the thirty to forty-five minutes necessary for dilatation by Bossi's dilator or by the fingers is too long if a reasonably safe and quicker method is available. It is here that Cesarean section, vaginal or abdominal, under appropriate surroundings should be selected. In many cases the advantages would lie with vaginal Cesarean section, and consent may oftener be obtained for this operation than for the apparently more formidable one of abdominal Cesarean section. I believe, however, that in many cases the abdominal method will prove the safer.

In the hands of the physician not competent to perform Cesarean section, multiple incision of the cervix followed by introduction of the hand, rupture of the membranes and dilatation as rapidly as is consistent with the integrity of the mother's tissues should be chosen. With the patient in good condition, without excessive hemorrhage, the use of Bossi's dilator and the hand may prove sufficient.

The indications given for rapid dilatation of the uterus after viability comprise those most commonly seen. Occasionally, however, cases are observed in which threatened exhaustion or some serious pathologic condition in the mother demands rapid delivery. A labor apparently normal may proceed through its first stage and a portion of the second and exhaustion supervene. In these cases dilatation with Bossi's dilator, followed by complete dilatation with the hand under anesthesia, will permit the operator to proceed to immediate delivery by forceps or version.

IN COMPLICATED CASES.

In patients whose pregnancy is complicated by cardiac lesion, impending death may demand immediate delivery. In these cases if the patient be in a hospital vaginal Cesarean section, incision of the cervix or dilatation by the fingers may be chosen. Occasionally, in phthisical patients, a similar choice must be made.

In the event of maternal death before delivery during labor, the fetus continuing to live and in fair condition, that method of delivery must be selected which is quickest. In my experience the advantages lie in abdominal Cesarean section in these cases.

In discussing so important a subject, I desire to make an earnest plea with the profession that complicated cases of labor be given their due importance. Medical science has now reached that stage of development when the general practitioner does not conduct a serious case of appendicitis or strangulated hernia without the aid of the surgeon. Complicated cases of labor are more difficult and more responsible than those just cited. We should no longer advise methods of treatment for these cases because they can be carried out by the general practitioner any more than one would advise that a patient with appendicitis or strangulated hernia be deprived of operation and be given other treatment instead. It must be rare indeed for the general practitioner to be so situated that he can not obtain for a complicated case of labor the services of an obstetrician. Throughout the country there are so many well-equipped hospitals and facilities for transportation are so abundant that such cases, whenever possible, should be taken to hospitals and there receive adequate attention. If this is impossible, obstetricians have means at their disposal for establishing in private houses the aseptic technic which makes all surgical operations comparatively safe.

CONSIDERATION OF FETAL LIFE.

I have said nothing concerning the consideration of fetal life. For example, in placenta prævia, often times the best results are obtained by sacrificing the child in the interests of the mother. When, however, the operator is so situated that he can perform any operation desired, and the parents express a strong wish that consideration be given the life of the fetus, this should not be neglected. Abdominal Cesarean section may sometimes be elected in deference to this consideration.

Clinical Notes

MULTIPLE ANEURISM OF THE AORTA, WITH RUPTURE INTO THE TRACHEA.

PULMONARY TUBERCULOSIS: SYMPTOMS SIMULATING PERICARDITIS.*

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PHILADELPHIA.

History.—An unmarried colored man, 32 years old, employed as a waiter, was admitted to the Polyclinic Hospital on account of severe cough, which had been present for four or five months, together with frequent expectoration of viscid mucoid material and pain in the side of the chest on coughing and on deep inspiration. His condition grew gradually worse, and five weeks before coming under observation he was compelled to give up work on account of persistent cough, weakness and loss of flesh. Four days before admission to the hospital he suddenly became much worse, with the development of pain in the back and the side and a feeling of compression in the precordium and shortness of breath, while the previous symptoms continued with increasing severity.

Examination.—On admission the temperature was 98°, the pulse 112, the respirations 48. Respiration was labored and the expansion of the left side of the chest was obviously diminished, the portion below the clavicle moving scarcely at all. The percussion note was dull over the entire left chest anteriorly and posteriorly, with the exception of the lowermost portion anteriorly, and the breath-sounds were greatly enfeebled throughout the entire area of dulness. The percussion note on the right side was clear, while the breath sounds were intensified. Marked and forcible pulsation was visible in the fifth and sixth interspaces an inch or more outside the left nipple-line, giving rise to bulging to an extraordinary degree. The area of cardiac percussion dulness was increased and the action of the heart was labored and the pulse weak. A systolic murmur was audible over the body of the heart near the pulmonic area, but no friction sound could be detected.

Shortly after admission an aspirating needle was introduced into the left eighth interspace in the midscapular line and four ounces of amber-colored fluid were withdrawn. The apparatus working badly at this time, the needle was again introduced several hours later and four ounces of blood-stained fluid were obtained. The fluid was straw colored and had a neutral reaction and a specific gravity of 1018. It contained a large amount of albumin and chlorids, and a slight coagulum formed at the bottom of the containing vessel. In the sediment obtained by centrifugation and treated with Wright's stain only granular dèbris was found. The hemoglobin percentage was 80, and the number of red blood corpuscles 4,100,000, the number of colorless corpuscles 13,200 in the cubic millimeter. The patient gained no immediate relief from these procedures, although in the sitting posture the percussion note over the upper portion of the left chest just below the clavicle appeared clearer and the breath sounds more distinct.

Diagnosis and Treatment.—The presence of acute dilatation of the left side of the heart was suspected, while Dr. Riesman, who was good enough to see the patient with me, suggested that the overaction of the heart, with the bulging apex-beat and the disproportionately weak pulse, might represent untoward effects of the action of digitalis, which at this time we did not know had actually been administered. Spirit of glonoin, 1 minim, and spirit of nitrous ether, 1 fluidram, were given every hour and tincture of aconite, 1 minim, every two hours for six doses, with the result that the heart grew quieter and the apex-beat receded and became less marked. The patient passed a fairly comfortable night, although he slept but little and complained of pain radiating from the left shoulder to the precordium. The urine had a specific gravity of 1032 and contained a trace of albumin, with urates, but no sugar or tube-casts.

Further History.—There was little change in the physical signs on the succeeding days, but the temperature began to rise on the second day, gradually reaching 103.2 on the third day. The pulse ranged between 96 and 128 and the respirations between 28 and 48. At this time it was noticed that eating appeared to induce coughing and this, in turn, vomiting. Previously, coughing had been quite unobserved, but now it became marked and the expectorated matter contained a slight admixture of blood. The percussion note became clearer over the upper half of the left chest, with roughened breathing and mucous râles, while dulness persisted over the lower half, with enfeebled breath sounds. Vocal resonance and fremitus were diminished in lesser degree above than below. The hemoglobin percentage was found to be 96 per cent., the number of red blood corpuscles 5,050,000, the number of colorless corpuscles 11,800 in the cubic millimeter.

On the fourth day it was noted that the patient complained of severe precordial pain occurring in paroxysms. He exhibited a preference to lie on the left side. Morphin was administered hypodermically to secure sleep at night, but it produced only quiet. On the fifth day an aspirating needle was introduced into the pericardial sac, but only a small amount of blood was withdrawn. The impulse of the heart was less pronounced and a to-and-fro murmur could be heard over the body of the organ. The hemoglobin percentage at this time was 80 and the number of red corpuscles 4,100,000 and the number of colorless corpuscles 13,200 in the cubic millimeter.

On the sixth day coarse crackling was noted at the end of inspiration. The apex of the heart was now in the fourth interspace. The patient was readily exhausted by any exertion, active or passive. The sputum was greenish-yellow in color and thick and tenacious in consistency. It contained no lumpy or cheesy particles and no fibrinous casts. Microscopically pus corpuscles, diplococci and staphylococci were found, together with a few rhomboidal crystals, but no tubercle bacilli. On the seventh day the urine had a specific gravity of 1024, and was free from albumin, sugar and bile. It contained a trace of indican, an occasional hyaline tube-cast, cylindroids, mucus, urates, leucocytes and epithelial cells. It failed to yield the diazo reaction.

On the ninth day it is recorded that the percussion note on the left side of the chest was hyperresonant from the clavicle down to the third interspace. From here to the fourth interspace the note was mixed and below this it was dull. The apex beat of the heart was visible in the fourth interspace in the parasternal line and here a to-and-fro rub was palpable and a marked to-and-fro friction murmur was audible. There was considerable cough, with blood-tinged sputum. Bronchial breathing could be heard over the base of the left lung from the angle of the scapula downward, together with small moist râles. On the eleventh day the patient was comfortable and free from pain. Respiration was easier and the man slept well at night without anodyne or hypnotic, although he continued weak.

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* Read before the Section on General Medicine of the College of Physicians of Philadelphia, Feb. 11, 1907.

On the twelfth day the apex beat was most distinct in the fourth interspace one-half inch within the nipple line and in the fifth interspace 1 inch within the nipple line. On the thirteenth day the friction sound was much less audible over the heart and an occasional click was audible at the end of the systole. On the fifteenth day the urine exhibited no abnormality. On the following day the friction sound was no longer audible with the action of the heart, although appreciable with inspiration at and beyond the apex, Sonorous and sibilant râles with roughened breathing could be heard over the right chest anteriorly, with crackling râles posteriorly. On the left the breath sounds were clear above, while below the angle of the scapula fine crepitation was audible and below this blowing breathing, with crepitation. On the eighteenth day the first sound of the heart was dull at the apex and attended with a rough murmur in the second and third interspaces slightly to the left of the sternum, where also occasional crackling was audible. On the next day the patient was comfortable, taking food well, sleeping soundly at night, breathing with difficulty and coughing less.

Death.—The conditions described continued for three days, when without premonition the patient was seized with dyspnea and an attack of cough, resulting in the expectoration of about 1½ pints of blood, and within two minutes the man was dead. The urine had, on the day previously, again been found normal. The temperature had pursued an irregular course, with a somewhat declining tendency, in the afternoon ranging between 103.2° on the third day and 100° on the twenty-first day and in the morning between 101.8° on the fourth day and 98.4° on the day of death. In the last six days of life it had fluctuated between 98.6° and 101.6°. The pulse had fallen from 136 on the third day to 88 on the day preceding death, and the respirations from 52 to 24.

Previous History.—The patient had had measles, whooping-cough, chicken-pox and diphtheria in childhood and an attack of left-sided pneumonia at the age of 16. At 27 or 28 he suffered for eight months with an infected wound of the leg following a punctured wound of the foot inflicted by a nail. Two operations were required, an anesthetic not being given in the second on account of the presence of a cardiac lesion. At the age of 29 the man had been treated for an affection of the mitral valve. He drank whisky rather freely and smoked little. He had had three or four attacks of gonorrhea, the last one year before coming under observation. He had a chancre at the age of 27, followed by a general cutaneous rash.

Postmortem Examination.—The left pleural cavity was found to contain 350 c.c. of straw-colored fluid. The left lung was bound to the chest wall from the anterior axillary line backward to the vertebral column by recent fibrinous adhesions that were readily broken up; the apex was bound by dense, resistant adhesions. The right pleural cavity was free from both fluid and adhesions.

The pericardium was not adherent to the pleura. The pericardial sac contained about 6 c.c. of straw-colored fluid. Its parietal surface was smooth, grayish-white and glistening. The visceral layer also was smooth and glistening. On its anterior aspect it presented an area 4 cm. long and 1.5 cm. wide, deep purple in color, while directly opposite on the parietal layer was an area 1 cm. long and 1.5 cm. wide of deep red color. Both lungs were constituted of three lobes. The lower and median lobes of the left lung were solid, while the upper lobe, though somewhat collapsed and nodular at the apex, contained a certain amount of air. On section the lower lobe, especially at the center, was the seat of a large number of confluent tubercles, becoming progressively less dense toward the periphery. A similar condition was present in the middle lobe and, perhaps in less marked degree, at the apex and base of the upper lobe. Portions of the apex contained inspissated mucoid or cheesy masses. The lower lobe of the right lung on section appeared stained a deep blood red and gentle pressure caused the escape of frothy mucus. A similar condition was present in the middle and upper lobes. The apex was the seat of a small number of whitish-blue, apparently subpleural nodules. Both lungs exhibited marked pigmentation, somewhat irregularly distributed, and in places apparently following the boundaries of the lobules.

The spleen was flattened, apparently somewhat enlarged, dark-red in color, flabby in consistency and on section rather friable.

The liver was large and firm, presenting a somewhat mottled appearance on section. The gall bladder was normal.

The kidneys were large, pale and fatty, with lines of hyperemia. The capsules stripped readily, leaving behind a smooth surface.

The heart was comparatively small; its valves and cavities normal. The leaflets of the aortic valve were the seat of slightly opaque atheromatous change. The arch of the aorta below and toward the right exhibited an aneurismal dilatation, admitting the little finger for a distance of 2 cm. At a distance of 1 cm. to the left of this was a second dilatation of much the same size, which had eroded the trachea and ruptured into its lumen. Somewhat farther to the left was a third aneurismal dilatation large enough to admit the thumb for a distance of 1.5 cm. and partly filled with laminated clot. A fourth aneurism arose from the thoracic aorta, about 3.5 cm. below the arch. This was 7 cm. long, 5 cm. thick and 4 cm. wide. It was filled with friable clot. A fifth aneurismal sac, 14 cm. long, arose at a slightly lower level and extended down to the diaphragm. The esophagus passed beneath the arch of the aorta to the right of the first and the latter two aneurisms and obliquely forward and upward and to the left over the surface of the second.

Microscopic Examination.—Dr. Guthrie McConnell examined the lung tissues. Small scattered areas were found apparently quite devoid of alveolar structure, which was replaced by tissue composed of cells containing epithelioid nuclei, lymphocytes and connective tissue. Some portions of these areas were degenerated, as indicated by the granular appearance and the diffuse staining. The alveoli generally were filled with albuminoid exudation containing numerous erythrocytes. The liver exhibited little change other than slight hyperemia around the central vein of some of the lobules.

The spleen exhibited some increase in connective tissue of the trabeculæ and slight congestion. The lymph nodes were prominent.

In the kidneys the cortical tubules exhibited marked cloudy swelling of the epithelium, absence of nuclei and granular deposits within the tubules. The glomeruli in places were congested. In one area a glomerulus was replaced by connective tissue, which also involved adjacent structures. There was also round-cell infiltration in areas.

The case was at first looked on as one of pleural effusion, which it was thought might be due to the dilatation of the heart that appeared to be present. The extraordinary bulging of the apex, in conjunction with the labored action of the heart, and the disproportionately small and feeble pulse, was, as stated, thought possibly due to the excessive action of digitalis. With the development of systolic and diastolic friction sounds over the heart the existence of pericarditis could not be excluded, but puncture failed to disclose the presence of an effusion into the pericardial sac. Somewhat later still, as the temperature rose and the sputum became blood streaked and crepitant râles made their appearance, the possibility of pneumonia had to be taken into consideration, and the progressive improvement both objectively and subjectively aroused hope of a gradual resolution of the morbid process present. I am frank to confess that aneurism was not even suspected. Perhaps an *x*-ray examination would have disclosed its presence, but in view of the situation with relation to the heart of the largest dilatation of the aorta and the inconsiderable dimensions of the others, reasonable doubt may exist as to this point. The fatal hemorrhage and the result of the postmortem examination were wholly unexpected. Tuberculosis of the lungs had been suspected, but tubercle bacilli could not be found in the sputum during life. We felt quite convinced that pericarditis was present, but of this there was no anatomic trace.

Although the diagnosis was thus entirely at fault, we may comfort ourselves with the thought that at least the treatment employed did no harm, but, on the contrary, so far as this was possible, the rest in the recumbent posture, together with the administration of drugs having the power of lowering arterial tension and of diminishing the work of the heart, seemed to do symptomatic good. It may, however, be admitted in view of the conditions found at autopsy that the puncture of the pericardium was not wholly free from danger.

GUNSHOT WOUNDS INFECTED WITH THE BACILLUS OF MALIGNANT EDEMA.

REPORT OF TWO CASES; OPERATION; RECOVERY OF ONE.

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AND
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Case 1.—*Patient.*—Private Hilatio Sajes, Philippine constabulary, a native of the Island of Leyte.

History.—The patient was brought into Camp Downes to the Military Hospital on the night of Jan. 8, 1907, suffering from gunshot wounds caused by slugs projected from a native cannon (a lantaka[1]). The injuries had been sustained two days before admission to the hospital as the result of an encounter with pulajanes.

Examination.—Two wounds were found; the first, 4 by 2 cm. in size, had its entrance in the dorsum of the right hand, no exit; the second had its point of entrance, 3 by 2 cm. in size, on the anterior surface of the right wrist.

Treatment.—The wounds were thoroughly cleaned and wet dressings (1:2000 hot mercury bichlorid) applied. On the following day a bluish discoloration extended over the hand; the warmth of the member (circulation) was still maintained. On the second day multiple incisions were made with the object of evacuating pus. On introducing the hypodermic needle to inject cocain for local anesthesia the pressure within very promptly forced the piston of the syringe back, filling the barrel of the syringe with gas. On withdrawing the needle the gas sizzed out of the tissues. No pus escaped from the incisions made in the tissues, only blood, serum and gas. On the third day the thumb which was gangrenous was amputated and the muscles and subcutaneous tissues of the entire hand were found to be gangrenous. Microscopic examination of a smear of serum from the tissues, stained with methylene blue, showed numerous bacilli, many of which showed spores, the pointed rods appearing at either end of the spores. Several specimens emphasized the appearance of these spore-bearing bacilli.

Diagnosis.—The infection was diagnosed as one of malignant edema and was confirmed by a characteristic growth in stab cultures of nutrient agar. The infection could be traced by the dilated blue superficial veins and swollen arm (one-third larger than normal) to a point two-thirds the distance up the arm.

Operation.—A modified circular amputation was done, disarticulating at the shoulder joint. An examination of a smear made from the tissues at this point was negative for the bacillus of malignant edema. The patient's temperature, which had ranged from 103 to 104 F., promptly subsided to normal and an uneventful recovery ensued.

Case 2.—*Patient.*—Delfaliar Marcelo, volunterio (volunteer against the pulajanes), also a native of the Island of Leyte.

History.—Similar in every respect to that of Case 1. The two men were brought in together.

Examination.—The patient had a gunshot wound of the left leg. The wound of entrance was 2 cm. in diameter and located on the outer side of the upper third of the leg; the wound of exit, 3 cm. in diameter, was on the inner aspect of the leg. A bluish discoloration of the leg extended to the knee-joint and a strong odor of decomposition was present. From the knee-joint down the leg was swollen and cold. There was a lacerated gunshot wound, 12 by 8 cm., on the inner surface of the right thigh.

Treatment.—Hot local applications and rectal injections of strong coffee were administered during the night. On the following morning the patient's general condition was bad, with no return of circulation in the leg.

Operation.—Amputation above the knee-joint was decided on. On incising the skin and subcutaneous tissues a crackling sound and a retraction of the skin were very marked. This crackling was likewise apparent as the muscles were divided showing that a gas bacillus was undoubtedly present. No microscopic examination or culture was made. The patient succumbed at the commencement of operation.

Just how these patients became infected with the bacillus of malignant edema is not known, but, as they were in the mountains in rain and dirt for several days, it is believed they must be cases of infection from dirt. The probability of the bullets having been infected must be considered.

VERONAL DERMATITIS.

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In a search of the literature at my command I have been unable to find a record of any case of dermatitis due to veronal, although a number of deaths from large doses, two hundred and fifty grains or more, have been reported. I have observed a considerable number of cases of drug eruption from copaiba, quinin, iodoform, iodids, bromids, and one from chlorid of gold and soda, but in no instance have I seen any eruption as acute and extensive as in the case here described.

Veronal is being extensively used. It is said to be efficient in doses of seven to ten grains, but I have used it repeatedly in fifteen-grain doses for insomnia. In subacute mania I have given ten grains every three hours, and in acute alcoholism single doses of twenty grains. In these and other cases in institution work I have prescribed, or seen prescribed by my colleague, R. L. Gillespie, about sixty ounces of veronal. No unpleasant effects have been witnessed, except vertigo, until the following case occurred:

Patient.—D. P., retired merchant, aged 61; suffering from subacute melancholia.

History.—I first saw him at 1 a. m., February 10, on his arrival after an all-day car ride. He was tired and nervous and complained of inability to sleep. He was given 15 grains of veronal. He seemed to recognize it by the taste, and declared he had taken it before and it had poisoned him. Inasmuch as he had been taking for months all kinds of nerve sedatives, this suggests a peculiar sensitiveness of taste for the drug, perhaps part of his idiosyncrasy. At the time the remark was construed as a delusion. After taking the medicine he passed a restless night. On visiting his room in the morning I found him sleeping soundly. When aroused he complained of stupor and vertigo. His body, which on retiring exhibited no dermal abnormality, was found to be covered with an extensive eruption symmetrically distributed. The face appeared red, swollen and congested. On the back of the thorax the skin was hyperemic and tense, as in severe scarlet fever, and appeared as angry as does erysipelas. The front of the body and the arms and legs presented an eruption of blotches ranging in size from a quarter to a half dollar, separated by spaces averaging an inch. The center of each was a dark red papule, surrounded by a less intense raised area shading rather sharply into normal skin. The whole appearance was that of a severe bee sting or spider bite. Most of the blotches were circular in outline on the body and oval on the limbs, the long axes corresponding to the long axes of the limbs. About the axillæ the eruption was absent, the skin, by contrast, appearing curiously white. The itching was intense. At 3 p. m. the temperature had risen to 103 F., the pulse to 112, and the general appearance of the patient suggested severe toxemia. The temperature subsided to 99 F. by the following morning, rising to 100 F. in the afternoon, and returning to normal the next day. Meanwhile, the rash and toxic symptoms gradually disappeared, so that all that remained were a number of small petechiæ marking the sites of the larger lesions.

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[1] A lantaka is a cannon made of gas pipe or iron piping of larger caliber, old Spanish cannon, etc., mounted on wheels or hard wood or lashed to a tree. For combustion match heads are usually used, numerous slugs, chains, nails, screws and rocks are the projectiles. A fuse ignites the match heads through a tube.

The cause of the dermatitis is verified by the statement of his former physician, that he had witnessed a similar eruption and toxemia in this patient after giving him five grains of veronal and repeating it in three hours. The significance of the eruption was not grasped until it occurred for the second time under medical observation. The patient also assures us that he took the same drug at a still earlier period with identical results.

THE NEGLECT OF THE ANAMNESIS.

BAYARD HOLMES, B.S., M.D.

CHICAGO.

Fashion is inexorable. The movements of the human mind in the form of public opinion and public action are like the tides. At one time a whole nation seems to be moved by a propulsive insanity and they trek to a new country or a new shrine. Again the sea calls and in every gulf and along every coast creep the galleys and bilanders of the adventurers. In a century Europe was suddenly covered with useless and meaningless towers that later furnished an almost inexhaustible supply of building material for the masonry of another period. While Athens was a city of thatched hovels and skin-clad warriors, a race was born that produced an imperishable art and an almost indestructible architecture. A new world was discovered in one century and in another America was subdued and contracted by an interminable network of iron roads. In medicine the same phenomena are observed. Pathology grew out of empiric medicine in the Fifties and in the Eighties antiseptic surgery and bacteriologic pathology sweep the remnants of the old empiricism and the old pathology aside, and the literature of medicine was rewritten.

It is hopeless, indeed, to attempt to turn these ocean currents of the mind, these tides of human activity, to call a halt in the unreasonable flow of energy in the direction which it unthinkingly takes. The successful man and the time server go with the current, the philosopher looks on with regret, and the impetuous youth struggles against the invincible. The undue attention which the medical curriculum gives laboratory study and microscopic investigation impresses the student with an exaggerated sense of the importance of the evidence they afford. The result has been a dangerous neglect of the study of the clinical history by our younger men and a great losss in the wisdom as opposed to the knowledge of the resulting doctor. The patient is and always will be worthy of more study than the disease, and his recovery and not the diagnosis is his need and the duty of the doctor. Our medical ancestors knew this. A few of us, hiding behind some protecting buttress to escape the frenzied horde of diagnosticians with their armament of microscopes, ophthalmoscopes, laryngoscopes, cystoscopes, and proctoscopes, still believe it.

Thirty years ago the medical schools of the United States furnished but little laboratory teaching. The first meddlesome work which the author did in the curriculum of the college to which he was attached was to extend very greatly the laboratory method and to tax his faculty with fifty thousand dollars for buildings and equipment, to double the faculty with an army of laboratory teachers, and to add to the burdens of the student a year or two of time. This extension proved fashionable, while the coincident clinical and literary courses were never realized. All other medical schools followed with enormous laboratories and extensive laboratory courses. But to the profession these methods have proved disappointing. They monopolize the time of the student, they disparage the study of the history of the patient and all clinical observation and they utterly neglect the medical literature and send out the young doctor with a distorted sense of the probability of disease, ignorant of the experience of medicine, and armed with impedimenta of prejudice and paraphernalia of diagnostic instruments and wholly out of sympathy with the profession whose emoluments he would divide, and ignorant of the life of the community on whom he expects to subsist. All this is attested by the proceedings of our medical societies, by the columns of our medical press, and by the bag of instruments of our young medical men, and by their utter disregard of any sense of responsibility to cure the patient.

Far be it from me to disparage microscopy, enteroscopy, or even cryoscopy, but the value of the anamnesis and the immeasurable and prepondering reliability of the evidence of the master sense of touch can not safely be discredited or denied. The reader may never know the full meaning of this until personal misfortune overtakes him or his and he calls on the laboratory physician for help and finds him, hound-like, searching out with his cold and sharp nosed instruments, the stirrer up of disease, utterly regardless of the patient's need of physical support. Then will he value less highly the product of this method which is plainly marked, "made in Germany," and might be marked, because it does not fairly represent the best Teutonic product, "for exportation only." Then will appear most forcibly the truth of the Hippocratic adage, "It is the duty of the doctor to cure his patient." Our education should strive to produce less of a laboratory man than a diagnostician, less of a diagnostician than a doctor, and less of a doctor than a fellowman.

104 East Fortieth Street.

Sign of Suprarenal and Meningeal Disturbance: The White Line.—Sergent announced in 1903 that he had had occasion to observe a condition simulating meningitis in a young girl, but autopsy revealed complete cheesy degeneration of both suprarenal capsules while the meninges were intact. A white line appeared when the finger nail was drawn across the abdomen of the patient, and lasted for two to five minutes. He has since noted this white line in a number of other cases in which the suprarenals were primarily or secondarily affected, and others have confirmed his observation. Sergent has never observed the white line with an arterial pressure above 13 (Potain). It disappears on administration of adrenalin, and is evidently due to reflex spasm of the capillaries during low arterial tension with more or less dilatation of the vessels. The subject was discussed at the meetings of the Paris Société Méd. des Hôp. in February, at which some cases of the suprarenal pseudo-meningitis were reported, as also two cases of insolation in which the white line or a partially red line were noticed. In both these latter cases lumbar puncture, with removal of 20 c.c. of fluid had a marked beneficial effect, especially on the headache. The fluid was comparatively normal, but under considerable tension.

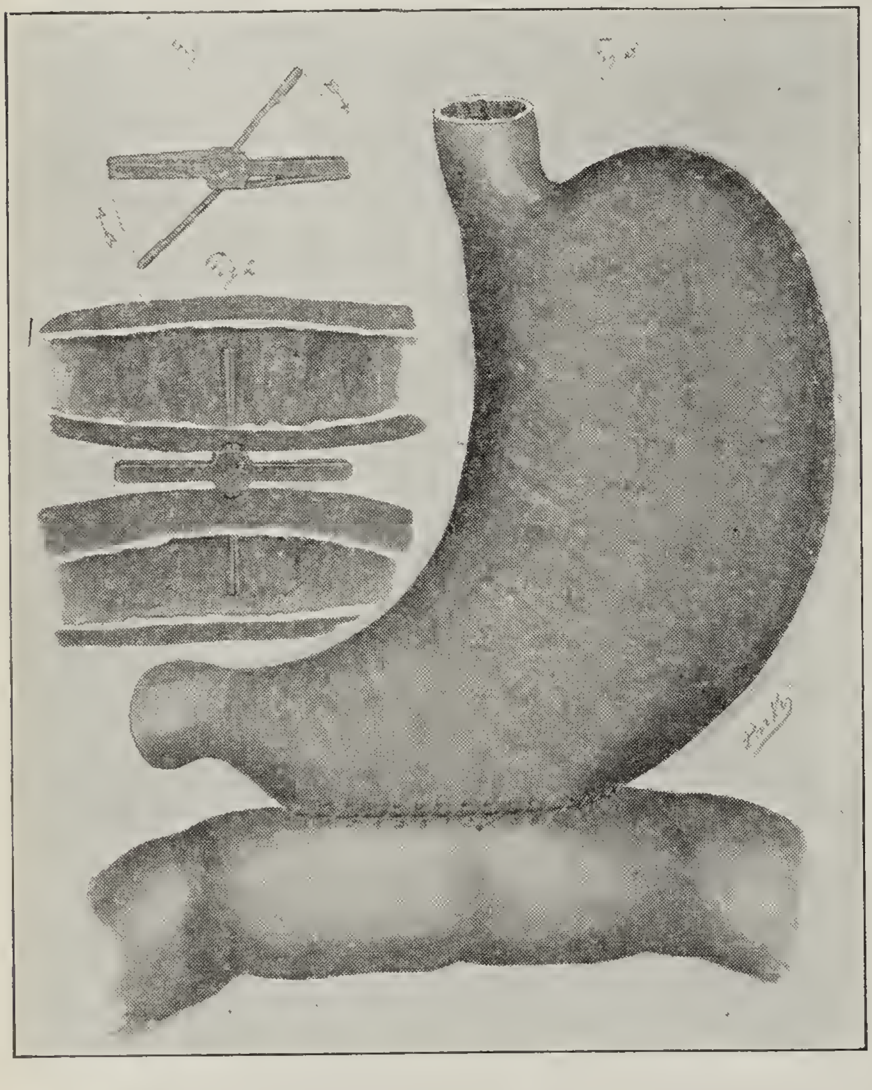
PRESSURE CLAMP FOR LATERAL ANASTOMOSIS.

PRELIMINARY REPORT.

WILLIAM SENN, M.D.
CHICAGO.

This appliance consists of a base bar 2⅛ inches long, with cross-arms one inch in length, hinged at the center point of the bar and so arranged as to be forced down on the base by means of a spring causing pressure of about four pounds to the inch. When opened the clamp is cruciform, when the cross-arms are closed the clamp has a width of 3/8 inch and a thickness of 3/16 inch. Figure 1 shows the alternate arms partially closed.

The clamp is applied as follows: The surfaces to be approximated having been brought in apposition, the walls are punctured down to the mucous membrane (1/8 inch incision), the opened cross-arms are forced through mucous membrane into the lumen of the bowel and, with a flat probe or like instrument, used as a wedge, the cross-arms are spread and closed on the base bar, as a knife blade is closed, leaving intestinal wall between the closed cross-arm and the base bar. The opposite cross-arms are similarly inserted into the opposing organ and closed in a like manner. A continuous Lembert suture is then applied if time permits, enclosing the clamp, which is left to slough through in a manner similar to that when a McGraw ligature is applied. This procedure is illustrated in Figure 2, the cross-arms being inserted, but not closed. Figure 3 shows anastomosis completed.



Experiments on dogs have shown that the clamp sloughs through in about seven days. An opening was left between the stomach and duodenum about 2 inches in diameter. Union was perfect, leaving a smooth mucous lining, approximation complete.

100 State Street.

THE CLIMATE OF SOUTHERN MAINE IN THE TREATMENT OF THE LATER STAGES OF HYPERTONIA VASORUM.

LOUIS FAUGERES BISHOP, M.D.
NEW YORK CITY.

The climate of southern Maine during the summer months is decidedly bracing in character, and has many advantages in the treatment of diseases of the circulation which have developed as a result of mental overwork and worry in persons otherwise healthy. These patients we sometimes speak of as cases of secondary low arterial tension, because they are suffering from a failure of the circulation secondary to vascular strain. It is, however, better to speak of them as the later stages of hypertonia vasorum, because so many while suffering from the effects of a failing circulation, nevertheless, do not exhibit at all times the low tension to which they have a strong tendency. Increased or excessive vessel tone has its origin in other conditions than organic disease of the kidneys or blood vessels.

Hypertonia vasorum of nervous origin is a distinctly modern disease, and although it has been noticed by older writers it has never been given the prominence it deserves. Patients suffering from this malady, as the result of mental strain and worry, show signs much of the time of a chronic high tension in the arteries. This is followed by cardiac hypertrophy and the train of symptoms which we all as clinicians have so often observed.

To understand how this comes about it is necessary to recognize the existence of a tone-maintaining function of the central nervous system that is constantly exercised over the peripheral circulation If such a force did not exist the blood would immediately settle to the dependent portions of the body, dilating the blood vessels, and the circulation as such would cease to exist. But any undue strain on the nervous system leads to an over-activity of this tone-maintaining function and finally develops a chronic overtone, which makes it difficult for the blood to circulate and wears out the heart by increasing resistance. Consequently there develop irregularities in the circulation and damage to the blood vessels, which frequently lead to accidents in the brain, followed by paralytic symptoms. I have seen a number of such patients presenting dilatation of the heart, general debility with decided weakness of one arm and leg, and even fairly marked aphasia, make very satisfactory progress toward recovery during a single summer on the coast of southern Maine.

My observations were made during summer practice at York Harbor. Here the climate in summer is an unusual combination of coolness and dryness. The coast recedes so that the fogs, which are so troublesome in northern Maine, and even in Rhode Island, are not frequent. The soil is such that in a short time after a rainfall it is entirely dry. Excessive heat in summer is almost unknown. The summer climate in Maine, as affording a pleasurable existence to the sojourner in hot weather, is too well known to need commendation here, but its importance as a health resort, especially for this particular class of invalids—that is of brain workers who are suffering from disorders of the circulation—should be much better known.

Free Dispensary Abuse.—The trustees of our medical charities can check the abuse by enforcing the payment of adequate fees by private ward patients and by careful investigation of out-patients.—G. W. Gay, Boston.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.*)

(*Continued from page 1185.*)

AKARALGIA.

GRANULAR EFFERVESCENT SODIUM SALICYLATE COMPOUND-MERRELL.

A mixture each 8 Gm. (2 drams) of which is said to represent sodium sulphate 2 Gm. (30 grains), sodium salicylate (Merrel) 0.6 Gm. (10 grains), magnesium sulphate, 3.3 Gm. (50 grains), lithium benzoate 0.3 Gm. (5 grains), and tincture of nux vomica 0.4 Cc. (6 minims).

Dosage.—8 Gm. (2 drams) in 120 Cc. (4 ounces) of water, one-half hour before meals; in acute cases one dose every two or three hours until relieved.

Prepared by Wm. S. Merrell Chemical Co., Cincinnati, Ohio.

ANTISEPTIC-Credé.

A name applied to Silver Citrate, which see.

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York).

DOLOMOL.

Dolomol is magnesium stearate, $Mg(C_{18}H_{35}O_2)_2$, containing small amounts of magnesium palmitate and oleate.

It is a white powder, insoluble in water, unctuous to the touch, nearly odorless and tasteless. It is claimed to be practically free from oleate. Its magnesium content corresponds to nearly 7 per cent. MgO.

Action, Uses and Dosage.—Acting as a protective to the skin, Dolomol is recommended in cutaneous affections as a dusting powder, alone or mixed with various remedies.

The following dolomol compounds are listed: Dolomol-Acetanilid, 25 per cent.; Dolomol-Acid Boric, 20 per cent.; Dolomol-Acid Carbolic, 5 per cent.; Dolomol-Acid Picric, 25 per cent.; Dolomol-Acid Pyrogallic, 5 per cent.; Dolomol-Acid Salicylic, 5 per cent.; Dolomol-Acid Salicylic, 10 per cent.; Dolomol-Acid Tannic, 10 per cent.; Dolomol-Alum, 10 per cent.; Dolomol-Aristol, 10 per cent.; Dolomol-Balsam Peru, 10 per cent.; Dolomol-Bismuth Subgallate, 25 per cent.; Dolomol-Calendula, 25 per cent.; Dolomol-Calomel, 25 per cent.; Dolomol-Camphor, 10 per cent.; Dolomol-Chrysarobin, 5 per cent.; Dolomol-Europhen, 10 per cent.; Dolomol-Guaiacol, 5 per cent.; Dolomol-Ichthyol, 10 per cent.; Dolomol-Iodoform Deodorant, 10 per cent.; Dolomol-Menthol, 5 per cent.; Dolomol-Naphthol, 5 per cent.; Dolomol-Oil of Cade, 10 per cent.; Dolomol-Resorcin 10 per cent.; Dolomol-Salol, 10 per cent.; Dolomol-Sulphur Sub., 25 per cent.; Dolomol-Tar, 10 per cent.; Dolomol-Thymol, 2 per cent.

Manufactured by Pulvola Chemical Co., New York. Not patented or trademarked.

ELIXIR OF ENZYMES.

Eixir of enzymes is a solution containing pepsin and rennet in a menstruum containing 20 per cent. of alcohol.

Elixir of enzymes is a light yellow, palatable, liquid preparation. One part digests about 20 parts of coagulated egg albumin in 2½ hours. Eight Cc. (2 fluidrams) coagulate 500 Cc. (one pint) of milk in a few minutes.

Actions and Uses.—It is claimed to be useful as an aid to digestion and as a vehicle for various drugs.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) with meals; children in proportion.

Manufactured by Armour & Co., Chicago.

LUBRASEPTIC.

Lubraseptic is a jelly prepared from Chondrus (Irish moss) containing 2 per cent. boric acid and 0.067 per cent. formaldehyde.

The material is packed in screw cap metal tubes and sterilized by heat.

Lubraseptic is a colorless transparent jelly almost completely soluble in water. It is claimed to be absolutely sterile.

Actions and Uses.—Lubraseptic is said to be a disinfectant which is non-irritating to the skin or mucous membranes.

It is claimed to be useful as a lubricant for the fingers or for surgical instruments and as a dressing for burns, abrasions and slight lesions.

Dosage.—It is put up in collapsible tubes and it is suggested to reject the portion first expressed to make sure of the sterile condition of that used.

Prepared by Russell & Lawrie, Tarrytown, N. Y.

PERHYDROL.

THIRTY PER CENT. SOLUTION OF HYDROGEN DIOXIDE.

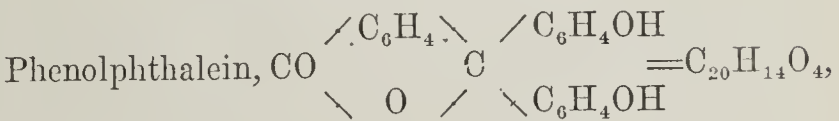
Perhydrol is a 30 per cent. solution of hydrogen dioxide which is free from acid.

While perhydrol is staple, dilutions of perhydrol rapidly deteriorate unless they are preserved by the addition of some acid.

Actions and Uses.—By suitable dilution a preparation is obtained equivalent to the official solution of hydrogen dioxide. An advantage is claimed for this preparation that it is less irritating on account of the absence of acid. The full strength preparation is said to be useful as an application to nevi, ulcers, gummata, etc. Diluted one-half to two-thirds, it may be applied to syphilitic ulcers, gangrenous processes, ulcerating buboes, in endometritis, suppuration of the middle ear, etc.

Manufactured by E. Merck, Darmstadt (Merck & Co., New York). U. S. trademark No. 44147.

PHENOLPHTHALEIN.



$$\text{Phenolphthalein, } CO \begin{matrix} \diagup C_6H_4 \diagdown \\ \diagdown \; O \; \diagup \end{matrix} C \begin{matrix} \diagup C_6H_4OH \\ \diagdown C_6H_4OH \end{matrix} = C_{20}H_{14}O_4,$$

is a product of the interaction of phenol and phthalic anyhydride.

It may be prepared by heating together 10 parts of phenol, 5 parts of phthalic anhydride and 4 parts of concentrated sulphuric acid for 10 to 12 hours at 115° to 120° C. (239° to 248° F.). The product of the reaction is boiled with water, and the residue dissolved in soda lye. From this solution the phenolphthalein is precipitated by the addition of acetic acid. The precipitate after washing is dissolved in six times its weight of absolute alcohol and the solution decolorized by animal charcoal. A part of the alcohol is then distilled, the mixture filtered and the phenolphthalein separated from the filtrate by the addition of water.

Phenolphthalein occurs as a crystalline or amorphous powder, white or grayish-white, melting at 250° to 253° C. (482° to 487.4° F.). It is soluble in 600 parts of water and in 10 of alcohol. Its solutions in acid liquids are colorless, but turn red when the liquid is alkaline. The red color of the solution disappears if it is boiled with zinc dust, phenolphthalin, $C_{20}H_{16}O_4$, being formed.

Phenolphthalein heated on platinum foil should burn, leaving no residue.

Actions and Uses.—Phenolphthalein acts as a purgative, but appears to possess no further physiologic action. A case of poisoning from taking 1 Gm. (15 grains) is reported.

Dosage.—For adults the average dose is 0.1 to 0.2 Gm. (1.5 to 3 grains) given as powder, in cachets, capsules or pills. It may be given with safety in doses of 0.5 Gm. (8 grains), and these doses seem to be necessary to secure its effects in bedridden patients or in obstinate cases.

SILVER LACTATE-Credé.

A name applied to Silver Lactate, which see.

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York).

(*To be continued.*)

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[*For other information see second page following reading matter.*]

SATURDAY, APRIL 20, 1907.

SPIROCHETES IN SO-CALLED MOUSE CARCINOMA.

The observation by Gaylord[1] and also by Calkins[2] that spirochetes occur in transplantable cancers in mice at once raises many interesting questions. Gaylord has demonstrated by means of Levaditi's silver method a characteristic spiral organism in the sections of ten consecutive spontaneous carcinomas of the breast in mice from Massachusetts, Ohio and New York. The same organism was found in transplanted tumors from all these sources.

In fresh material the organism is not readily demonstrable, but when found it is frequently motile. In the primary tumors the organisms are most numerous in the most actively growing parts where they occur in the stroma between the epithelial cells of the tumor and at the margins of the latter. In transplanted tumors they are found between the cells and in the connective tissue at the growing edge. The more malignant, i. e., rapidly growing, the tumor the greater the number of the organisms. Calkins proposes the name *Spirocheta microgyrata gaylordi* for this organism, which he regards as a variety of Löwenthal's *Spirocheta microgyrata*, described in 1906 in ulcerated human carcinoma, in a dog tumor, and in feces. Calkins, in New York City, has found the same spirochete as Gaylord in a spontaneous mouse tumor. It may be recalled that Borrel[3] in 1905 observed spirochetes in mouse tumors, to which, however, he does not appear to have given any further attention. Other similar observations have been recorded also.

Gaylord makes this remark: "Our observations do not as yet establish an etiologic relationship between this organism and cancer of the breast in mice, but the presence of the organism in primary mouse cancer, with which it is regularly transplanted through many generations, greatly increasing in number as the tumors increase in virulence, instead of interfering with, and finally preventing, transplantation as do bacteria, is suggestive." This certainly is a conservative conclusion. Much further work by many investigators in different places is necessary to settle the question of the relation of this spirochete to mouse cancer, and it is quite safe to predict that a large part of the experimental cancer investigation in the immediate future will be given to the solution of this question. We may expect, in the near future, to see a flood of literature on this phase of cancer.

The possibility that mouse cancer may be a spirochetal infection throws new light on many phenomena observed in the course of the enormous work in the transplantation of these growths. Heretofore, the results being viewed from the standpoint of the malignant tumors in man, such things as spontaneous healing, natural and acquired resistance and similar conditions have appeared explainable only by more or less far-fetched hypotheses. But if looked at from the microbic point of view, these phenomena become readily explainable in the more familiar terms: resistance, susceptibility, healing, and immunity in infections.

Naturally the results of future work on mouse tumors will be awaited with the keenest interest. It is not wise to apply purely anticipatory investigative results to human cancer. This much may be said, however: If mouse cancer, so-called, be shown to be of spirochetal origin, that would not necessarily mean that human malignant tumors are also spirochetal growths. The demonstration that growths in animals corresponding in certain essential points to human cancer are of infectious origin naturally would give strong support to the so-called parasitic theory of cancer. Nevertheless, the one fact (to mention only one) that the cancerous growths have been found without exception to be transplantable only within the species in which they arise spontaneously indicates that the causative agent, whatever its nature, in each case is peculiar to the species in question.

THE PHYSIOLOGIC ACTION OF ALCOHOL.

The social and hygienic evils connected with the abuse of alcohol, as well as its application in therapeutics, render important any new facts concerning the effects of this agent on the processes of metabolism. While in moderation it may be indulged in for long periods without apparent impairment of the general health, its excessive use is undoubtedly attended with functional and organic changes of a pathologic character.

It was long held that alcohol in moderate doses acted as a specific in "conserving the tissues," or, in other words, it checked metabolic waste. With the knowledge that it is oxidized in the body, it was recognized as a source of energy, and the view became generally accepted that it acts to some extent also as a food, thus sparing to a certain degree the proteid constituents of the body itself.

There appears, however, to be a diversity of opinion regarding its influence on the oxidation processes when taken in small repeated doses, and its exact value as a food is now questioned. Although much study has been devoted to a solution of the problem, the results have hitherto been meager.

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1. Jour. of Infect. Dis., 1907, iv, 155.
2. Ibid., 171.
3. Comp. rend. de la Soc. de Biol., 1905, lviii, 770.

The Hygienic Laboratory[1] of the Public Health and Marine-Hospital Service has just issued an interesting and valuable report of studies on experimental alcoholism conducted by Dr. Reid Hunt, chief of the Division of Pharmacology of that institution. Experimental evidence is presented showing that extremely moderate amounts of alcohol when administered even for a short period may produce profound changes in metabolism, which, under certain circumstances, are deleterious in character.

Hunt's first series of experiments were made with animals that had been fed on oats soaked in alcohol. After a variable time these animals were given doses of acetonitrile, a substance which may be considered chemically as hydrocyanic acid in which the hydrogen atom has been replaced by the methyl group. This agent owes its physiologic activity to the liberation of hydrocyanic acid, and if this liberation is hastened its poisonous effects evidently become more manifest.

It was found that a hypersusceptibility to this poison had developed in the alcohol animals, as they succumbed to doses very much smaller than necessary to produce death in controls. This susceptibility was undoubtedly due to the continued ingestion of alcohol, as in all other respects the conditions of the animals were identical.

As alcohol is easily oxidizable in the body, it seemed reasonable to suppose that its continued use would increase the oxidizing power of the body—in other words, that tolerance is thus established.

These experiments show that this really does occur and that its continued administration also increases the power of the body to break up other alcohol groups, the methyl group of the acetonitrile being oxidized more readily in alcohol animals with a resulting increased liberation of hydrocyanic acid.

A second series of experiments is given showing that guinea-pigs fed on alcohol when given acetonitrile excrete more sulphocyanate, the formation of which from acetonitrile seems to be a protective reaction on the part of the body against this poison. This increased excretion is taken as further evidence that, under the conditions maintained in these experiments, there is a corresponding increase in the liberation of hydrocyanic acid.

It thus appears to be clearly proved that marked changes in the processes of metabolism are brought about by the administration of alcohol in doses small enough never to have caused symptoms of intoxication and that these changes are probably due to modification of the oxidation processes in the body.

Such changes do not follow the administration of the carbohydrates. On the contrary, Hunt shows that mice fed on oats soaked in dextrose acquire a distinct resistance to acetonitrile, and he, therefore, points out that too much importance should not be attached to the proteid sparing power of alcohol in practical dietaries.

These views are in accord with those of Chittenden,[2] who, while he admits that alcohol in moderate doses may act as a food in the sense that it is a source of energy, denies that it is comparable with the carbohydrates, as, unlike the latter, it produces an increased excretion of uric acid, which is inimical to health.

Hunt has also shown in this report that the continued administration of alcohol markedly increases the excretion of ethereal sulphates in the urine. These latter products in all probability may be attributed to intestinal putrefaction—a condition often found in alcoholics.

The excretion of neutral sulphates was, if anything, decreased. The increased excretion of this product has been taken as a diminution of physiologic oxidation. These results, therefore, are an additional argument that alcohol has but a limited power of inhibiting oxidations.

While it is shown that the use of alcohol increases the power of the body to break up acetonitrile, modifications of the physiologic processes may not have the same deleterious effect in the case of other poisons. Alcohol is known to be a stimulant, a source of energy and heat, and the changes in physiologic functions observed by Hunt may eventually be shown to be of advantage in certain diseases.

THE EUROPEAN WAY.

Von Bergmann died the other day—but not before he was able to feel the esteem in which his fellow-countrymen, both professional and lay, held him. When recently he had attained to three score and ten his birthday was made the occasion of a national expression of very real affection. Truly, apart from his labors as scientist and surgeon, he had done the state some service. In appreciation some forty delegations called on him, bringing gifts of every kind, and they consumed over five hours in passing before him. The universities were impressively represented. He had been very zealous during three wars and had served his government in other capacities; wherefore the Ministers of War and of Education were present to make acknowledgement of these debts. Men notable in the arts, in music and the drama paid tribute to his profound sympathies and culture, such as are characteristic of the highest type of German scholarship. Four important works were published in commemoration of this great birthday. He was probably most touched by the fact that, at a banquet held on the invitation of the Berlin Medical Society, and attended by over 500 distinguished people, his wife and daughters being present, were toasted in recognition of what they (*das Ewig Weibliche*) had done for him and through him for humanity.

A Parisian newspaper recently propounded the question: Who are the ten greatest Frenchmen of the Nineteenth Century? Fifteen million votes were recorded, Pasteur heading the pool with 1,300,000 votes—a majority of 100,000 over Victor Hugo, who was second;

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[1] Hygienic Laboratory Bulletin No. 33, Public Health and Marine-Hospital Service.

[2] Med. News, vol. lxxxvi, 721.

among these ten were also Curie and Roux; the great Napoleon was fourth. Evidently, then, science holds a high place in the esteem of the French people; they seem, over there, to be really grateful to the man eager to relieve suffering and to prolong life.

Berthelot, chemist and statesman, died recently in Paris under affecting circumstances. Coming home he found that his venerable wife had died suddenly; he went into his study and, evidently overwhelmed by the shock, presently himself expired. The noble pair were laid in state in the Panthéon in the presence of a great assemblage, including President Fallières, the cabinet ministers, the diplomatic corps, members of the French Academy, judges, deputies, senators and deputations from the learned societies. M. Briant, Minister of Education, took part in the imposing ceremonies, relating in an impressive speech the dead senator's achievements in chemistry and other sciences. When the orations were concluded all the troops composing the garrison of Paris defiled before the catafalque, and on that day every school in France was closed.

Here were three tributes to three great men of science. What was said of Berthelot was said also of Pasteur, and applies equally well to von Bergmann: "The man in him transcended the scientist and made him as beloved as he was eminent."

The point is that these great men were and are in memory affectionately appreciated by their countrymen. This is evidently the European way—which does not seem to be the American way. Possibly we have not yet evoluted to that degree of civilization. By way of contrast we might note that among us, as in Paris, the question has been propounded: Who are the ten greatest living Americans — statesman, soldier, sociologist, preacher, author, railroad expert, athlete, educator, lawmaker and conversationalist? Who these ten are we are not informed; we observe, however, with mortification, that no curiosity has been manifested concerning the greatest American physician. Even the greatest American scientist has been left most dismally out in the cold.

THE DIGESTIVE ACTION OF LEUCOCYTES.

The important rôle played by leucocytes in removing and dissolving dead tissues, pneumonic exudates, foreign bodies, etc., depends on the powerful digestive enzymes which they contain, and which are liberated from the bodies of the leucocytes on their disintegration. Although all cells seem to be equipped with similar proteid-digesting enzymes, yet in the fixed tissues these seem to be relatively feeble, for under most pathologic conditions absorption goes on very slowly or not at all unless leucocytes are present, and the rate of digestion or absorption varies directly with the number of leucocytes. To illustrate: A tuberculous lesion may contain large areas of necrotic tissue which persist for a long time; but if some chemotactic substance is injected into these areas (e. g., iodoform emulsion), the invading leucocytes promptly digest the dead tissue and remove it. It may be added, parenthetically, that many instances of supposed suppuration following such injections into tuberculous areas do not depend on pus infection, but on this liquefactive action of the leucocytes. As absorption of dead tissues and exudates is such an important process in medicine and pathology, recent studies into the nature of the enzymes of the leucocytes possess more than theoretical interest.

The chief studies on this subject have been made by E. L. Opie[1] in the Rockefeller Institute, and have yielded many interesting results. In the first place, it has been demonstrated that the chief proteid-splitting enzyme of the polynuclear leucocytes is quite different from the proteid-splitting enzymes of nearly all the other cells of the body, for the enzymes of the polynuclear leucocytes act best in a faintly alkaline medium, whereas the ordinary cellular enzymes act best in an acid medium, and little or not at all in alkaline fluids. The mononuclear leucocytes and the lymphatic tissues from which they come seem to contain chiefly enzymes which, pepsin like, require an acid medium. Apparently the only fixed tissue which contains enzymes acting best in alkaline media is the bone marrow; this chemical observation supports the microscopic evidence that the polynuclear leucocytes arise in the bone marrow, while the mononuclears come from the spleen and lymph glands. The fact that the proteid-digesting enzymes of our fixed tissues require an acid medium for their action, would suggest that the failure of living tissues to digest themselves depends on the "alkalinity" of the blood, and it is possible that this explanation is of some importance. But that being so, the question arises: What holds the leucocytic enzymes in check if they are best adapted to an alkaline medium? The apparent answer to this seems to lie in the observation that in the normal blood plasma there is contained a substance which has the power of holding the leucocytic enzymes in check. This "anti-enzyme" is present in but limited amounts, it would seem, and hence when large numbers of leucocytes accumulate and disintegrate they may over-saturate the amount of anti-enzyme present and digest any dead proteids that may be at hand. It is also quite possible that in infected or necrotic areas substances form which neutralize or destroy the anti-enzymes, and thus permit the leucocytes to begin their digestive action.

The antagonistic action of these two constituents of the blood affords an instance of the way in which vital processes are held within certain suitable limits by means of balancing one action against another. As an instance illustrating the effects of the balancing of leucocytic enzymes by the anti-enzymes of the serum in a special case, may be mentioned the conditions observed in the rabbit. It is well known by laboratory workers that infection with pus microbes in rabbits does not usually produce the creamy pus seen in human infections, but rather a solid cheesy mass of leucocytes and dead tissues is formed. This is explained by the fact that rabbits' leucocytes contain but a feeble proteid-digesting enzyme, while rabbits' blood serum is rich in the anti-enzymes; hence digestive softening of the necrosed cells does not readily take place.

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[1] Literature will be found in the Jour. Exp. Med., 1907, ix, 207.

THE MEDICAL EXPERT.

If any further data are necessary to convince the most conservative that changes are needed with regard to expert testimony in our courts, the proceedings in the recent Thaw trial will certainly furnish them. Here weeks of time were consumed by the clashing of the alienists and the wrangles over their testimony; yet nothing could have been more futile or inconsequential than that testimony.

A juryman has graphically recorded his impressions and in terms singularly just. In examining one expert the attorney for the people displayed "an amazing grasp of an intricately technical subject." The prosecutor is not, of course, a medical man; yet his knowledge of a matter essentially medical was manifestly much greater than that of the unhappy witness, and the proceedings were strongly suggestive of "a cat playing with a mouse." Another alienist appeared, from the jury box, to be "one of those rare souls who are unconscious of time, since they inhabit eternity, and as his incumbency of the stand dragged through session after session the humor of the situation began to appeal even to the impatient twelve. After various imposing and impressively qualified alienists had promptly answered 'rational' to a hypothetical question an hour and a quarter long, various other equally imposing alienists with equally impressive qualifications answered the same question quite as promptly with the word 'irrational'." It seemed to this juryman time wasted to have placed these experts on the stand to give answers so foreordained; they might best have been stood up in line and cancelled in pairs so that by a sort of *reductio ad absurdum* it might be seen by the remainder which side to credit.

The chief point at issue in this case turned on the question of the defendant's sanity. Yet here the jury seemed to pay no attention whatever to the opinions of the experts, who about evened up, as the juryman put it. These laymen judged the matter of sanity quite for themselves, and on what they deemed common sense principles.

What physician will not be mortified by this editorial observation in the New York *Sun:* "Nor do we purpose to waste any time on the great mass of expert testimony for or against the prisoner. Suffice it to say that in this murder case, in which a liberal purse has been at command, alienists of more or less prominence were produced who testified that Thaw at the time of the killing was insane or did not know that the murder was wrong. On the other hand, many experts of equal or greater eminence produced by the District Attorney swore that Thaw was sane at the time."

The subject of medical expert testimony demands drastic revision. Were it not best that we undertake this revision among ourselves, lest, to our humiliation, the laity, through legislative bodies, take the matter quite out of our hands? There are many views expressed and many plans suggested. Those which should prevail must be based on the position that alienists should no longer be medical advocates for the side which retains them; they should no longer be aligned, as partisans, with their respective legal counsel.

THE MOLOKAI LEPER SETTLEMENT.

The territory of Hawaii has the best organized and most extensive institution for dealing with leprosy in existence. Segregation was first attempted in 1866 in the establishment of the leper settlement on Molokai island. The administration, while at first disliked, has increased in popularity. Many lepers come voluntarily for examination; others receive from the board of health an invitation which is practically an order. All the patient's or suspect's expenses to and from the examining station at Honolulu are paid by the government. The board of examiners consists of five physicians, one of whom is bacteriologist to the board of health and another skilled microscopist known as assistant bacteriologist. Attempts at the curative treatment of leprosy have been many, and several imagined specifics have been tried at the settlement, but so far with uniformly unsuccessful results. Medical treatment is carried on by a resident physician and his assistant and is frequently of much benefit even though not curative. Surgical operations are performed more frequently than formerly and meet with considerable success. While some lepers or suspects have been granted the privilege of re-examination and of return to their homes, of late years they have preferred to remain on the island, where they are assured of a comfortable living and better social privileges than they could enjoy in their homes. The United States Leprosy Investigation Station is within the borders of the settlement, and it is hoped that its work will throw new light on this mysterious disease. The problem of the disposal of the children born on the island or left by leprous parents has been partly solved by a girls' home under the care of the Sisters of St. Francis, and it is proposed to establish a similar home for boys, which may give the non-leprous children of leprous parents an industrial education fitting them for a useful life. It is proposed by L. E. Pinkham, president of the board of health, that dairy farming be taught these boys as a branch of agriculture needing development in the islands.

THE TRANSFORMATION OF DIABETES MELLITUS INTO DIABETES INSIPIDUS.

The peculiarities of diabetes mellitus in elderly people are, some of them, well known and usually recognized. The fact that the glycosuria may disappear under the influence of a complicating nephritis and may never return has long been known, and is very characteristic of a certain type of case. The disappearance of the sugar with the continuance of the polyuria is not so common, as Teschemacher[1] has pointed out. Although the polyuria does not always go hand in hand with the glycosuria, as, for example, in the so-called diabetes decipiens, yet this is the rule, and in most patients when the glycosuria diminishes the amount of urine likewise becomes less. Teschemacher cites several cases in which the glycosuria disappeared, even with the patient on a mixed diet, but the polyuria, with thirst and debility, persisted. The patient thus presented at this stage the picture of diabetes insipidus. Similar cases have been recorded before, and have been described as examples of a transition from one disease into the other. That this is a proper interpretation is doubtful, for, as in one remarkable case cited by Teschemacher, the sugar may reappear after a long period of years. So far as the clinical aspects of such cases are concerned they are finally diabetes insipidus. These patients must not be confounded with diabetics who develop chronic interstitial nephritis with polyuria, in whose urine there is so little albumin that it is readily overlooked.

USING THE FOOD AND DRUGS ACT TO MISLEAD.

We have previously called attention to the use which some of the food and drug manufacturers and promoters are endeavoring to make of the guarantee clause of the national Food and Drugs Act. The matter has become of sufficient importance to attract the attention of the Secretary of Agriculture, who has issued a statement on the subject. He says: "A serial number and the statement that a food or drug is 'guaranteed under the Food and Drugs Act, June 30, 1906,' does not mean that the United States Government guarantees the purity of the article or guarantees that it is what the label says it is. It simply means that the manufacturer guarantees it to be pure and free from adulteration and that he warrants every fact stated on the label to be true. The government assumes no responsibility for the guarantee. On the contrary, the serial number is assigned to fix the responsibility where it belongs—on the manufacturer—and to protect innocent dealers. Such advertising as 'after Jan. 1, 1907, the United States Government will protect you by an official serial number,' or statements that the food product is 'approved by the pure food commissioners,' must be stopped at once. If this outrageous misrepresentation does not cease the department will publish a list of the manufacturers who are indulging in this campaign of deception. Manufacturers who are deceiving the public about the guarantee will lie about the quality of their products. The pure food law is going to be administered fairly. Its primary purpose is to protect the consumer." It is to be hoped that this public announcement of the facts in the daily press will put a stop to the brazen and unjustifiable efforts on the part of a certain class of manufacturers to make capital out of the very means that have been devised for restricting them and for preventing them from deceiving their customers. Certain drug firms, for instance, have announced in large letters that they were among the first ten firms to file their guarantees, intimating that there was some particular virtue in such a proceeding. These tactics are intended to deceive, and do deceive, those who are not conversant with the provisions of the law.

Medical News

ALABAMA.

Quarantine Is On.—Nominally the quarantine season at Mobile began April 1. Dr. Edward Francis, who is in charge at Fort Morgan, will have personal charge of the entire quarantine plant.

Senn in Mobile.—At the annual meeting of the Medical Association of the State of Alabama, the Jerome Cochrane lecture was delivered April 17, by Dr. Nicholas Senn, Chicago, whose topic was "The Final Triumph of Scientific Medicine."

Society Meeting.—At the annual meeting of the Coosa County Medical Association, held April 2, Dr. William A. Holloway, Lauderdale, was elected president; Dr. Cecil K. Maxwell, Kellyton, vice-president, and Dr. Eugene Argo, Goodwater, censor.

College Notes.—The trustees of the University of Alabama, at a session in Tuscaloosa, took over the Medical College of the University of Alabama, Mobile, and discussed plans for the improvement of the university.——The commencement exercises of the Medical Department of the University of Alabama (Mobile Medical College) were held April 15, when a class of thirty was graduated. The dean of the faculty, Dr. Rhett Goode, delivered the address and the president, J. W. Abercrombie, of the University of Alabama, presented the diplomas to the graduates.——Birmingham Medical College graduated a class of fourteen April 4. T. G. Bush delivered the address of the evening. Dr. Benjamin L. Wyman, dean of the college, presented the diplomas and Dr. R. M. Cunningham delivered the charge to the graduates.

ARIZONA.

To Safeguard Health in Territory.—Dr. James W. Coleman, Tucson, recently appointed superintendent of public health for the territory, has sent out letters to the different clerks of the county boards of supervisors, asking their cooperation in the concerted effort he is endeavoring to make against contagious diseases and their needless spread.

Society Meeting.—The Maricopa County Medical Society, at its annual meeting, held in Phoenix, April 6, elected the following officers: President, Dr. James M. Swetnam; vice-president, Dr. John W. Foss; secretary-treasurer, Dr. Elmer C. Bond; delegate to the territorial association, Dr. Ancil Martin; alternate, Dr. John W. Foss, and censors, Dr. William I. Simpson, Otto E. Plath and John W. Thomas, all of Phoenix.

ARKANSAS.

"Drummers" Fined.—Dr. James Anderson, Hot Springs, pleaded guilty on March 28 to violating the local anti-drumming ordinance. He was fined $25 and his license revoked.——Dr. W. W. Mercer, Hot Springs, on April 8, was fined $100, and his license revoked on account of violation of the anti-drumming ordinance. He gave notice of appeal.

Society Meetings.—The Garland County-Hot Springs Medical Association at its regular monthly meeting, April 2, elected the following officers: President, Dr. Oliver H. Burton; vice-presidents, Drs. Albert H. Tribble and Morgan F. Mount; secretary, Dr. Joseph S. Horner; treasurer, Dr. Randolph Brunson; delegates to the state association, Drs. Arthur U. Williams and Frank W. Jelks, and alternates, Drs. Oliver H. Burton and Eugene C. Hay, all of Hot Springs.——At the annual meeting of the Howard County Medical Society, held in Nashville, Dr. Cadwalader W. Wright, Buck Range, was elected president; Dr. Evan M. Black, vice-president; Dr. William H. Toland, Mineral Springs, secretary-treasurer; Dr. David A. Hutchinson, Nashville, delegate to the state society; and Dr. James M. Daly, Nashville, alternate.——The physicians of Siloam Springs have organized what is to be known as the Physicians' Post-Graduate Medical Club.

CALIFORNIA.

Hospital News.—Drs. Charles C. and Curtis O. Falk have opened temporary quarters for the Marine View Hospital in the old Murray Hospital, Eureka.——The Bird Haven Home for the Feeble Minded and Incompetent has been incorporated at San Jose with a capital stock of $75,000.——The new Southern Pacific Hospital, San Francisco, is to be constructed of reenforced concrete and will have accommodation for 200 patients.

COLORADO.

Society Election.—The Woman's Medical Society of Denver, at its annual election, April 5, elected Dr. Laura L. Liebhardt, president, and Dr. Mary Hawes, vice-president. Dr. Eleanor M.

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[1] Münch. med. Wochschr., March 19, 1907.

Lawney, the retiring president, gave an address on "Causes of Death."

State Board Officers.—The State Board of Health at its first meeting, April 8, organized for the biennium. Dr. William H. Davis, Denver, was elected president; Dr. Minnie C. T. Love, Denver, vice-president; Dr. Hugh L. Taylor, Denver, secretary, and Dr. Frank N. Carrier, Canon City, treasurer.

Reappointments.—Dr. Matt R. Root, Denver, has been reappointed surgeon-general of the Colorado National Guard, and Dr. Samuel B. Scholz, Denver, inspector general.——Drs. Seymour D. Van Meter, Carey K. Fleming, and T. Willis Miles, all of Denver, have been reappointed members of the Seattle Board of Medical Examiners.

CONNECTICUT.

Sanitarium Burned.—The Grand View Sanitarium, South Windham, was destroyed by fire early on the morning of April 6. There were 16 patients in the institution at the time, one of whom was burned to death.

Gifts to Medical School and Hospital.—By the will of the late Gen. Samuel E. Merwin, New Haven, $5,000 is devised to Yale University for the use of the medical school and $25,000 is bequeathed to the New Haven Hospital.

Elections.—At the monthly meeting of the Celtic Medical Society of Waterbury, held March 25, Dr. Bernard A. O'Hara was elected president, vice Dr. Edward W. McDonald, deceased, and Dr. Thomas J. Kilmartin, vice-president, to fill vacancy. ——At the annual meeting of the New London County Medical Society, held in Norwich, April 4, the following officers were elected: President, Dr. Harry M. Lee, New London; vice-president, Dr. Morton E. Fox, Uncasville; clerk, Dr. Edwin C. Chipman, New London; delegates to the state society, Drs. George R. Harris, Norwich, and Carlisle F. Ferrin, New London; councilor, Dr. Edward P. Brewer, Norwich; county reporter, Dr. Patrick J. Cassidy, Norwich, and censors, Drs. Charles E. Brayton, Stonington; William Witter, Norwich, and Lewis S. Paddock, Norwich.

GEORGIA.

Personal.—Dr. Francis M. Ridley, La Grange, has been appointed surgeon of the La Grange Division of the Atlanta, Birmingham & Atlantic Railway.——Dr. William C. Pumpelly, Macon, has been seriously ill with pneumonia.——Drs. James B. Baird and William S. Elkin have resigned from the medical staff of Grady Hospital, Atlanta.

Hospital Notes.—It is reported that the officers and employés of the Southern Railway will build in Atlanta a hospital to cost $200,000, for the treatment of railway men and their families, as a memorial to the late Samuel Spencer, president of the road.——St. Mary's Hospital has been established in Athens by Drs. Henry M. Fullilove and J. Peebles Proctor.

Children and Teachers to be Examined.—At a recent meeting of the ordinance committee of the City Council of Atlanta it was decided to report an ordinance requiring the medical examination of all pupils and teachers of the public schools once a year, the examination to be made by a ward physician, except where a parent or guardian prefers the services of the family physician.

IDAHO.

Personal.—Dr. Hugh V. Scallon has been elected mayor of Cœur d'Alene.——Dr. Hugh France, Wardner, has been appointed physician of Shoshone County.

Epidemic Diseases.—The public school of Genesee has been closed on account of the prevalence of mumps, measles and chickenpox.——A number of cases of smallpox discovered in Wallace has caused the suspension of all public meetings in the city until further notice.

Society Meeting.—At the annual meeting of the South Idaho District Medical Society, held in Boise, April 4, the questions of prophylaxis of tuberculosis and insurance examination fees were discussed. The following officers were elected: President, Dr. Jesse C. Woodward, Payette; vice-president, Dr. Adolph Blitz, Boise; secretary-treasurer, Dr. John M. Taylor, Boise; members of the executive committee, Drs. James A. Young, Caldwell and William B. Lyman, Boise. The society endorsed the candidature of Dr. Edward E. Maxey, Boise, for secretary of the State Board of Health, and of Dr. Orfila J. Allen, Bellevue, as a member of the State Board of Medical Examiners.

ILLINOIS.

Personal.—Dr. William R. Parkes has been reappointed health commissioner of Evanston.——Dr. Wilfred H. Gardner, Bloomington, has gone to Germany.

Interne Examination.—An examination was held April 11 at Cook County Hospital, for interneships at the Cook County Institutions, Dunning. The board was composed of Drs. William L. Baum, O. C. Willhite, Charles E. Kahlke, John D. Robertson and J. B. Caldwell.

Hospital Notes.—Riverview Hospital, Kankakee, was opened to receive patients March 25. Dr. James Dougherty, Chicago, is house physician of the institution and the attending staff is made up of Kankakee County practitioners.——The Oak Park Hospital was formally opened by Bishop Muldoon, April 4, Dr. John W. Tope representing the hospital staff.

Legislative Notes.—The osteopathic bills (house 318 and 319), are on the order of second reading in the House of Representatives. No hearing seems to have been given on these bills in the committee. The osteopaths behind these bills are making a determined effort to force their passage, but the legislative committee of the Illinois State Medical Society and the Illinois State Board of Health are making an equally determined effort to see that they shall not pass.——The antivivisection bill (senate 267) is now on first reading in the House of Representatives.——The optometry bill (now house bill 845) is on second reading in the house.——The medicine peddlers' bill (senate 341 and house 474) are still in the house committee on license of the house, in which it is believed they will remain.

Chicago.

New Health Commissioner.—A committee of physicians requested by the mayor to select a candidate for health commissioner, at an adjourned meeting, April 13, fixed on Dr. William A. Evans for that position. Mayor Busse has appointed him to the office.

Howard Kelly in Chicago.—The Nicholas Senn Club had as its guest of honor, April 15, Dr. Howard A. Kelly of Johns Hopkins University, Baltimore, who read a paper on "The Recent Advance Work on Genitourinary Affections." Among the speakers were Drs. Henry T. Byford, Emil Reis and Franklin H. Martin. Dr. Lucy Waite acted as toastmaster.

Memorial Hospital.—The Council of the Chicago Medical Society, at a meeting, April 9, unanimously endorsed the establishment of an emergency hospital in the central portion of the city, to be known as the Iroquois Memorial Hospital. The hospital is to be, save in name, a branch of the Cook County Hospital, and in return for the use of its name, the Iroquois Memorial Association has agreed to contribute the $25,000 already collected and such other sums as may be raised by members of the association.

Personal.—Dr. Joseph B. DeLee has gone to Europe for a four months' trip.——Dr. Clarence L. Wheaton delivered the public address on tuberculosis, April 15, at Shelbyville, under the auspices of the Shelby County (Ind.) Medical Society.——Dr. Gustavus A. Fischer was robbed of his watch and $6 in money, April 10.——Dr. Horatio S. Brewer was seriously injured by a collision with a street car, April 10, while pursuing pickpockets who had robbed him.——Dr. Charles S. Bacon returned April 13 after a two months' trip abroad.

Mortality Still High.—During the week ended April 13, 717 deaths were reported, equivalent to an annual death rate of 17.74 per 1,000. Of the 31 deaths in excess of those reported during the previous week, 12 of the decedents were under one year of age and 15 over 60 years of age. The death rate represented an increase of 4.5 per cent. over the preceding week and of 15.04 over the corresponding week of 1906. Pneumonia caused 132 deaths; consumption, 73; heart disease, 60; violence, including suicide, and nephritis, each 51; acute intestinal disease, 41, and cancer, 36. Of the communicable diseases, scarlet fever caused 9 deaths; measles and diphtheria, each 8; whooping cough, 6; typhoid fever, 5, and influenza, 3.

INDIANA.

Communicable Diseases.—The postmaster at Lakeville is ill with smallpox and the postoffice is under quarantine.——On account of the prevalence of scarlet fever, the grade schools in Petersburg have been ordered closed.

Personal.—Dr. Walter N. Fowler, Bluffton, sailed for Paris, March 28, to join the Walter Wellman expedition to the Arctic.——Dr. James W. Squires, Fort Wayne, who was operated on last week, is reported to be convalescent.

Physicians' Building.—An office building, five stories high, is to be erected, at a cost of $100,000, at Meridian and New York Streets, Indianapolis. The building is to be used exclusively for offices for physicians and dentists.

Library Association Formed.—At a recent meeting of the Fort Wayne Medical Society, the Fort Wayne Medical Library Association was formed, with Dr. George W. McCaskey as president, Dr. Benjamin P. Weaver, secretary, and Dr. Alfred L. S. Kane, treasurer.

IOWA.

Local Society Organized.—At a meeting of the physicians of Fort Madison, March 26, a local medical society was organized, with Dr. Frank C. Roberts, president, and Dr. William C. Kasten, secretary.

Personal.—Dr. Charles Palen has been re-elected city physician of Dubuque.——Dr. Joseph M. Emmert, Atlantic, has been nominated by the governor as a member of the Board of Pardons and Parole.——Dr. Frederick Albert has been appointed city physician of Mason City, vice Dr. Channing E. Dakin.

Tuberculosis Bills.—The bill appropriating $50,000 for the completion of the main building for the hospital for consumptives at Sanitarium, near Iowa City, has been passed by the legislature. The bill includes an annual appropriation of $5,000 for the dissemination of literature on tuberculosis.

MARYLAND.

Banquet of the University Alumni.—The first banquet of the General Alumni Association of the University of Maryland was held in Baltimore, April 10. Among the medical speakers was Dr. E. Miller Reed. The proposition for a University Club met with much favor, and a committee of 100 was appointed to raise an endowment fund.

Hospital for Colored Patients.—The Union Hospital Association, an association of colored people of Frederick, has purchased and equipped, at a cost of $30,000, a building soon to be opened as a hospital. The house has eight rooms, two of which will be used as public and four as private wards. The operating room is supplied with the equipment of the Emergency Hospital, which has ceased to exist. Dr. William G. Bourne, Frederick, is house physician.

Baltimore.

Fulton Resigns.—Dr. John S. Fulton, for ten years secretary of the State Board of Health, has resigned to become secretary of the International Conference on Tuberculosis. He will make his headquarters at Washington, D. C.

Hospital Report.—The report of St. Joseph's Hospital for 1906 showed that during the year 2,525 patients were admitted, all but 898 of which were free patients. The percentage of deaths was 4.75. In the dispensary 9,811 patients were treated and 10,050 prescriptions were filled.

State Society Meeting.—The one hundred and ninth annual meeting of the Medical and Chirurgical Faculty of Maryland will be held in Baltimore, April 23 to 25. The subject of the address of the president, Dr. Hiram W. Woods, will be "The Medical and Chirurgical Faculty; Its Debts to Itself and the Public." The annual oration will be delivered by Dr. George H. Simmons, Chicago, on "The Campaign Against the Domination of Therapeutics by Commercialism." A special meeting is to be held after the oration, the object of which is to set before the members the need of a new faculty home and the means of obtaining it. The subject will be presented by Dr. Edward N. Brush, chairman of the building committee, and Dr. Robert W. Johnson, chairman of the council. At the afternoon session, April 25, there will be a joint meeting of the Maryland State Conference of Charities and the Maryland State Conference of Womens' Clubs. At this session the social evil will be discussed by Dr. Prince A. Morrow, New York, whose subject will be "The Prophylaxis of Social Diseases." Dr. Lilian Welsh will speak on the "Prophylaxis of Social Disease in the Home," and Dr. Charles B. Emerson, who will take up the "Duty of the Organized Medical Profession in Fighting the Social Evil." The annual banquet will be held in Faculty Hall on the evening of April 25.

MASSACHUSETTS.

Supreme Court Sustains Verdict.—The Supreme Court of Massachusetts has sustained the verdict of $1,700 obtained by Dr. John Fitzhugh, Amesbury, against the Boston & Maine Railroad for injuries received by the plaintiff at a railroad crossing in Amesbury.

Hospital Wing Opened.—The new surgical wing of the New England Deaconess' Hospital, Longwood, Boston, was opened with appropriate ceremonies April 8. The new building has a capacity for 44 patients and is furnished with a double suite of operating rooms. The property as it now stands has cost $150,000, and $30,000 additional is necessary to cover the cost of the completed and equipped building.

Gifts to Hospitals.—By the will of the late Jabez K. Montgomery, $5,000 is bequeathed to the Rufus S. Frost General Hospital, Chelsea.——The late Eliza D. Dodge, Worcester, in her will gave $5,000 to the Worcester Memorial Hospital and $1,000 to the Baldwin Hospital Cottages.——By the will of the late Mrs. Eliza Orne Ropes, $5,000 is bequeathed to the Salem Hospital.

Medical Men Organize.—The Boston Society of Examining Physicians and Surgeons was organized April 3, at a meeting of a number of physicians connected with different semipublic corporations and life insurance companies. The following officers were elected: President, Dr. Francis D. Donoghue; vice-presidents, Drs. Frank E. Allard and Edward M. Greene; secretary, Dr. Charles T. Cutting, and treasurer, Dr. Charles O. Kepler.

Smallpox.—At Lawrence seven additional cases of smallpox have developed, making a total of 38.——The 15 immigrants who were detained on the arrival of the steamship *Cymric*, on account of smallpox, have been released from the detention hospital.——Seven new cases of smallpox have been discovered in Chelsea, and the isolation hospital now contains eight patients. All the cases are said to be directly traceable to the epidemic at Lawrence.

Personal.—Dr. S. Alphons Daudelin, Worcester, has been selected as United States commissioner at the International Maritime Exposition, Bordeaux, France.——Dr. John J. Bartley, Lawrence, has been appointed city physician, vice Dr. Timothy J. Daly.——Dr. Roy V. Baketel has been appointed school physician for Methuen.——Dr. J. William Spooner, Hingham, has been reappointed medical inspector for Plymouth County.——Dr. Joseph R. Charron has been made chairman of the board of health of Turners Falls.

MICHIGAN.

President Buhl Dies.—Theodore D. Buhl, president of Parke, Davis & Co., Detroit, died April 7.

Personal.—Dr. Walter H. Sawyer, Hillsdale, is reported to be in a serious condition from septicemia, due to an operation wound.——Dr. George E. Reycraft has been elected mayor of Petoskey.——Dr. William W. Lathrop, formerly in charge of the Jackson Sanitarium, had a narrow escape from death when his clothing became entangled in the shafting of the engine room of the institution, April 3.——Dr. Malcolm E. Smith, Grand Rapids, has started for Katalla, Alaska, where he will be house surgeon in the new Pierpont Morgan Hospital.——Dr. Robert B. Armstrong has been elected mayor of Charlevoix.

Hospital Notes.—Dr. Ernest M. Vardon has sold his hospital at Hillsdale to Dr. Arthur G. Doty, and will move to Alberta.——The Kalamazoo Hospital Association has raised already more than $11,000 of the $25,000 needed to wipe out the debt of the institution.——At a citizens' meeting of Calumet the disposal of the Ernest Bollman cash donation of $20,000 and four lots for a hospital location was considered. It is the intention of the committee to raise a like sum, that a hospital large enough for the needs of the community may be erected.——The State Sanatorium for Tuberculosis, Howell, was ready to receive patients April 1. It was then able to accommodate 100 patients.

MISSOURI.

Banquet to Medical Members of General Assembly.—The program for the banquet to the medical members of the Forty-fourth General Assembly of Missouri by the St. Louis Medical Society and the Medical Society of City Hospital Alumni, in recognition of the good work accomplished in state legislation, has been arranged for April 26 at 8 p. m., at the Planters' Hotel. Tickets may be had of any member of the committee and from the officers of the societies. Dr. George Homan is chairman of the committee; Dr. Adolph G. Schlossstein, treasurer; Dr. Stewart, secretary. Dr. William G. Moore will officiate as toastmaster. It is expected that the governor, the president of the senate, the speaker of the house, ten or more members of the senate and house, the presidents of all the state medical societies, and the president of the State Board of Health will be guests of honor on this occasion.

Hodgen Memorial Meeting.—Arrangements for the memorial meeting in St. Louis in honor of the twenty-fifth anniversary of the death of Dr. John T. Hodgen, a former president of the American Medical Association, to be held in the Y. M. C. A. Hall, April 28, are being rapidly perfected. Dr. Warren B. Outten will preside as chairman of the committee of arrangements. The exercises will begin at 3 p. m., and will be as follows:

Invocation, Rev. Samuel J. Nicolls.

Address, Dr. Hodgen as a National and International Figure in Medicine. Joseph M. Mathews, M.D., Louisville, Ky.

Address, His Educational Influence in the Mississippi Valley, Edward W. W. Schauffler, M.D., Kansas City, Mo.

Address, The Debt of Missouri to His Example and Memory, Charles H. Wallace, M.D., St. Joseph, Mo., president Missouri State Medical Association.

Address, His Power and Influence as a Teacher Over His Classes, Henry C. Fairbrother, M.D., East St. Louis, Ill.

Address, His Worth as a Citizen, Charles Nagel, Esq., of the St. Louis Bar.

Address, His Executive and Administrative Abilities in Public and Private Stations. Le Grand Atwood, M.D., Ferguson, Mo.

NEW MEXICO.

Railway Hospital to be Built.—It is reported that the El Paso & Southwestern Railroad Company will build a large hospital for the use of its employés at Alamogordo.

Insane Asylum Bonds Authorized.—The trustees of the New Mexico Insane Asylum, Las Vegas, have been authorized to issue bonds to the amount of $105,000 for needed improvements.

To Report Contagious Diseases.—At the March meeting of the Donna Ana County Medical Society a motion was adopted that the society strongly advise parents and good citizens immediately to report to their family physician or the health officer any or all cases of diseases of whatsoever nature, that they may be investigated and proper precautions taken.

Infirmary for Silver City.—Mr. Frank G. Thomson has presented the New Mexico Cottage Sanatorium for the Treatment of Tuberculosis with the necessary funds for the building of an infirmary. This building will complete the original scheme for the institution with the exception of a research laboratory. There are now 50 buildings of durable cement construction. Almost all of the funds needed have been presented to the institution.

NEW YORK.

State Charity Board Officers.—The State Board of Charities, at its annual meeting, elected William Rhinelander Stewart president and Stephen Smith vice-president, both of New York City.

Senate Passes Bills.—The senate has passed the medical unification bill which provides for one state board of medical examiners instead of three, as at present, and the Armstrong bill making an appropriation of $1,000 for a commission to select a site for a new state hospital for the insane.

Mary Putnam Jacobi Fellowship.—The Woman's Medical Association of New York has raised $25,000 to be used for a fellowship to bear the name of Dr. Mary Putnam Jacobi. The income of the fund will be used to pay the expenses of a woman medical student who wishes to study abroad.

Physicians' Club Organized.—At a meeting of the physicians of Newark, April 4, organization was effected and the following officers were elected: President, Dr. Augustus A. Young; vice-president, Dr. Jared A. Reed; secretary, Dr. William H. Jessup, and treasurer, Dr. Edward P. Thatcher.

Personal.—Dr. John C. Otis has been appointed commissioner of public works at Poughkeepsie.——Dr. John L. Heffron has been appointed acting dean of the Syracuse University, Medical Department, during the absence of the dean, Dr. Gaylord P. Clark, who has gone to Europe.——Dr. William D. Peckham has been appointed health officer of Utica.

To Limit Expert Testimony.—Assemblyman Moreland has introduced a bill to limit expert testimony of alienists in all murder trials where insanity is pleaded as a defense. The bill also prevents hypothetical questions being asked in any criminal case where insanity is a defense. The idea is to do away with experts who receive enormous fees and seem prone to testify as the side which retains them wishes.

Medical Legislation.—Governor Hughes has signed the following bills: The Rogers bill, making appropriations for state hospitals, by which Binghamton Hospital gets $50,000 for a new dining-room and kitchen, $81,000 for a nurses' home, and $7,500 for water supply; Middletown Hospital gets $81,000 for a nurses' home; Hudson River Hospital, $81,000 for a nurses' home; and Kings Park Hospital, $62,000 for a new laundry.—Mr. Boshart's, providing that prosecutions for penalties for violations of the agricultural law may be brought in the county where the product is exposed for sale or in the county in which the adulteration or violation occurred.—Mr. Prentice's, incorporating the society known as the Russell Sage Foundation for the purpose of maintaining a fund and applying the income to the improvement of social and living conditions in the United States.—Mr. Wainwright's authorizing Port Chester to raise a tax of not more than one-tenth of 1 per cent. for public health purposes.

New York City.

Personal.—Dr. Monta Waynefort Jamison, Middleton, has returned after an extensive tour of Europe.——Dr. Charles E. McBurney has been spending the winter in California for his health.

Competition for Hospital Positions.—Four salaried positions on the resident staff of the Seton Hospital, Spuyten Duyvil, New York City, are open for competitive examination, April 29. Application should be made to Dr. Lewis F. Frissell, 113 East Fifty-sixth Street, New York City.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending April 6, 415 cases of measles, with 21 deaths; 392 cases of scarlet fever, with 16 deaths; 386 cases of tuberculosis, with 211 deaths; 319 cases of diphtheria, with 38 deaths; 92 cases of typhoid fever, with 18 deaths; 74 cases of whooping cough, with 12 deaths; 18 cases of cerebrospinal meningitis, with 10 deaths; 73 cases of varicella and 4 of smallpox, making in all 1,773 cases, with 326 deaths.

Society Election.—At a meeting of the Brooklyn Medical Society the following officers were elected: President, Dr. Hugh E. Rogers; vice-president, Dr. William H. Rankin; recording secretary, Dr. Alfred E. Shipley; corresponding secretary, Dr. Edward W. Wright; treasurer, Dr. Edwin A. Hatch; librarian, Dr. Lewis E. Mecker, and trustees, Drs. Algernon T. Bristow, Alfred Bell, James W. Ingalls, William B. Brader, John H. Droge, James C. Kennedy, John D. Sullivan, Elias H. Bartley and Richard W. Westbrook.

Opposition to Free Eyeglasses.—A number of protests against supplying free eyeglasses to school children with defective vision were made at the last meeting of the Board of Education. The Association for Improving the Condition of the Poor believes that to supply eyeglasses would be both demoralizing and pauperizing, and would fail to remove the cause of defective vision. Similar protests were also entered by the City Club, the Brooklyn Bureau of Charities, the Children's Aid Society, the Brooklyn Children's Aid Society, and several other organizations.

Medical Instruction for East Side.—The American Life-Saving Society has just established a medical bureau under the direction of Dr. G. Fish Clark. The aim of the bureau will be to instruct parents in the crowded districts of the city how to protect themselves and their children from disease. Advice and instruction on first-aid to the injured, sanitation and hygiene will be given without charge to all who will come to the bureau in the afternoon between 5 and 6 o'clock. Five lectures on these subjects will also be given at the city baths by Dr. Clark and Superintendent Brennan.

The Typhoid Scare.—It has practically been determined that the typhoid outbreak at Katonah was due to contamination of the village water supply by Italians employed at Cross River Dam. No new cases have been reported, but it seems that there have been thirteen cases in all.——The increase in the number of typhoid cases in Manhattan has been so sharp since the middle of March that the county medical society has called the attention of its members to the fact. For the week ended March 30 there were 106 cases with 12 deaths in Manhattan, and for the first week in April there were 18 deaths as compared with 6 deaths from this disease for the corresponding week of last year. The boiling of all water used for drinking purposes has been advised.

The Milk Question.—The committee of public health of the Board of Aldermen, which has been holding public hearings on the milk question, decided at a special meeting, April 11, in favor of the ordinance which, if passed, will require that the milk from every dairy supplying New York shall be tested by the Health Department once a month, and that any milk showing over 500,000 bacteria to the cubic centimeter, will have to be pasteurized before being sold. There are many other points to the measure, but it is said that it will not be signed by the mayor until he has heard from the special commission which is investigating the matter. This commission has not yet reported, but it is said that it will suggest that state aid be invoked. The state is supposed to be ready to condemn diseased cattle and to pay the owners a certain part of their value, but the appropriation has not been large enough to carry out this provision of the law. A bill is being prepared for presentation to the legislature sometime during the coming week requiring the reporting of illness among employés in dairies, and sickness among cows. If employés are found to be ill they must be segregated. If cows are ill they are to be killed and the owners will receive compensation for them. The bill also provides an appropriation for recompense to cover the latter part.

Centennial of the New York College of Physicians and Surgeons.—The College of Physicians and Surgeons of New York is just passing its one hundredth anniversary. The charter bears the date of March 12, 1807. The first class graduated in 1811, this year also being notable for the induction into office as president of Dr. Samuel Bard, who had been the physician of George Washington and a former dean of the medical faculty of Columbia College. Two years later, 1813, this school absorbed the entire medical faculty of Columbia College, thereby increasing the strength and prestige of the teaching body. General medical and surgical clinics to supplement bedside instruction were inaugurated through the efforts of Dr. Parker in 1841. Practical work in obstetrics began in 1853 while about the same time the chair in physiology and pathology was created and placed under the charge of Dr. Alonzo Clark, who had just completed a course of postgraduate study in pathology in Paris. In 1878 an event of special historic interest was the establishment of a student laboratory for instruction in pathology with Francis Delafield as its director. A nominal union between the College of Physicians and Surgeons and Columbia College was ratified in June, 1860, but it was not until November, 1891, that the actual union of the two institutions took place. The course of study was at least two years of five months each until 1878, when the time was extended to seven and one-half months. In 1887 the course was again extended to three years of eight and one-half months each until 1894, when four years of eight and one-half months each were required. This centennial anniversary will be celebrated at the coming commencement of Columbia University, June 10-12. A special number of the *Columbia University Quarterly* is largely devoted to the medical work containing leading articles by Profs. L. Emmett Holt, Frederick S. Lee, Walter B. James, Francis Carter Wood, M. Allen Starr and George S. Huntington. It is a valuable addition to the literature of historical medicine.

NORTH CAROLINA.

State Hospital Directors Meet.—At a recent meeting of the directors of the State Hospital for the Insane, Morganton, Dr. P. L. Murphy was reappointed superintendent, and Drs. John McCampbell and James K. Hall, assistant physicians.

Society Meeting.—At the annual meeting of the Haywood Medical Society the following officers were elected: President, Dr. Rufus L. Allen; secretary-treasurer, Dr. J. Howell Way, and delegate to the state association, Dr. J. Rufus McCracken, all of Waynesville.

OHIO.

Graduate School Opened.—The Graduate School of Cincinnati, whose teaching force is made up from the faculty of the Medical College of Ohio, with which it is connected, opens for its first session this spring.

Physicians Swindled.—It is reported from Akron, April 11, that about 30 physicians of that town have been swindled by two men who represented themselves to be agents for a collection agency and induced physicians to sign notes of $100 each, entitling them to membership in the agency.

Election.—The annual meeting of the Akron Medical Club was held April 4, when the following officers were elected: President, Dr. Le Roy C. Eberhard; vice-president, Dr. H. Irving Cozard; secretary, Dr. Edmund A. Weeks, and treasurer, Dr. James G. Grant. This club is organized along the line of promoting the social side of medical life.

Milk Commission for Toledo.—The president of the Academy of Medicine of Toledo and Lucas County has appointed Drs. William C. Chapman, Charles W. Moots and Homer H. Heath to serve with Dr. I. Howard McVay, representing the Toledo Homeopathic Society; the secretary of the Woman's Clubs and the secretary of the Chamber of Commerce, to secure a better milk supply for Toledo.

Personal.—Dr. O. M. Pinney, Madisonville, has been appointed by the Presbyterian Board of Foreign Missions as medical missionary to Benito, West Coast of Africa.——Dr. Adolphus W. Foertmeyer has been appointed receiving physician at the City Hospital, Cincinnati, vice Dr. A. E. Osmond, resigned.——Dr. John B. Woodworth, Delaware, secretary of the Delaware County Medical Society, has resigned and left for Texas.

PENNSYLVANIA.

State Hospital Burned.—On April 8 the State Hospital for the Insane, Norristown, was destroyed by fire. A majority of the patients have been transferred for temporary lodgment and care to the insane department of the Philadelphia Hospital.

Society Meeting.—The North Penn Clinical Society, composed of physicians practicing in towns along the North Penn Railroad, was organized at Quakertown, March 13. The following officers were elected: President, Dr. Josiah E. Bauman, Telford; vice-presidents, Drs. Oliver H. Fretz, Richland Center, and John J. Ott, Pleasant Valley; secretary, Dr. Walter H. Brown, Richlandtown; assistant secretary, Dr. Francis A. Borzell, Cressman, and treasurer, Dr. Alfred E. Fretz, Sellersville.

The Medical Board Bill.—The Bowman bill remains in the house judiciary general committee in the hope that a change of sentiment will take place in favor of the measure. The bill was introduced primarily to elevate the standard of Pennsylvania medical practitioners. There are 54 civil divisions in the United States, including Porto Rico, Hawaii and the Philippines, of which 39 have single medical boards while only 12 have three boards. In Pennsylvania there are at present three boards, regular, homeopathic and eclectic, each of which examines graduates of medical colleges belonging to its particular school. If an applicant fails to pass one board he can apply for an examination before another board and so receive a license. Representative Bowman's bill provides for a single examining board of 10 physicians selected from the regular, the homeopathic, the eclectic and the osteopathic schools, to be appointed by the governor, no school having a majority of the entire board. The objectors to the bill say that the examining boards should be composed of 12 members, three representatives from each of the four schools. The regular profession insists that this should be left to the discretion of the governor.

Philadelphia.

Cerebrospinal Meningitis.—The presence of a number of cases of cerebrospinal meningitis in different sections of the city during the last two weeks has caused alarm among health officials. Since April 6, 14 cases of the disease have been reported to the bureau of health and 4 deaths from the disease have been reported.

Hospital Applies for Aid.—The Hospital of the Woman's Medical College of Pennsylvania has issued an appeal for aid because it is doing a great work for the sick poor and yet is hampered by insufficient temporary quarters, having no private rooms as a source of income and no endowment fund. The hospital asks for money and annual subscriptions for the endowment fund or for the building fund.

Personal.—Dr. J. William White, professor of surgery at the University of Pennsylvania, has been elected advisory surgeon of the Pennsylvania Railroad Company. Dr. White will have supervision of the medical corps of the system.——Dr. William W. Keen has been elected an honorary member of the German Surgical Society. He is at present in Berlin, a delegate to the surgical congress being held there.

Hospital Cornerstone Laid.—On April 9 occurred the laying of the cornerstone of the new Frankford Hospital. Previous to the ceremony addresses were made by James S. McMasters, who presided; Representative Samuel Christian, Congressman W. W. Foulkrod and Dr. J. Baker Laird. Isaac Schlichter, chairman of the building commission, laid the cornerstone. The new building will be a two-story brick structure, with provision for the addition of two stories.

TENNESSEE.

Graduation.—The fifty-sixth annual commencement exercises of the University of Nashville, Medical Department, were held March 29, when a class of 52 was graduated. Chancellor James D. Porter of the university presided, and Dr. L. M. King delivered the faculty address.

Society Meeting.—At the annual meeting of the Nashville Academy of Medicine and the Davidson County Medical Society, held at Nashville April 2, Dr. George W. Crile, Cleveland, Ohio, delivered the address of the evening on "Direct Transfusion of Blood." The following officers were elected: President, Dr. Marvin M. Cullom; vice-president, Dr. Rufus E. Fort; secretary-treasurer, Dr. Holland M. Tigert, and delegates, Drs. William D. Haggard, John A. Gaines and Sidney S. Crockett, all of Nashville.

TEXAS.

Fire Losses.—On March 16 the office of Dr. Robert S. Foster, Northrup, was destroyed by fire with a loss of more than $1,000.——The Denton County pest house, five miles south of Denton, was burned April 1, with a loss of about $300.

WISCONSIN.

Smallpox.—It is reported that there are 40 cases of smallpox at Manawa; a number of cases have also developed at Royalton.

Personal.—Dr. and Mrs. Victor F. Marshall, Appleton, sailed for Europe on the *Minnetonka* from New York, April 6.——Drs. Frank P. Donahue and Oscar Lutz, internes at the Emergency Hospital, Milwaukee, have resigned.——Dr. Joseph Lewis, Milwaukee, who has been ill at the Hanover Hospital for three months, has recovered.

Tuberculosis Sanatoria.—Dr. Chester A. Paull, superintendent of the new State Sanatorium for Tuberculosis, Wales, reports that the sanatorium will be opened about June 1, when from 80 to 100 patients can be accommodated.——The Milwaukee Sanatorium for Tuberculosis Association has taken possession of its property on the Blue Mountain Road. Plans for two pavilions have been completed and the administration building is now ready for use.

Hospital Notes.—Drs. William M. Gratiot and H. D. Ludden have opened a hospital at Mineral Point.——A meeting was held at Portage, April 6, to discuss the matter of a hospital for that city and to form an organization. Dr. William J. Thomson was elected permanent secretary, and the ways and means of defraying the cost of a hospital were discussed. The consensus of opinion was that a hospital to meet the needs of Portage should cost from $15,000 to $20,000.

GENERAL.

Tuberculosis Sanatorium in Porto Rico.—The tuberculosis sanatorium founded at San Juan by the Anti-Tuberculosis League of Porto Rico was dedicated April 5 by Governor Winthrop.

New Medical Society.—The Mexican physicians in Monterey, Mexico, on April 4, effected a permanent medical organization to be known as the Nueva Leon Medical Society. A constitution and by-laws were adopted.

Havana Physicians Protest.—The physicians of Havana held a meeting recently and entered a protest against the activity of Governor Magoon in licensing two American physicians to practice medicine in Havana who had not first passed an examination in the University of Havana, as required by law.

National Boards of Health Conference.—The fifth annual conference of State and Territorial Boards of Health with the Public Health and Marine Hospital Service will be held in Washington, D. C., May 31, 1907. These conferences are convened in accordance with the act of Congress approved July 1, 1902, "increasing the efficiency of the Marine-Hospital Service." The subjects to come before this conference for discussion will be: "Sanitary Supervision of Milk Supplies," "Malaria, its Geographical Distribution," and "Bacillus Carriers." The last-named important subject is attracting much attention at present.

American Pediatric Society.—This society will hold its nineteenth annual meeting at Washington, D. C., March 7-9, 1907. The headquarters and meeting place will be the Arlington Hotel. Among the subjects on which papers will be read are: "The Caloric Value of Modified Milk," Dr. Maynard Ladd, Boston; "Cane Sugar Feeding in Its Relation to Some of the Disorders of Childhood," Dr. Charles G. Kerley, New York; "Kernig's Sign in Infancy; a Study of Two Thousand Cases," Dr. John Lovett Morse, Boston; "Bacteriology in Meningitis," Dr. F. S. Churchill, Chicago; "Grip Meningitis," Dr. Samuel S. Adams, Washington; "The Rest Treatment in Chorea," Dr John Ruhräh, Baltimore; "Etiology of Infantile Atrophy," Dr. A. H. Wentworth, Boston. Further information may be had from the secretary, Dr. Samuel S. Adams, 1 Dupont Circle, Washington, D. C.

Association of American Medical Colleges.—The annual meeting of this association will be held in Washington, May 6. The president's address will be given by Dr. George M. Kober, Washington. The topics taken up will be: "Giving Credit for Work Done in Literary Colleges; the Combined Course," by Dr. Egbert LeFevre, New York; "The Advancement of Medical Education," by Dr. Murray Galt Motter, Washington; "Should Examinations for Licensure be in Two Parts, and How Shall They be Conducted?" by Dr. William J. Means, Columbus, Ohio; "Teaching Internal Medicine," by Dr. William S. Thayer, Baltimore; "Teaching Materia Medica, Pharmacology and Therapeutics," by Dr. Torald Sollmann, Cleveland, Ohio; "Teaching Anatomy," by Dr. Frank S. Baker, Washington, and "When Shall Students Begin to Attend Clinics?" by Dr. Frank E. Bunts, Cleveland, Ohio.

American Academy of Medicine.—The thirty-second annual meeting will be held at Atlantic City, N. J., June 1 and 3, 1907. The secretary is Dr. Charles McIntire, Easton, Pa. Some of the papers on the program are to be on the following subjects:

President's Address: A Medical Career and the Intellectual Life, Dr. Casey A. Wood, Chicago.
The Communal Life of Physicians, Dr. Leartus Connor, Detroit.
The Housing Problem, Drs. S. A. Knopf and Gertrude C. Light, New York City.
The Effect of Child-Labor on Physical Development, Dr. Alfred Friedlander, Cincinnati.
The Superiority of the Playground to the School-room, Dr. Woods Hutchinson, Arrowhead, Cal.
The Soldier as a Total Abstainer, Dr. J. W. Grosvenor, Buffalo.
Insurance for Defectives, Dr. James A. Spalding, Portland, Me.
State Examining Boards, Dr. Henry Beates, Jr., Philadelphia.
Relations of the Medical and Legal Professions to the Public, Dr. T. H. Shastid, Marion, Ill.
Legislation to Promote Preventive Medicine, Dr. Benjamin Lee, Harrisburg.
A National Department of Health, Dr. J. Pease Norton, New Haven.
Criminal Abortion, Dr. Henry W. Cattell, Philadelphia.

Obliterating a Yellow Fever Focus in Cuba.—Dispatches published in the reports of the U. S. Public Health Service give an account of the prompt and energetic measures adopted to suppress a focus of yellow fever that has been discovered in Havana Province, Cuba. The reports show that the disease in the single case reported was contracted at a plantation in the vicinity of Nueva Paz, a town of 2,000 inhabitants situated about 45 miles southeast from Havana. The patient, a Spaniard, who has been removed to Las Animas Hospital, Havana, arrived in Cuba last December, and after ten days' stay at Havana, went to Nueva Paz, where he remained continuously until taken sick. Dr. Stansfield of the Public Health and Marine-Hospital Service reports that a disinfecting and oiling brigade of forty men, under experienced supervision, has been sent to Nueva Paz to exterminate mosquitoes, and that the work of sanitation will be extended to all places in the vicinity. Major Kean, adviser to the Cuban Sanitary Department, stated, April 2, that Havana is free from yellow fever; and inasmuch as the present case was imported, there is no reason to fear infection in that city. The only other case of yellow fever, a fatal one, reported in Cuba during the present year, occurred in January at Santa Clara, capital of the province of the same name.

CANADA.

New Western University.—Alberta is to have a provincial university at Strathcona.

Cremation.—Cremation is growing in Montreal, where is located the only crematory in Canada. There were 33 cremations from the commencement of operations in 1904 until April 2, 1906, and 13 from that date until Feb. 28, 1907. Prior to the establishment of the McDonald crematory there had been 12 by the Mount Royal Cemetery.

Hospital News.—The late Mrs. Peter Redpath of Montreal left the Montreal General Hospital $40,000.——A new quarantine hospital will soon be ready for occupation in Winnipeg, Man.——A psychiatric clinic is to be established in connection with the proposed new general hospital for Toronto. It is intended that it shall occupy a separate building, have accommodation for 100 patients and treat acute cases of mental disease.

Checking Consumption in British Columbia.—The annual meeting of the Anti-Tuberculosis Society of British Columbia was held in Victoria, April 2. Dr. Fagan, the municipal health officer of British Columbia, who has the matter of the erection of a sanatorium in charge, announced that there are nearly sufficient funds in sight to proceed with building operations. He has collected $10,000 in Vancouver, where the medical profession alone subscribed $2,800. About $10,000 is still needed before the necessary $50,000 is secured.

Personal.—The Manitoba Board of Health has been appointed as follows: Dr. R. M. Simpson, Winnipeg, chairman; Drs. John M. Eaton, John A. Macdonald, E. L. Schaffner and Gordon Bell.——It is announced that the government will appoint Dr. Thompson, M. P., of Dawson, commissioner of the Yukon at a salary of $5,000, with $6,000 for living expenses.——Dr. Andrew Eadie of Toronto was assaulted by the father of a former patient who died of appendicitis; the butt end of a heavy teamster's whip was the instrument used. Dr. Eadie has lain unconscious at his home ever since the assault, April 8.——Major Leonard Vaux, M.D., P.A.M.C., Toronto, will be Canada's representative with the imperial army at Aldershot and later on at the Royal Army Medical College at London. He will take up a course for the next year in bacteriology and hygiene.——Dr. Halfpenny, Winnipeg, is doing graduate work at Johns Hopkins University.

FOREIGN.

A Hospital on the Mount of Olives.—The foundation stone of the new German hospital on the Mount of Olives was laid March 31, 1907. The Sultan of Turkey gave the land.

A New Medical Mission in India.—A new medical mission has been started in Parbhani, in the Nizan country, by the United Free Church of Scotland. The Murray Mitchell Hospital and dispensary buildings are to be erected at this place.

Appropriations for Scientific Purposes in Germany.—Among the appropriations recently voted by the German parliament is $50,000 for repression of typhoid fever and $30,000 for tuberculosis; $16,000 for study of sleeping sickness; $17,500 for the approaching International Congress for Hygiene at Berlin, September 23-29; $25,000 for research on syphilis; $6,500 for investigation of the statistics of accidents and $10,000 for combating infant mortality.

The "Preventive" Theater.—In order to continue the antivenereal campaign, Le Vallier and Nigel of Paris have organized evening entertainments at a small theater, rue Saint-Denis 133. "The Initiation" is the name given to the entertainment. First there is a two-act play called "The Immolated," the plot turning on a case of syphilitic sterility. The second part is a lantern talk on syphilis, with numerous views. The organizers of the show do not seem to be physicians, but they admit physicians free on presentation of their visiting cards.

Pharmacy in Turkey.—The United States Consular and Trade Reports state that there are 400 pharmacists in Constantinople and quotes a local pharmacist as follows: "Physicians, with the fear of having their prescriptions transformed by doubtful dispensers, are wont to order medical specialties which offer guaranties of careful preparation." Although this may be an exaggerated view, there is, nevertheless, the Reports state, a growing demand for medical specialties. As late as ten years ago advertising had little or no effect on the sale of such specialties, but this is no longer the case, and the importance of keeping before the public in an intelligent manner by means of advertising in the principal local journals, by posters in the streets, stations and public places, is increasing and becoming recognized by those interested.

Training School for Disinfectors.—In Prussia during 1905 about 64 official nine-day courses of lectures on practical disinfection were given at 17 different points; 533 persons attended the lectures, and 533 passed the examinations and received certificates as officially tested disinfectors. Besides the above courses a number of three-day courses were held for nurses, and about 200 nurses were thus trained for the disinfecting service, especially for continuous bedside disinfection, while the licensed disinfectors were trained especially for the terminal disinfection. Every three years the licensees must submit to further tests, and take another course of lectures at the end of six years. Steam disinfection apparatus are preferred to formalin apparatus as a rule. The *Münch. med. Wochschr.* mentions further that applicants must be under 45.

Quinin Tannate Candy for Children.—The Academy of Medicine, Rome, Italy, recently passed a resolution asking the government to have quinin tannate, in the form of chocolate drops, distributed for the use of children in malarial regions. Zeri, Concetti and others related very favorable experiences with it. Contrary to other preparations of quinin, the tannate is borne well even when there is considerable vomiting, and diarrhea is favorably influenced. It is evidently tolerated better by the intestinal canal as it is less bitter and less toxic. A child affected with hemoglobinuria every time quinin was given under any other form, tolerated the tannate chocolate drops and was thus soon cured of malaria. Viale proclaimed its advantages as long ago as in 1852. The vote was, therefore, taken asking that the tannate in this form be sold at cost price or distributed free to children like the other preparations of quinin for adults.

Plague in India.—Consul-General Michael, at Calcutta, reports that the plague mortality is increasing in the Punjab at the rate of 1.000 deaths a week. He also quotes the report of the health officer of Calcutta that experiments at inoculation in India have been somewhat discouraging. In Calcutta an offer of 16 cents each to all who had themselves inoculated had so little effect that only 101 inoculations were made during the year. Attempts to exterminate the rats were equally disappointing, although 4 cents each were offered for live rats. Altogether about 100,000 rats were accounted for, but this does not seem to have made much impression on the rat population. All species of rats seem to be liable to the disease, so that attempts at destruction must include all kinds. The extermination of the rodents and the consequent abolition of plague is likely to be a difficult task which will take a generation or two, but it should not be deemed hopeless.

Improved Records of Criminal Statistics in France.—According to new regulations, the statistics of crimes in France will in future strive to take account of the physical conditions, the individual conditions and the social conditions which are at the basis of a given crime, so far as they can be determined. The physical conditions include climate, nature, soil, season; the individual, age, sex, origin, profession, etc., and the social, density of the population, poverty, wealth, etc. Further than this, each record is obliged to mention whether the offense had been committed under the influence of liquor, and whether the criminal is a habitual or occasional drinker. The statistics for 1905 show that 2,294 criminals were declared to be irresponsible. In issuing his orders the minister of justice urged research into the past of the criminal, his heredity, his education, environment, the causes of his fall and means of redemption. If by this means, he said, the magistrate, in concert with the medicolegal experts, can work back from the crime to its pathologic origin, justice will be enlightened and the cause of science promoted. An editorial in the *Semaine Méd.*, from which we quote the above, states that the statistics collected henceforth in France will be more complete and hence more valuable than those of any other country.

Resignation of Danish Board of Health.—Meyer writes from Copenhagen to the *Münch. med. Wochschr.* stating that on March 5 the Royal Board of Health (kgl. Gesundheitsamt) sent in its resignation as a body, signed by all the members of the board. This body was organized in 1803, and has charge of all sanitary and public health matters, and its members serve without pay. During the last five years it has been entirely ignored by the minister of justice, who has drawn up bills, made appointments, etc., without consulting the public health office in any way. The bill for repression of venereal disease, recently described in these columns, page 1119, was drawn up and passed without consultation with it, as also the bills in regard to repression of tuberculosis and other health matters. The board presented a detailed list of grievances to the king in an official communication three months ago, to which the minister replied, on the floor of parliament, in sarcastic terms. Nothing remained for the members of the board but to resign, which they have accordingly done. As no other physician will accept a position on the board as matters now stand, the country is without an official health bureau. The lack of expert medical supervision is evident, Meyer says, in the antivenereal law mentioned above, especially its sanitary features. The medical profession fears that some of the provisions of the law will shake the confidence of the patient in his physician, whom he will look on more as a police officer than as a confidant and friend.

Half a Million Vaccinated in Paris in Fifteen Days.—France always has a number of cases of smallpox each year at different points; in 1904 there were 1,000 cases in 15 departments, but the populace has never taken this condition of affairs seriously, and the measures requiring vaccination have never been strictly enforced. A few cases of smallpox occurred recently at Dunquerque, and three out of the four nurses who came in contact with the first patient died. The small epidemic was promptly arrested, but the Paris press wrote it up and a remarkable smallpox scare resulted. The people crowded by thousands to be vaccinated; Chantemesse estimates that nearly 500,000 were vaccinated during the first two weeks. The *Académie de Médecine* in commenting on this curious page of history in this year of our Lord, 1907, called attention to the drawbacks of such hasty, wholesale vaccinations. The law in Prussia forbids more than 130 vaccinations at one sitting, and in Baden no more than 150 can be vaccinated in one day. The necessity for legislation in France compelling vaccination of the floating population, sailors, day laborers temporarily employed and the like, was earnestly pleaded by Kelsch. The power of the press, he added, has been illustrated once more by this "delirium for vaccination" which it induced by writing up the half-dozen cases at Dunquerque, while the populace has never been roused from its inertia before by the thousand odd cases occurring on all sides every year. Men, women and children fought for the vaccine which the week before they had regarded with sublime indifference, as will probably be the case also a month from now. Kelsch commented further on the aid which the press might render to sustain the efforts of physicians in keeping alive this fear of smallpox which is the beginning of wisdom.

LONDON LETTER.

(From Our Regular Correspondent.)

London, April 6, 1907.

The Use of Alcoholic Beverages.

A controversy on this subject has been started in the medical and in the lay press by certain eminent members of the profession. Apparently, they are dissatisfied with the pronouncements, which have recently been made by men equally eminent, deprecating almost entirely the use of alcohol and the marked tendency to its disuse which has been much in evidence of late. Sir Victor Horsley, who is the most prominent teetotal advocate of the profession, recently stated at the Toronto meeting of the British Medical Association that alcohol is being rapidly superseded by milk in London hospitals. The following manifesto has been issued and signed by some of the most prominent physicians and surgeons: "In view of the statements frequently made as to the present medical opinion regarding alcohol, we think it desirable to issue the following statement, which we believe represents the opinions of the leading clinical teachers as well as the great majority of medical practitioners. Recognizing that in prescribing alcohol, the requirements of the individual must be the governing rule, we are convinced that in disease alcohol is a rapid and trustworthy restorative. In many cases it may be described as life preserving, owing to its power of sustaining cardiac and nervous energy, while protecting the wasting nitrogenous tissues. As an article of diet, we hold that the universal belief of civilized mankind that the moderate use of alcoholic beverages is, for adults, usually beneficial, is amply justified. We deplore the evils arising from the abuse of alcohol. But there is nothing, however beneficial, which does not by excess become injurious." It need not be said that such a manifesto has not been allowed to pass unchallenged by the opponents of alcohol, who include names in the profession equally eminent. A counterblast has been started in the *Lancet* by Sir James Barr and others. Sir James Barr states that he is anxious to get reliable information as to the power of alcohol to sustain cardiac and nervous energy. He prescribes it simply as a sedative and antispasmodic to paralyze the vasomotor system, much in the same way as he does nitroglycerin. We are only at the beginning of what threatens to be a very hot controversy. It is a curious comment on our boasted progress that the leaders of the profession should be so diametrically opposed regarding the use of a remedy as old as civilization, the experience of the use of which is incalculably great and concerning which an enormous number of experiments on man and animals have been made. It is unfortunate that the controversy should have extended to the lay press, but this was rendered inevitable by the publication of the manifesto there. Once more the differences of the profession will become a subject of jibe for the public. Worse still, unfounded imputations have begun to be cast on the signers of the manifesto, such as: How many of the signers hold brewery or distillery shares? and, How many cases of Scotch whisky does the manifesto represent?

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, April 3, 1907.

Damages Recovered for Sepsis Resulting from Having Corns Cut in a Public Bath.

A remarkable case was decided recently by the court of appeals. A merchant in the prime of life asked for damages on the ground that he had been infected when having his corns cut in a bath by the men paid by the proprietors of the bathing establishment to perform this small operation on the visitors. It appeared that the possibility of having the corns cut by a "specialist" attracted many persons to that special bath and that the merchant in question, who was operated on in the bath, soon afterward complained of pain in his leg, which became swollen and painful. Although medical aid was called in, sepsis was inevitable, and the leg had to be amputated below the knee. The court decided that the proprietors were responsible for their employés, and that the fact of medical aid having been sought at once proved clearly that there had been no negligence on the part of the sufferer. Therefore, the claim of the plaintiff was justified, and he was awarded damages to the amount of $2,000. The proprietors were at the same time severely reprimanded for not carrying out the city ordinance in regard to bathing establishments, which requires the presence of a medical man during certain hours of the day on the premises for the purpose of controlling all instruments and apparatus used for massage, inhalations, etc.

Women Eligible to the Posts of Senior and Junior Hospital Officers.

By the appointment of a woman to the post of "Secundärarzt" in a children's hospital, a new and important step has been taken by our very conservative hospital administration, which hitherto has constantly ignored the presence of fully qualified medical women and the useful work done by them in their inofficial positions as "Aspirant" or "Hospitant," both expressions meaning nothing more than "a tolerated guest." The prejudice was so strong in many quarters that even Professor Albert, the famous surgeon, did not allow female students to work at his clinic. Several petitions have been forwarded to the ministry of the interior at different times, but the rules of the Vienna University give so much independence to both the professors and the students that the minister felt unable to interfere. The increased recognition accorded to the work done by women physicians has prompted first one and then another of the holders of the university chairs to appoint a medical woman as their assistant, and at last the medical women have been found to do just as valuable work as the men. The government now makes no further distinction between the male and female sex when it is a question of merit.

Investigations into the Hygienic Conditions of School Children.

The institution of medical inspectors of schools, only a recent addition to the administration of our schools, has already rendered good service in investigating the reasons of the insufficient physical fitness of many children, especially in large towns. One of the foremost causes has been found to be insufficient sleep; more than 20 per cent. of all the children go to bed after 10 p. m., and the difference between the actual length of sleep and the time spent in bed ran up to one hour and forty minutes, or 20 per cent. of the time. This is explained partly by the bad habit of keeping the children awake, or by unhygienic surroundings. Only from 30 to 40 per cent. of the children sleep alone; the remainder have to share the bed with one or two or even with more persons. Bathing is a luxury which only 10 per cent. of the children can have at home. The school baths are doing very good work in this respect, and bathing facilities are now installed in nearly every school. In only very few class rooms can all the windows be opened; in most school rooms the windows have to be closed because of the street noise. The bad effects of short sleep, bad air and also of inadequate nourishment combine to make the children anemic and less vigorous. The remedies recommended by the medical inspectors are: Better ventilation, by opening the windows every hour for at least ten minutes; opening school at 9 instead of 8 a. m., and distribution of free meals to those children who need it.

Association News

OFFICIAL CALL.

The Fifty-Eighth Annual Session of the American Medical Association, to be Held at Atlantic City, N. J., June 4-7, 1907.

To the Officers and Members of the Constituent State and Territorial Associations of the American Medical Association:

The fifty-eighth annual session of the American Medical Association will be held at Atlantic City, N. J., on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7, 1907.

THE HOUSE OF DELEGATES.

The House of Delegates of the American Medical Association will convene at Atlantic City, N. J., at 10 a. m., on Monday, June 3, 1907. The representation in the House of Delegates of the various constituent associations for the years of 1907, 1908 and 1909 will be as follows:

Alabama	3	Montana	1
Arizona	1	Nebraska	2
Arkansas	2	New Hampshire	1
California	3	New Jersey	3
Colorado	2	New Mexico	1
Connecticut	2	New York	11
Delaware	1	Nevada	1
Dist. of Columbia	1	North Carolina	3
Florida	1	North Dakota	1

Georgia	2	Oklahoma	2
Hawaii	1	Oregon	1
Idaho	1	Pennsylvania	8
Illinois	7	Rhode Island	1
Indiana	4	South Carolina	2
Iowa	3	South Dakota	1
Kansas	3	Tennessee	2
Kentucky	3	Texas	5
Louisiana	2	Utah	1
Maine	1	Vermont	1
Maryland	2	Virginia	3
Massachusetts	6	Washington	1
Michigan	4	West Virginia	1
Minnesota	2	Wisconsin	3
Mississippi	2	Wyoming	1
Missouri	4	Philippine Islands	1
Ohio	6		

The twelve sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health and Marine-Hospital Service are entitled to one delegate each.

FIRST GENERAL OR OPEN MEETING.

The first General Meeting, which constitutes the opening exercises of the scientific functions of the Association, will be held at 10:30 a. m., Tuesday, June 4.

REGISTRATION DEPARTMENT.

The Registration Department will be open from 8:30 a. m. until 5 p. m., on Monday, Tuesday, Wednesday and Thursday, June 3, 4, 5 and 6, and from 9 to 10 a. m. on Friday, June 7.

William J. Mayo, President.

George H. Simmons, General Secretary.

THE ATLANTIC CITY NUMBER.

The Annual Professional Writeup with Programs and Full Details of the Session.

The May 4 issue of The Journal will be the annual special number, giving the preliminary programs of the sections, lists of headquarters, hotels, meeting-places, railroad rates, excursions and other data of interest to those who will attend the fifty-eighth annual session of the American Medical Association in Atlantic City, N. J., June 4 to 7, 1907. Between 52,000 and 55,000 copies of this special edition will be distributed. Any one who has data concerning special parties, plans for stopovers, excursions and other matter of interest to the members should send in this information at once.

To answer questions that are being asked about headquarters for the various sections, we repeat from The Journal, February 23, the following list:

HEADQUARTERS.

General Headquarters, Marlborough-Blenheim.
Practice of Medicine: Hotel Dennis.
Surgery and Anatomy: Hotel Chalfonte.
Obstetrics and Diseases of Women: Haddon Hall.
Diseases of Children: Hotel Traymore.
Nervous and Mental Disease: Hotel. Brighton.
Ophthalmology: Hotel Seaside.
Laryngology and Otology: Hotel Strand.
Pathology and Physiology: Hotel Shelburne.
Hygiene and Sanitary Science: Hotel St. Charles.
Pharmacology and Therapeutics: Hotel Marlborough.
Cutaneous Medicine and Surgery: Hotel Marlborough.
Stomatology: Hotel Traymore.

General headquarters for registration, information, commercial exhibits and the Scientific Exhibit will be on Young's Pier.

Atlantic City is preparing to give those who attend the coming session in June even better accommodation than heretofore, there being more hotels and larger ones than when the Association last met in Atlantic City. Special attention is being given to locating the section headquarters in hotels directly on the beach front and contiguous to the Boardwalk. The section meeting places are being grouped as closely together as rooms providing commodious accommodation can be obtained. It will be the endeavor of the Trustees' committee, ably assisted by the auxiliary committee, to provide for the members of the Association the greatest amount of comfort possible, within a short radius, and at a minimum expense.

The secretary of the Committee on Hotels is Dr. W. E. Jonah, 1616 Pacific Avenue.

Correspondence

Certain Medical Aspects of Jury Trials.

Providence, R. I., April 15, 1907.

To the Editor:—Whenever any distinct fault with a public institution becomes evident to the medical profession, it becomes the duty of this profession to manifest its views to the proper authorities and to call for a remedy. The methods of certain commonwealths in the disposition of their convicts, the relations of convict and ordinary labor, the hygiene of prison life—all have been passed in review of late and discussed by professional and lay writers, but as yet the conduct of jury trials has not been regulated or to any extent criticised.

Now it must be evident to any fair-minded person that 20, 30 and even 40 hours of constant discussion and deliberation is too much for any person; that no person after the lapse of such a period of thought is capable of sound judgment, and that any issue decided by jurors who have passed their usual periods of repose and sleep is decided by men with warped judgment, tired minds and muddy intellects. Let any physician ask himself what his judgment would be worth after 20 hours of deliberation on any one subject. Let him at such a time try to recall even fundamental questions on professional subjects. Would his views on any subject be worth hearing, or would he dare offer any opinion on which human life or liberty were at stake? Let the profession tell if the jury in any hard-fought criminal case is capable of sound judgment in such distinctly unhygienic surroundings as invariably obtain. I wish to protest with all my power against such conditions and to suggest a remedy; and I predict that thinking people will in time see the *rationale* of this philosophy. It is not necessary to quote from neurologists as to the ability of the human mind to stand mental strain. This is only too evident to any intelligent person. Why, then, should not juries, on whose judgment hangs the question of life or death, of success or ruin and of financial loss or gain, conduct their deliberations in a sensible manner, with suitable provisions for rest, with regular meals and with stated periods of sleep. They will do their work better and in a shorter time, and we shall read no more accounts of haggard men, with voices cracked and high pitched from exhaustion, wrangling and striving to arrive at a conclusion which might have been reached long before, were the jurors in better physical condition. The remedy: A day of 12 hours, or, at most, 14. One-half hour recess after each three hours of work, with provision for a change of air in the work room and for a short walk in fresh air. A bedroom with cots for sleeping, with regular hours allotted, and bathrooms for those who would use them. Let the public understand that under such conditions its welfare would be better served; let the prisoner know that under present conditions his sentence may be unjust and that under proper conditions justice is more sure, and let a jury take four days of 12 hours each to decide a murder case rather than one of 40 hours. The medical profession should discuss this important matter and, if it sees fit, urge on legislators and on the people a change as important as it is radical. Then no innocent man will suffer through the personal fatigue of an overtired jury, and jury trials will be purged of at least one of their undesirable attributes.

W. Louis Chapman, M.D.

Disclaimer for "American Medical Syndicate."

Philadelphia, April 13, 1907.

To the Editor:—I am informed that one or more persons in Washington, D. C., are endeavoring to interest physicians in the "American Medical Syndicate," whatever that may be, and are stating that I am largely interested in it. To the best of my recollection I never heard of the syndicate before, or of any one connected with it.

H. A. Hare.

Pharmacology

CAMPHO-PHENIQUE.

Report of the Council on Pharmacy and Chemistry.

The following report was submitted to the Council on Pharmacy and Chemistry by the subcommittee to which Campho-Phenique had been assigned:

> *To the Council on Pharmacy and Chemistry:*—Campho-Phenique, sold by the Campho-Phenique Co., St. Louis, Mo., is claimed to be composed of phenol 49 per cent., and camphor 51 per cent.
>
> Examination of specimens, purchased in the open market, made under our direction, demonstrate that the statements made in regard to the composition are not true. Instead of containing 49 per cent. of phenol (carbolic acid), the analysis showed that it contains not more than 20 per cent. Instead of containing 51 per cent. of camphor, the analysis demonstrates that the amount of camphor is not more than 38 per cent. Besides phenol and camphor, a third substance was found which proved to be liquid petrolatum and to be present to the extent of 38 per cent. or more.
>
> Since the statements made in regard to the composition of Campho-Phenique are deliberate misrepresentations of the facts, it is recommended that the article be not approved.
>
> Besides Campho-Phenique, the above-mentioned firm also sells a preparation labeled Campho-Phenique Powder. While no statement in regard to the composition of this product is made on the label or in the literature, such expressions as "Campho-Phenique in a powdered form" and "Powdered Campho-Phenique" lead to the inference that it has essentially the same composition as that stated for the liquid preparation. An examination of a specimen of Campho-Phenique Powder purchased in the open market showed that 92 per cent. of it was a talcum-like inorganic substance. The remaining 8 per cent. consisted chiefly of camphor with a small amount of phenol.
>
> In view of the fact that Campho-Phenique Powder contains very little phenol, but instead consists chiefly of an inorganic talcum-like substance, its name is misleading and deceptive. It having been shown that Campho-Phenique Powder corresponds to a camphorated talcum powder, the claims that it "has no equal as a dry dressing," that it is "absolutely superior to iodoform," and that it has "all the excellent properties of aristol and iodoform," are unwarranted. It is recommended that the article be not approved, and that this report be published.

The recommendations of the subcommittee were adopted by the Council, and in accordnace therewith the above report is published. W. A. Puckner, Secretary.

The above report on a much advertised "ethical" proprietary medicine is worthy of the thoughtful consideration of the members of the medical profession, as it illustrates admirably some of the conditions connected with this proprietary medicine business.

THE FORMULA A FAKE.

First, it illustrates the fact that the published formulas of the "ethical" proprietaries are not always reliable. The Campho-Phenique Company has been very willing to give out a formula, purporting their product to be 51 per cent. camphor and 49 per cent. phenol (carbolic acid). Now, these two drugs will make a liquid mixture, and any druggist can make it, and the mixture will have about the same consistency and appearance as Campho-Phenique. But its effect differs decidedly from that of Campho-Phenique. Some months ago a very intelligent physician, in discussing the proprietary medicine business, said that in some cases physicians could not get druggists to make preparations which were as satisfactory as those which could be bought ready made. He cited Campho-Phenique as an illustration. He said that he had used this preparation for burns, etc., but as he did not like to use preparations put up by companies about which he knew nothing, he asked his druggist to make the mixture in accordance with the published formula. The druggist's preparation was not satisfactory; it had a decidedly different effect from Campho-Phenique, and so he tried another druggist. This druggist also followed the published formula, but his results, too, differed materially from the proprietary article.

The various analyses that have been made show why the preparation put up by the druggist did not resemble that made by the company; since, according to the analyses, Campho-Phenique consists of 40 per cent. liquid petrolatum, which is an inert but soothing diluent, while instead of 49 percent. of carbolic acid, as claimed, it really contains less than 20 per cent. This is an entirely different proposition. Now, if the physician referred to above will have his druggist make a mixture of 20 per cent. of carbolic acid, 40 per cent. of camphor and 40 per cent. of liquid petrolatum, and will then compare this resulting compound with Campho-Phenique, he will find that there is not much difference. Furthermore, he will realize that there is nothing either new or wonderful about the preparation. Camphorated oil and carbolized oil are both in common use. Campho-Phenique is apparently simply a mixture of the two.

THE POWDER STILL WORSE.

So much for the liquid. The powder seems to be something entirely different, for according to the chemist's report, over 90 per cent. of it is an inert, absorbent, talcum-like material. There is enough camphor and carbolic acid to give the powder an odor and thus mislead physicians, especially those who are in the habit of taking for granted that whatever statements nostrum manufacturers make are true. Perhaps it is a fairly good dressing for wounds—at least it will do no harm—but its name is misleading and deceptive. For all practical purposes it is essentially a camphorated talcum powder.

THE CAMPHO-PHENIQUE COMPANY A "PATENT-MEDICINE" CONCERN.

The second interesting phase of this "ethical" proprietary is that it illustrates another point, i. e., that many of these articles are supplied to our profession by those who are not legitimate manufacturing pharmacists. The Campho-Phenique Company of St. Louis, according to all reports, is owned and controlled by a gentleman named Ballard. This "company" supplies the medical profession with the preparations under consideration and also with chloro-phenique and scrofonol. We are informed that this same Mr. Ballard is the principal owner, if not the sole owner, of quite a number of "patent-medicine" companies, such as Ballard-Snow Liniment Co., Brown's Iron Bitters Co, Mayfield Medicine Mfg. Co., Smith Bile Beans Co., Swain's Laboratory, and several others. We learn from the wholesale drug trade lists that these various "companies" make and sell, beside the campho-phenique preparations, Ballard-Snow Liniment, Ballard's Herbine, Brown's Iron Bitter's, Dr. Herrick's Pills, Richardson's Life-Preserving Bitters, Smith's Bile Beans, Swain's All Healing Ointment, and several other "patent medicines."

It is hardly necessary to make any further comments. The whole business is nauseating to those who know the actual conditions of this nostrum business and how our profession is being deluded. The Campho-Phenique matter is not an exception; it is simply another illustration of these conditions.

The majority of "ethical" proprietaries are foisted on our profession, either without any formula accompanying them, or with a "formula" that is a fake. The majority of the "ethical" proprietaries are manufactured and supplied to physicians, with instructions regarding their use, by men who bear the same relation to legitimate pharmacy that the veriest quack that ever swindled a credulous public bears to scientific medicine.

The Council on Pharmacy and Chemistry Encourages Reform.

In explanation to manufacturers whose products have been refused recognition, the Council directs publication of the following statement. W. A. Puckner, Secretary.

Some manufacturers, whose products have been rejected by the Council, have taken issue with this action on the ground that they were not given sufficient opportunity to comply with the requirements. This can only arise from ignorance of the methods of the Council in these cases, and seems to call for an explanation. In the first place, the Council does not like to reject any article, but prefers to see every product brought up to its rules, and appreciates every attempt which manufacturers make in this direction. The rules have been public for over two years, which would seem ample time for compliance if the proper efforts had been made; but the Council stands ready to accept reforms even at this late date, and, indeed, at any time in the future.

When the Council determines to take up an article, this is generally assigned to a subcommittee, which prepares a report from the available evidence. This examination and report bear only on the article as it is marketed *at the present time,* and *not* on what it has been in the past or what it may become in the future; except that an unsavory past will naturally enjoin great caution in judging the present status of an article.

The report generally carries a recommendation whether the article shall be accepted or rejected, or final action delayed. A temporary suspension of judgment is recommended if the committee believes that the manufacturer is willing to reform objectionable features. If intentional fraud is discovered, the Council proceeds as it sees fit. If the objections are such as could be removed by proper reforms, the manufacturer is first informed of the decision of the Council, and the reasons therefor are given, generally in the language of the original report. This gives him an opportunity to file a reply or to take exception. If no reply is received, or if the reply contains nothing which could affect the decision of the Council, in the opinion of the committee, the article is considered definitely rejected, in its present form. The Council, however, is always ready to reconsider its decision, and to examine the article again, as soon as evidence is submitted that an honest effort has been made to remove the objectionable features. In other words, the fact that an article has been rejected does not mean that it will never be accepted. On the contrary, the Council aims to give all reasonable opportunity for reform. To this end, it has not thus far published its adverse findings as long as reform seemed possible (save in case of fraud and some other extreme instances). By furnishing to the manufacturers its specific reasons for rejection, it shows the direction in which reform is to be made. This, we believe, is all that should be necessary, and is as far as it would be wise for the Council to go. It can not be expected, and it would not be wise, for the Council practically to dictate the wording of the advertising matter, as has been asked by some; or to point out the very minimum of the changes which would be needed to bring a product up to the letter of the rules. A manufacturer must expect to be guided by the spirit of this movement; if he intends to adhere merely to the technicalities, he will be sure to infringe, sooner or later, intentionally or unintentionally. Such an attitude is not desirable. If he really wishes to reform he should plan to meet the objections of the Council to the fullest extent, and then ask to have his product reconsidered. Moreover, while the Council can not be expected to judge hypothetical cases, it stands ready to give an unofficial opinion as to whether contemplated changes will satisfy its requirements.

Another objection which is frequently raised is that the Council is arbitrary and autocratic in its interpretation of Rule 6: "No article will be admitted or retained of which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to therapeutic value." It is self-evident that questions of therapeutic value are often largely matters of opinion, and that the Council's judgment must then be more or less arbitrary. It is equally evident, however, that a line must be drawn somewhere, for disregard of the spirit of this rule has been mainly responsible for the "patent medicine" evil, and, indeed, suffices to class an article as a "patent medicine." The Council does its utmost to be absolutely fair in drawing this line; and whenever it judges that there is a sound basis for difference of opinion, it inclines to give the manufacturer the benefit of the doubt, to discount his natural enthusiasm for his product. On the other hand, the manufacturer should remember that the Council is in a sense in a better position to judge therapeutic questions without prejudice, for it has no interest in the matter, one way or the other, except to arrive at the truth.

With every wish to be liberal, however, the Council would not be doing its duty if it were to accept claims which have been disproved, or which are impossible, or excessively improbable. Doubtful claims can only be passed if a sufficient body of evidence from reliable observers is presented, to relieve the Council from responsibility; the quality and quantity of the required evidence being proportional to the improbability of the claims. Nor should manufacturers expect the Council to accept as evidence the statements of men whose sole contributions to medical literature consist in the endorsements of nostrums. Certain manufacturers seek exemption for statements of which they are evidently somewhat ashamed by publishing them as quotations or extracts from correspondents, articles or discredited text-books. The Council can not encourage this subterfuge, and holds a manufacturer responsible for every statement which he publishes.

A Food Law Development.

In the Journal, March 16, 1907, page 967, we called attention to an alleged prescription which is shrewdly advertised in newspapers as a "simple home mixture which any druggist can put up. One of the ingredients, however, is a nostrum. This method of advertising is one way of evading the Food and Drugs Act.

A recent number of *Printer's Ink* directs attention to a similar case. The preparation in this instance has been widely exploited in the lay press, largely in advertisements made to appear as though they are reading matter, and is advertised as "Virgin Oil of Pine." *Printer's Ink* says:

"The preparation is put up in half-ounce bottles and is recommended in connection with glycerin and whisky, in a stated formula as a remedy for coughs and colds, lung troubles, etc. Under the pure food law, a cough remedy containing two and a half ounces of simple ingredients suspended in eight ounces of whisky would have to be marked with a label stating the percentage of alcohol. In such a case the percentage would be large. Eight ounces of whisky would be entirely truthful and not at all alarming to the purchaser, but the law prohibits such a statement and the percentage of alcohol, if stated, would appear so high as probably to cancel a good many sales where purchasers read the truthful label. To overcome this disadvantage in marketing, the company advertises its preparation alone and the reader is given a formula whereby he can compound his remedy himself. As the formula may be advertised without any statement of percentage of alcohol and as only whisky is mentioned, the remedy is divested of what under other circumstances might appear to be a dangerous remedy. Whether or not this concern has evaded the law is a question for others to decide. It has certainly got around what would have been in its case a serious commercial drawback."

Medical Advertisements in Religious Papers.

The following letter received from a correspondent emphasizes the importance and the value of physicians writing to editors of religious journals regarding their advertising pages. It also emphasizes the value of persistency:

> *To the Editor:*—The question of the impropriety of religious newspapers accepting "patent medicine" advertisements is being discussed in your columns. Formerly the Pittsburg (Pa.) *Christian Advocate* contained such advertisements. Five or six years ago I corresponded with the editor in regard to the matter and he expressed his dissatisfaction with the affair and referred me to the business manager. I wrote many times to the latter party calling his attention to the fraudulent claims of some advertisements in the paper. To make a long story short, for over a year this class of advertising has been discontinued. I do not know that my writing hastened the matter, but I believe it contributed in a measure to the change. If the physicians who are readers of the various religious journals would take pains to enter their protest, repeating such protests as often as might be necessary, all such periodicals would in time be led to clean up their advertising columns.

Our correspondent's views emphasize the statement which has been repeatedly made in this department. No journal, unless it is run exclusively and solely as an advertising sheet and is distributed gratuitously, will continue to carry advertising matter known to be objectionable to a large number of subscribers, in the face of repeated protests from those subscribers. That the religious papers have been great sinners along these lines in the past is well known. If physicians wish to enjoy reading a religious journal free from objectionable advertisements they have only to follow the example of our correspondent and write to the manager, and keep on writing until the paper is improved.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Kentucky State Board of Health, City Hall, Louisville, April 23 Secretary, Dr. J. N. McCormack, Bowling Green.

Georgia Regular Board of Medical Examiners, Capitol Building, Atlanta, April 30-May 1. Secretary, Dr. E. R. Anthony, Griffin.

Texas State Board of Medical Examiners, Austin, April 30-May 2. Secretary, Dr. T. T. Jackson, San Antonio.

Texas Eclectic Medical Board, Dallas, about April 25. Secretary, Dr. L. S. Downs, Galveston.

Tennessee State Board of Medical Examiners, Memphis, Nashville, and Knoxville, May 1. Secretary, Dr. T. J. Happel, Trenton.

Nevada State Board of Medical Examiners, Carson City, May 6. Secretary, Dr. S. L. Lee, Carson City.

Illinois State Board of Health, East St. Louis, May 8-10. Secretary, Dr. J. A. Egan, Springfield.

Louisiana State Board of Medical Examiners, New Orleans, May 9-10. Secretary, Dr. F. A. Larue, 211 Camp St., New Orleans.

Mississippi State Board of Health, State Capitol, Jackson, May 14. Secretary, Dr. J. F. Hunter, Jackson.

Massachusetts Board of Registration in Medicine, Room 15, State House, Boston, May 14-16. Secretary Dr. E. B. Harvey, Boston.

Florida State Board of Medical Examiners (Regular), Jacksonville, May 15-16. Secretary, Dr. J. D. Fernandez, Jacksonville.

New York State Boards of Medical Examiners, Albany, May 21-24. Chief of Examining Division, Charles F. Wheelock, Albany.

Nebraska State Board of Health, State House, Lincoln, May 28-29. Secretary, Dr. Geo. H. Brash, Beatrice.

Indiana Board of Medical Registration and Examination, Room 120, State House, Indianapolis, May 28-31. Secretary, Dr. W. T. Gott, Indianapolis.

Requirements for Practice in Japan.—Schwalbe reviews the requirements before physicians are admitted to practice in other countries, his article, "Zulassung im Auslande," appearing in the *Deutsche. med. Wochschr.* Nos. 1 and 12. He states that according to a law passed last May, Japan requires certain qualifications and a license from the minister of the interior before an outsider can practice medicine. Four years of medical study are the minimum requirement, and the right is reserved to refuse or revoke the license in case the applicant is a minor, or deaf, dumb or blind, has been imprisoned or has been fined for medical malpractice. The law provides that each physician must keep a record of all his patients, with name, age, residence, occupation, disease and treatment. This record must be preserved for ten years. The law further prohibits false announcements in regard to a physician's ability, and it also prohibits advertising of secret remedies by physicians. According to a decree issued last September, reciprocity is allowed with foreign states which admit Japanese physicians to practice, conferring the license without examination on presentation of due credentials. Great Britain, to date, he says, is the only country whose physicians can thus be admitted to practice in Japan without further red tape. Schwalbe urges reciprocity agreements between Germany and suitable foreign states. He is a little premature in regard to Great Britain's reciprocating with Japan, we believe, as the question is still under advisement in parliament.

North Carolina—Higher Requirements at Wake Forest.—The Medical Department of Wake Forest College has adopted the resolution that beginning with the session of 1908-9, certificates of recommendation for advanced standing in other medical colleges will be given only to students who have completed the two-year medical course and also the bachelor of science or bachelor of arts course. The two years work in medicine is elective in the B.S. degree and at the same time represents the first two years of work given in all first-class medical colleges.

Virginia University Adopts Higher Requirements.—The medical faculty at its last meeting passed a resolution to the following effect: Beginning with the session of 1910 the minimum entrance requirements shall be the completion of two years of work in an institution of recognized collegiate standing, including satisfactory courses in physics, biology, inorganic chemistry and a language, preferably German. By "satisfactory" courses is meant courses more or less equivalent to those given in the college department of the University of Virginia. The administration of these requirements will be, as at present, in the hands of an academic officer, the dean of the university, who passes on the entrance requirements of all the departments.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

Blue Earth County Organizes a Study Course.

Dr. A. G. Liedloff, secretary of the Blue Earth County (Minn.) Medical Society, writes:

"At the September meeting of our county society we decided to take up a regular course of study. Regular lessons were assigned and the chairman appointed members of the society as teachers to take charge of each meeting. It was also decided to meet weekly instead of monthly as heretofore.

"This plan was carried out with a fair degree of success, but, owing to the fact that one-third of our membership live outside of town, it was not considered advisable to use the funds of the society nor to expect the regular officers of the society to do the work of the study class of which the physicians in the city receive the greater part of the benefit. Accordingly, we organized the Study Section of the Blue Earth County Medical Society, adopting a constitution and by-laws and electing special officers. We began our work with 12 charter members, after issuing an invitation to all the members of the county society to join us. Our by-laws provide that any member of any county society, on application, may become a member of the study section. Dues are provided to cover actual expenses only. Meetings are held weekly at the office of the quiz master.

"The following outline for work has been placed in the hands of each member:

"March 6, Anatomy of the Chest. March 13, Diagnostic Methods.
March 20, Larynx and Pharynx. March 27, Bronchial Tubes.
April 3, Diseases of the Pleura. April 10, Pneumonia.
April 17, Tuberculosis. April 24, Chronic Diseases of the Lungs.
May 1, Anatomy and Physiology of the Heart.
May 8, Pericarditis and Functional Diseases of the Heart.
May 15, Organic Diseases of the Heart.
May 22, Diseases of the Diaphragm."

A Firm Stand Against Contract Practice.

Dr. James J. Hogan, secretary of the Solano County (Cal.) Medical Society, reports the results of the stand taken by his society on contract practice. Some years ago a number of fraternal orders having local lodges in Vallejo, the principal city in the county, adopted free medical services as one of the advantages of membership. Contracts were entered into with various physicians of the town at a nominal figure. Other organizations, seeing the advantages of such a plan, also adopted it, until almost every organization in the city was offering free medical services to its members. The Eagles, the Foresters, the Druids, the Maccabees, the Fraternal Brotherhood, and other orders, including even the women's lodges, furnished free medical service as one of the privileges of membership.

About a year ago the society adopted a resolution pledging the members to do no more lodge practice. This agreement was signed by every physician in Vallejo, both members and nonmembers. The lodges combined and imported a physician from Oakland, to whom was given all lodge work of the place. He made a contract for a year. At the expiration of his contract he left, evidently not finding the work either pleasant or profitable. Since that time, two other men have been imported to do lodge work. The members of the society, however, have, with one exception, kept their agreement, and have done no lodge work whatever. The member who broke the promise was expelled later. At the last meeting of the society, every member expressed himself as thoroughly satisfied with the year's work.

Utah Completes Reorganization.

The Salt Lake County (Utah) Medical Society has adopted the standard constitution and by laws for county societies in full. The *Utah Medical Journal*, in speaking of the matter editorially, says:

"This reorganization plan seems eminently proper, in that the physicians are in closer touch than ever before. The responsibility resting on the county societies is greater than ever before, as they, and they alone, are made the sole judges of the qualifications of the membership of the state association and the American Medical Association. Thus the responsibility rests where the applicant is best known. The various schools of practice, so long as the fundamental requirements are the same, are less widely separated than ever before, and, as time goes on, the differences will grow less and less."

"How to Get Legislation."

The *South Carolina Medical Journal* has the following comment, which should be carefully considered by those interested in securing medical and sanitary legislation:

"We all know (or ought to know if we are old enough to be practicing medicine) that legislation is not accomplished in the effulgent sunlight of a noisy public; not on the hustings of a demagogic campaign meeting; nor even (where one might suppose) on the oratorical forum of the house of representatives. It is conceived, laid, and hatched, in political by-ways and hedges; around the corner, on the dead quiet; with soft words and apt reasoning.

"We must appeal to the personnel of the legislature. We must talk to our law-makers in person, quietly, sensibly, and withal forcibly and with reason. We may remind the legislator that we are striving to protect the public, himself included, from the appalling, if insidious, dangers of quackery and fakery; impress on him that it is not primarily for our good but for his own protection and that of his family that we ask this legislation. Professional aggrandizement plays no part in this appeal. We may point out to him that, as the state officially recognizes and licenses the profession of the state, surely he must agree that the associated members of the profession are best fitted to outline the necessary legislation for the preservation of the public health."

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

OXYDENDRON ARBOREUM.

Henderson, Okla., April 5, 1907.

To the Editor:—What is *Oxydendron arboreum* and what are some of its effects and uses? I fail to find reference to it in anything at hand. J. T. Mills, M.D.

Answer.—This plant is described in the United States Dispensatory, Eighteenth edition, as andromeda, *Oxydendrum arboreum*, sour wood or sorrel tree. It grows in the valleys of the Alleghanies from Pennsylvania to Florida. The leaves have a pleasant, acid taste, and are sometimes used by hunters to allay thirst. While it is used by some as a diuretic in treatment of dropsy, nothing definite is known regarding its properties.

INDUCED HYPEREMIA IN ACNE AND CORNEAL OPACITIES.

Imlay City, Mich., April 8, 1907.

To the Editor:—I have a patient with acne and also one with a corneal opacity. I wish to treat them by the so-called Bier method. Will you tell me how tight a rubber band should be applied to the neck and for what length of time it should be left on.

M. B. McCausland, M.D.

Answer.—According to R. Klapp, an assistant of Bier, a bandage is properly applied when the following conditions obtain: There must be no discomfort felt from the bandage itself nor in the congested region; in the latter there must be simply a feeling of fulness, but none of tingling, or as if the part were "going to sleep"; the member should be warm and eventually become warmer than the opposite side; and, a bluish-red color should appear, but the pulse must be easily felt. The rule is to apply the bandage for twenty-two hours, then loosen it and allow a pause of two hours, after which the bandage is reapplied. Congestion of the head is secured by the use of a cotton-rubber band, which is 3 cm. (1 1/5 in.) wide for adults and 2 cm. (4/5 in.) wide for children. The band has a row of eyelets on one side and a hook on the other so that the degree of hyperemia can be regulated by placing the hook in different eyelets. If the band presses on the neck this must be equalized by padding with cotton. Hyperemia induced by suction is advised by some for the eye, and it would seem as if the same method would also be applicable to acne. For a description and figures of some of the suction apparatus see The Journal, June 9, 1906, p. 1804.

TREATMENT OF EARACHE.

Chicago, April 2, 1907.

To the Editor:—One is struck, on reading medical journals, with the number of questions asked regarding the treatment of ear troubles. I would suggest that a formula be introduced in the next Pharmacopeia for a ready-made preparation suitable for the treatment of this condition. As the putting of potent drugs into the auditory canal may be dangerous, the general practitioner is sometimes at a loss to know what to prescribe both as to drug and to quantity. The National Dispensatory still gives the modified *Balsamum tranquillans* of the French Pharmacopeia, but the U. S. Pharmacopeia has no formula. Of course the busy practitioner will think of oil of thyme, chloroform, tincture of opium, etc., but how about exact quantities? Too little will make the throbbing, thumping and buzzing worse, whereas too much may cause serious complications. L. M. Young, M.D.

Answer.—While our correspondent does not indicate what ear troubles he has in view he makes use of some expressions that lead us to suppose he means an ordinary earache, such as the general practitioner frequently meets, especially in children. The disease in question, under such circumstances, is almost invariably an acute otitis media, either catarrhal or purulent in its character. Conditions of this kind have been combated by various remedies. Hot applications on the outside of the ear are usually helpful. Under this heading may be included hot-water bags, a covered Japanese hand stove, hot salt or bran bags, and considerable relief is often found from filling the fingers of kid gloves with hot salt and tying up the open ends. These little bags may be laid on a dish placed on the stove until thoroughly heated, then applied to the ear canal and covered with a thick cloth. In this way the heated bag comes into close contact with the tissues of the ear canal. The application of steam often gives prompt relief. A teacup is filled with boiling water, a wad of absorbent cotton pressed to the bottom of the cup, the water poured out and the cup applied over the ear. Many drugs are found useful in relieving pain and earache. An aural suppository, such as is manufactured by various pharmaceutical houses, each suppository containing ½ grain of morphin, 1-100 grain atropin, and ½ grain cocain, is efficacious. These drugs are held together with coca butter. They can be gently slipped into the ear and will melt with the heat of the body or their usefulness can be considerably accentuated by the application to the ear of a hot bag. These suppositories seldom fail to relieve earache, provided, of course, that the ear canal is reasonably clean and free from ear wax, etc. A common prescription is morphia sulphate, gr. ½; atropin sulphate, gr. ⅛; rose water, 3½. Two or three drops of this dropped in the ear will usually give immediate relief. Cocain is sometimes added. Many other combinations might be suggested, but most of them would contain one or all of the above ingredients under somewhat varying conditions. These suggestions are based on the supposition that our correspondent refers to acute otitis media with earache.

SYRUPUS ANTISCORBUTICUS.

Cincinnati, April 6, 1907.

To the Editor:—I recently found the term "Syrupus Antiscorbuticus." I did not know what it was, and my library failed to enlighten me. I inquired of a number of my friends, both medical and pharmaceutical, and they also were unable to tell me. Hence I am compelled to appeal to you. E. S. McKee, M.D.

Answer.—This preparation is official in the Swiss Pharmacopeia and in the French Codex. Hager's "Handbuch der Pharmaceutischer Praxis" gives the following composition:

No.	Ingredients	Parts	
		Swiss	French
1.	Herba cochleariæ (common scurvy grass)..	100	100
2.	Herba nasturtii offic. recentis (water cress).	100	100
3.	Radix armoraciæ recentis (horseradish root)	100	100
4.	Foliorum menyanthis (water shamrock)...	20	10
5.	Cortex aurantii	25	20
6.	Cortex cinnamomi zeylonici..............	10	5
7.	Vinum albi	400	400
8.	Alcohol, 94 per cent....................	40	...
9.	Saccharum	550	500

According to the Swiss Pharmacopeia the directions for making this are as follows: Ingredients 1 to 8 are macerated for 5 days in a water bath. One hundred parts are distilled off; the remainder is percolated and after 6 hours the clear fluid is poured off. It is then boiled down to 350 parts and cooked to a syrup with the sugar. The distillate is then added.

TEST FOR BILE IN URINE.

Minneapolis, March 25, 1907.

To the Editor:—Can you give me a reference to a test for bile in the urine, in which a color reaction takes place, similar to the diazo reaction, on the addition of a solution of sulphanilic acid, hydrochloric acid and sodium nitrite? H. W. Allen, M.D.

Answer.—The test has been described by A. Raphiel (*St. Petersburg. med. Wochschr.*, abstracted in The Journal, Jan. 13, 1906, 115., and by Krokiewicz (*Muenchener med. Wochschr.*, abstracted in The Journal, June 9, 1906, 1808). Raphiel's test consists in using the ordinary diazo reaction. He uses the two solutions commonly employed, viz., solution 1: Sulphanilic acid 5 parts, hydrochloric acid 50 parts, distilled water 100 parts. Solution 2: Sodium nitrite 0.5 parts, distilled water 100 parts. The test for bile pigment can be performed in two ways, viz.: Either a solution containing 5 c.c. of solutions 1 and 2 or 3 drops of solution 2 is first prepared and mixed with 5 c.c. of the urine to be examined. If bile pigments are present the solution will promptly assume an amethyst color that in a short time turns to cherry red. The red color is quite apparent even in greatly diluted urines or in urines containing only minute quantities of bile pigments. Or the test may be performed by adding 2 or 3 drops of solution 2 to the urine and then 5 c.c. of solution 1; in this case the urine assumes a greenish or yellowish-green hue that within 24 hours passes into a cherry red.

The test of Krokiewicz is based on a similar principle, but he employs the various substances making up the diazo test reagent in a little different way. He employs, first, a 1 per cent. solution of sulphanilic acid; second, a 1 per cent. solution of sodium nitrite; third, pure hydrochloric acid. The test is performed as follows: Equal parts of solutions 1 and 2 are mixed; 0.5 c.c. of this mixture is added to 0.5 c.c. of the urine to be examined. If bile pigments are present the mixture of urine and reagent turns red. If now one or two drops of pure hydrochloric acid are added this red color promptly changes to a violet, which remains permanent for a long time. This test is very delicate and can, if necessary, be performed with a few drops of urine or other fluid to be examined for the presence of bile.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending April 13, 1907:

Rockhill, E. P., asst.-surgeon, granted 30 days' sick leave of absence.

Boards of medical officers as hereinafter constituted are appointed to meet April 29, 1907, at the places designated, for the purpose of conducting the preliminary examination of applicants for appointment in the Medical Department of the Army:

At Fort Jay, N. Y.: Richard, Charles, surgeon; Shimer, I. A., Whitmore, E. R., asst.-surgeons.

At Vancouver Barracks, Wash.: Crosby, W. D., surgeon; Flagg, C. E. B., asst.-surgeon.

At Columbus Barracks, Ohio: Raymond, H. I., surgeon; Ruffner, E. L., Metcalfe, R. F., asst.-surgeons.

At Fort Monoroe, Va.: Carter, W. F., surgeon; Ragan, C. A., Smith, L. L., asst.-surgeons.

At Jefferson Barracks, Mo.: Bradley, A. E., surgeon; Pyles, W. L., Powell, W. A., asst.-surgeons.

At Ancon, Canal Zone: McCulloch, C. C., Jr., surgeon; Lyster, T. C., Crabtree, G. H., asst.-surgeons.

At Madison Barracks, N. Y.: Hallock, H. M., surgeon.

At Fort Sheridan, Ill.: Munson, E. L., surgeon.

At General Hospital, Washington Barracks, D. C.: Howard, D. C., Ashford, B. K., Huggins, J. B., asst.-surgeons.

At Fort Leavenworth, Kan.; Fuller, L. A., Clayton, J. B., Halloran, P. S., asst.-surgeons.

At Fort Porter, N. Y.: Hess, Louis T., asst.-surgeon.

At Fort Reno, Okla.: Edger, B. J., Jr., asst.-surgeon.

At Fort Ethan Allen, Vt., Robbins, C. P., asst.-surgeon.

At Fort Riley, Kan.; Reno, W. W., asst.-surgeon.

At Fort D. A. Russell, Wyo.: Davidson, W. T., asst.-surgeon.

At Fort Thomas, Ky.: Hathaway, L. M., asst.-surgeon.

At Fort Rosecrans, Cal.: Huntington, P. W., asst.-surgeon.

At Fort Snelling, Minn.: Webb, W. D., asst.-surgeon.

At Fort Logan, Colo.: Lambert, S. E., asst.-surgeon.

The board will be governed by instructions from the Surgeon-General of the Army, to whom the reports of the boards will be rendered direct.

Newgarden, George J., surgeon, ordered to report in person to Brigadier General Wm. P. Hall, adjutant general, president Army Retiring Board, appointed by Paragraph 8, S. O. 239, War Department, Oct. 9, 1906, at such time as he may designate, for examination by the board. For the purpose of examining Major Newgarden, the board will meet at Washington Barracks, D. C.

Usher, F. M. C., asst.-surgeon, granted 10 days' leave of absence.

Stark, Alexander N., surgeon, granted three months' leave of absence, to take effect on his being relieved from duty in the Philippines Division, and he is authorized to visit China and Japan.

Gosman, George H. R., asst.-surgeon, granted two months' leave of absence, to take effect after his arrival in the United States, and he is authorized to apply for an extension of one month.

Howard, D. C., asst.-surgeon, granted leave of absence for two months, to take effect June 1, 1907, with permission to apply for an extension of one month.

Wilson, W. H., asst.-surgeon, will proceed in due season to Fort Porter, N. Y., and report, on arrival, to the commanding officer for temporary duty as member of a board of officers to meet May 1, 1907, for examination of candidates for admission to the U. S. Military Academy. On completion of this duty he will return to Fort Hamilton, N. Y.

Kilbourne, E. D., asst.-surgeon, granted 14 days' leave of absence.

Mabee, J. I., asst.-surgeon, relieved from duty in the Philippines Division, and assigned to duty in the Army transport service, with station at San Francisco. Lieut. Mabee will relieve Asst.-Surgeon Pinkston, as surgeon of the transport *Sherman* on arrival at Manila, P. I.

Pinkston, O. W., asst.-surgeon, on being relieved from duty as surgeon of the transport *Sherman* by Asst.-Surgeon Mabee, will report in person to the commanding general, Philippines Division, for assignment to duty.

Bushnell, George E., surgeon, is detailed to represent the Medical Department of the Army at the meeting of the National Association for the Study and Prevention of Tuberculosis, to be held in Washington, D. C., May 6-8, 1907. Major Bushnell will repair to Washington in time to attend the meeting of the association, and on its adjournment will return to his proper station.

Morris, E. R., surgeon, will proceed to Washington Barracks, D. C., and report in person to the commanding officer, General Hospital, at that post for observation and treatment.

Gregory, J. C., asst.-surgeon, relieved from duty in the Army transport service, to take effect on completion of his examination for advancement, and ordered to Jefferson Barracks, Mo., for duty.

Bosley, J. R., asst.-surgeon, relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Casey, Washington, for duty.

Hart, J. W., contract surgeon, left Fort Hunt, Va., for duty at Target Camp, Annapolis, Md.

Wall, Francis M., contract surgeon, left Fort Oglethorpe, Ga., on leave of absence for two months.

Hutson, T. O., contract surgeon, left Fort Saint Philip, La., for duty at proper station, Fort Moultrie, S. C.

Bell, R. P., contract surgeon, left Fort Wadsworth, N. Y., for temporary duty as surgeon of the transport *Kilpatrick*.

Woolley, Herbert C., contract surgeon, ordered from New York City to Vancouver Barracks, Wash., for duty in the Department of the Columbia.

Bayley, E. W., contract surgeon, ordered from Sleepy Eye, Minn., to Vancouver Barracks, Wash., for duty in the Department of the Columbia.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending April 13, 1907:

Langhorne, C. D., surgeon, detached from duty at the Naval Medical School Hospital, and ordered to the Navy Yard, Washington, D. C.

Riggs, R. E., P. A. surgeon, detached from the Naval Station, Port Royal, S. C., and ordered to the *Texas*.

Heiner, R. G., asst.-surgeon, detached from the Navy Yard, Washington, D. C., April 15, and ordered to attend course of instruction at the Naval Medical School, Washington, D. C.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 10, 1907:

Banks, C. E., surgeon, granted leave of absence for one month from about April 19, 1907.

Cobb, J. O., surgeon, granted leave of absence for one month or so much thereof as may be necessary on account of sickness.

Wertenbaker, C. P., surgeon, granted leave of absence for 1 day, April 11, 1907.

Stimson, A. M., asst.-surgeon, granted leave of absence for 7 days from April 6, 1907, under Paragraph 191 of the Service Regulations.

Robertson, H. McG., asst.-surgeon, directed to proceed to Philadelphia, for special temporary duty on completion of which to rejoin his station.

Salmon, T. W., asst.-surgeon, granted leave of absence for 1 day, March 2, 1907, under Paragraph 191 of the Service Regulations.

Ward, W. K., asst.-surgeon, granted leave of absence for 2 days, from March 20, 1907, under Paragraph 191 of the Service Regulations.

Ashford, F. A., asst.-surgeon, granted leave of absence for 1 day, March 2, 1907, under Paragraph 191 of the Service Regulations.

Frost, W. H., asst.-surgeon, granted leave of absence for 2 days from March 30, 1907, under Paragraph 191 of the Service Regulations.

Kastle, J. H., chief of division of chemistry, Hygienic Laboratory, granted leave of absence for 9 days from April 11, 1907.

Buonocore, E., acting asst.-surgeon, granted leave of absence for 15 days from Jan. 23, 1907, on account of sickness.

Delgado, J. M., acting asst.-surgeon, granted leave of absence for 6 days in March, 1907, under Paragraph 210 of the Service Regulations.

Duke, B. F., acting asst.-surgeon, granted leave of absence for 3 days from April 10, 1907.

Griffitts, T. H. D., acting asst.-surgeon, granted leave of absence for 21 days from April 12, 1907.

Kennard, K. S., acting asst.-surgeon, granted leave of absence for 1 day, March 8, 1907, under Paragraph 210 of the Service Regulations.

Schwartz, Louis, Acting asst.-surgeon, granted leave of absence for 2 days, March 3 and 10, 1907, under Paragraph 210 of the Service Regulations.

BOARD CONVENED.

A board of medical officers was to meet at New Orleans, April 9, 1907, for the examination of an alien immigrant. Detail for the Board: Surgeon J. H. White, chairman; P. A. Surgeon R. L. Wilson: Acting Asst.-Surgeon J. T. Scott, recorder.

Health Reports.

The following cases of smallpox, yellow fever and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended April 12, 1907:

SMALLPOX—UNITED STATES.

California: San Francisco, March 24-30, 1 case.

Kansas: Topeka, March 16-30, 3 cases.

Massachusetts: Lawrence, March 23-30, 19 cases.
Minnesota: Winona, March 23-30, 2 cases.
Missouri: St. Joseph, March 22-29, 10 cases.
New Jersey: Newark, March 23-30, 2 cases.
New York: 11 Counties, Jan. 1-March 2, 56 cases; Broome County, epidemic.
North Carolina: Greenboro, March 23-30, 3 cases.
Ohio: Canton, March 2-9, 2 cases; March 25-31, 1 case.
South Dakota: Sioux Falls, March 23-30, 1 case.
Tennessee: Nashville, March 23-30, 1 case.
Virginia: Richmond, March 23-30, 1 case.
Washington: Spokane, March 23-30, 12 cases.
Wisconsin: La Crosse, March 23-30, 1 case.

SMALLPOX—FOREIGN.

Brazil: Bahia, Feb. 16-March 9, 6 cases; Pernambuco, Feb. 1-15, 64 deaths.
Canada: New Brunswick: Kent County, March 23-30, present; Nova Scotia: Antigonish County, present; Colchester County, present: Digby County, present; Halifax County, present; Pictou County, present; Yarmouth County, present.
China: Hongkong, Feb. 16-March 2, 31 cases, 24 deaths.
Ecuador: Guayaquil, Feb. 16-28, 5 deaths.
France: Canne, Feb. 1-28, 1 case, 1 death.
Italy: General, March 7-2, 34 cases.
Mexico: Guerrero State, March 27, epidemic.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Feb. 23-March 2, 2 deaths.

YELLOW FEVER.

Brazil: Manaos, March 2-16, 6 cases; Para, March 9-16, 4 cases, 2 deaths.
Cuba: Habana, April 5, 1 case (origin Nueva Paz).
Ecuador: Guayaquil, Feb. 16-28, 13 deaths.
Mexico: Merida, March 17-23, 2 cases, 1 death.
West Indies: Trinidad: Port of Spain, March 8-16, 1 case, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, April 7, 1 death.
Brazil: Bahia, Feb. 16-March 9, 10 cases; Pernambuco, Feb. 1-15, 3 deaths.
Peru: Chiclayo, Feb. 28, 4 cases, 4 deaths; Eten, 6 cases, 4 deaths; Lambayeque, 2 cases, 1 death; San Pedro and Pacasmayo, 2 cases; Trujillo, 2 cases.

Marriages

J. Frank McGuire, M.D., to Mrs. Ella M. Churchill, both of Alpena, Mich., April 1.

Beverly Randolph Tucker, M.D., to Miss Elsie Boyd of Richmond, Va., April 3.

Philip Donohoo, M.D., to Miss Anzelett Lowdermilk, both of Joplin, Mo., March 27.

Oleander Howton, M.D., to Miss Edith Olivia Johnson, both of Osceola, Ark., April 17.

William B. McDonald, M.D., Baltimore, to Miss Maude Arnold, at Baltimore, April 3.

Frank Earl Bellinger, M.D., Council Bluffs, Iowa, to Miss Edna Hunt, at Lexington, Ky., April 6.

Guy Russell Jones, M.D., Orlinda, Tenn., to Miss Winnie Carter Taylor of Franklin, Ky., March 12.

Timothy J. Foley, M.D., Worcester, Mass., to Miss Anna Irene Morris of Roxbury, Boston, recently.

Osmer M. Willis, M.D., to Miss Florence M. Gilpin, both of Marietta, Ohio, at Parkersburg, W. Va., April 2.

Herbert S. Fairall, M.D., Deer River, Minn., to Miss Edith Callahan of Duluth, at Grand Rapids, Minn., March 22.

Deaths

George Rubens Shepherd, M.D. Medical Institution of Yale College, New Haven, 1866; a member of the American Medical Association; medical cadet during the Civil War; since 1880 medical director of the Connecticut Mutual Life Insurance Company; sometime president of the Hartford City Medical Society, Hartford County Medical Society and Association of Life Insurance Medical Directors; lecturer on life insurance medical examinations at Yale Medical School; consulting physician to the Hartford Hospital; a member of the board of visitors to the Hartford Retreat for the Insane and a member of the advisory board of the *Yale Medical Journal;* at one time a member of the board of school visitors of Hartford; an authority on life insurance statistics, and a thorough, careful and painstaking medical practitioner, who was stricken with cerebral hemorrhage in August last, died March 30, at his home in Hartford, from pneumonia, aged 64. At Dr. Shepherd's funeral the honorary pallbearers were members of the various societies with which he was connected. The Hartford Medical Society held a special meeting, April 3, to take action on the death of Dr. Shepherd.

Edward Janney Sidwell Lupton, M.D. Johns Hopkins Medical School, Baltimore, 1903; a member of the National Association for the Study and Prevention of Tuberculosis and of the Hendersonville (N. C.) Medical Association; demonstrator of anatomy in George Washington University and interne at Columbia Hospital, Washington, during 1903 and 1904; assistant in the Adirondack Sanitarium, Trudeau, N. Y., from November, 1904, to September, 1906, and thereafter a practitioner at Hendersonville, N. C., died at the home of his parents near Martinsville, W. Va., from pulmonary tuberculosis, March 23, after an illness of two years, aged 29.

Ashbel Parmelee Grinnell, M.D. Bellevue Hospital Medical College, New York City, 1869; for many years dean of the Medical Department of the University of Vermont; vice-president of the New York Medicolegal Society and an expert in medicolegal practice; a member of the state and county medical societies, died in his apartments in New York City, April 6, from septic endocarditis, following a severe attack of epidemic influenza, aged 61.

John Henry Wiggins, M.D. University of Buffalo (N. Y.), Medical Department, 1879; a member of the state medical society; for several terms president of the Chautauqua County and of the Jamestown Medical societies; one of the incorporators of the Chautauqua School of Nursing, and one of the foremost practitioners of western New York, died at his home in Jamestown, April 1, from nephritis, after a long illness, aged 52.

Luman A. Noyes, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1862; surgeon of Vermont volunteers and of the Nineteenth Pennsylvania Volunteer Cavalry during the Civil War; thereafter a practitioner of Randolph, Vt., until 1880, when he was appointed post surgeon and later agent at Seal Island in the Behring Sea, died at Chicopee, Mass., January 14, from cirrhosis of the liver, aged 66.

James S. Corn, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1878; a member of the American Medical Association; president of the Howard County (Ark.) Medical Society, and one of the most prominent and widely known practitioners of southwestern Arkansas, died suddenly, April 4, in his buggy, from heart disease, five miles from his home in Nashville, aged 56.

William J. Rush, M.D. Howard University, Medical Department, Washington, D. C., 1898; one of the founders of the Potomac Hospital, and a member of the Medico-Chirurgical Society, died at his home in Washington, D. C., April 4, from pneumonia, after an illness of one week, aged 35.

Simon Peter Graham, M.D. Harvard University Medical School, Boston, 1903; a member of the American Medical Association and a fellow of the Rhode Island Medical Society; visiting physician to St. Joseph's Hospital, Providence, R. I., died at his home in that city, Dec. 31, 1906, aged 41.

John Hotaling, M.D. Albany (N. Y.) Medical College, 1863; at one time coroner of Scoharie County and for more than forty years a practitioner of Gallupville, N. Y., died at his home in that village, March 30, from cerebral hemorrhage, after an illness of six days, aged 69.

Mason A. Sheffield, M.D. Bellevue Hospital Medical College, New York City, 1864; a veteran of the Civil War, and since 1872 a practitioner of St. John, N. B., and a regent of Mount Allison College in that city, died suddenly at his home, March 30, from heart disease, aged 70.

Robert T. Harrison, M.D. Missouri Medical College, St. Louis, 1882; a member of the American Medical Association, and one of the most prominent practitioners of South Central Missouri, died at his home in Dixon, April 4, after an illness of about a year, aged 51.

Joseph Augustus Aldrich, M.D. Castleton (Vt.) Medical College, 1847; acting assistant surgeon, U. S. Army, from Oct. 1, 1863, to May, 1864, when he was on duty during the Indian troubles at New Ulm, Minn., died in New York City, January 4, aged 89.

John Presley Fletcher, M.D. Medical Department of the University of New Orleans, 1875; a member of the state and county medical societies, died at his home in Lonoke, Ark., March 9, from capillary bronchitis, after an illness of three weeks, aged 80.

Charles M. Willis, M.D. Rush Medical College, Chicago, 1877; a member of the state and county medical societies, and secretary of the local U. S. Board of Pension Examining Physicians; died at his home in Berlin, Wis., April 1, from neurasthenia, aged 57.

Samuel V. Fitzsimmons, M.D. University of Nebraska, College of Medicine, Lincoln and Omaha, 1901; of Globe, Ariz.; a member of the state and county medical societies, died in Miller Valley, near Prescott, Ariz., January 2, from tuberculosis, aged 33.

George W. Biggers, M.D. Beaumont Hospital Medical College, St. Louis, 1889; a member of the American Medical Association, and a pioneer practitioner of Eastern Oregon, died at the home of his son in La Grande, Ore., March 21, aged 71.

Dicia Houston Baker, M.D. Laura Memorial Woman's Medical College, Cincinnati, 1898; a member of the American Medical Association, died at her home in Birmingham, Ala., April 4, after an illness of more than two months, aged 44.

J. G. Hardy, L.R.C.S.; L.R.C.P. Edinburgh, 1879; one of the best known physicians of the Moose Mountain (Sask.) district and justice of the peace for his district, died at his home in Carlyle, January 14, after an illness of two weeks.

Robinson Britton Price, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1866; a practitioner of Lonsdale, Ont., died in Chicago, January 2, from pneumonia, aged 69.

Thomas M. Woodson, M.D. University of Louisville (Ky.), Medical Department, 1850; a practitioner of Gallatin, Tenn., since 1874, died at his home in that city, February 12, after a prolonged illness, from paralysis, aged 76.

Herman E. McMillen, M.D. Western Pennsylvania Medical College, Pittsburg, 1891; a member of the state and county medical societies, was found dead in bed at his home in New Castle, Pa., April 6, aged 45.

Jahiel C. Kilgore, M.D. Rush Medical College, Chicago, 1869; a member of the American Medical Association, died at his home in Monmouth, Ill., April 9, from septicemia, due to an autopsy wound.

Walter Forsythe Finnie, M.D. Cooper Medical College, San Francisco, 1885; died recently after a surgical operation, and was buried from the family residence in San Francisco, April 1, aged 49.

Thomas E. Buck, M.D. Dartmouth Medical School, Hanover, N. H., 1860; a member of the state and county medical societies, died at his home in St. Louis, April 2, from dropsy, aged 71.

David W. Garver, M.D. University of Wooster, Medical Department, Cleveland, Ohio, 1869; died at his home in West Salem, Ohio, from disease of the liver of long standing, aged 60.

Dixon Gough, M.D. University of Maryland School of Medicine, Baltimore, 1844; died at his home in Baltimore, April 8, from heart disease, after an illness of one month.

William N. Sullivan, M.D. Cooper Medical College, San Francisco, 1892; formerly a surgeon in the Navy, died January 31, at his home in San Francisco, aged 35.

Alfred Russell Starr, M.D. College of Physicians and Surgeons in the City of New York, 1880, died at his home in New York City, January 11, aged 48.

Frederick A. Cady, M.D. Michigan College of Medicine and Surgery, Detroit, 1896; of Flint, Mich.; died Dec. 26, 1906, at Waynesboro, Ga., aged 57.

Kossuth Coates, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1880; died at his home in Wilton, Ark., Dec. 11, 1906, aged 54.

Augustus M. Erwin, M.D. Homeopathic Hospital College, Cleveland, 1882; died at his home in Mantau Station, Ohio, February 2, aged 63.

Stanley A. DuPaul, M.D. Detroit (Mich.) Medical College, 1883; died at his home in Carleton, Mich., April 7, from lung disease, aged 48.

James A. Williams, M.D. Berkshire Medical College, Pittsfield, Mass., 1848; of Algansee, Mich., died Dec. 20, 1906, aged 86.

Remaldo D. Clark, M.D. Rush Medical College, Chicago, 1875; died at his home in Akron, Iowa, Dec. 7, 1906, aged 64.

William H. Fairfax, M.D. Medical College of Virginia, Richmond, 1858, died at his home in Hague, Va., April 3, aged 72.

J. H. Cain, M.D. Eclectic Medical Institute, Cincinnati, 1884, died at his home in Redondo, Cal., January 6, aged 60.

Elias W. Wood, M.D. Geneva (N. Y.) Medical College, 1850, died at his home in Oak Park, Ill., April 7.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

Medical and Chir. Faculty of Maryland, Baltimore, April 23-25.
Amer. Confed. Reciprocating, Exam. & Lic. Bds., Chicago, April 30.
American Therapeutic Society, Washington, May 4-7.
Association of American Medical Colleges, Washington, May 6.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 7-9.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 7-9.
Amer. Climatological Association, Washington, May 7-9.
American Gynecological Society, Washington, May 7-9.
Amer. Laryngological Association, Washington, May 7-9.
Amer. Medico-Psychological Association, Washington, May 7-9.
American Ophthalmological Society, Washington, May 7-9.
American Orthopedic Society, Washington, May 7-9
American Pediatric Society, Washington, May 7-9.
American Assn. of Physicians, Washington, May 7-9.
American Surgical Association, Washington, May 7-9.
Nebraska State Medical Association, Lincoln, May 7-9.
Texas State Medical Association, Mineral Wells, May 7.
Utah State Medical Association, Salt Lake City, May 7-8.
New Mexico Medical Association, Las Cruces, May 8-9.
Kansas Medical Society, Kansas City, May 8-10.

TENNESSEE STATE MEDICAL ASSOCIATION.

Seventy-fourth Annual Session, held at Nashville, April 9-11, 1907.

The President, Dr. L. A. Yarbrough, in the Chair.

Officers Elected.

The following officers were elected: President, Dr. A. B. Cooke, Nashville; vice-presidents, Dr. R. E. Fort, Nashville; Dr. Charles P. McNabb, Knoxville; Dr. R. W. Tate, Bolivar; secretary, Dr. Geo. H. Price, Nashville, reelected; treasurer, Dr. W. C. Bilbro, Murfreesboro, reelected; delegate to American Medical Association, Dr. S. W. Woodyard, Greenville; alternate, Dr. C. E. Ristine, Knoxville.

Knoxville was selected as the place for holding the next annual meeting.

Management of Occipito-Posterior Presentations.

Dr. G. C. Trawick, Nashville, reported three cases and emphasized the fact that such cases require close attention, and that Nature should be depended on, at first, to accomplish delivery; when she has exhausted her forces, the attendant should complete the delivery.

Dr. T. J. Happel, Trenton, said the general practitioner has these cases to contend with now and then; he should be able to recognize them, so that proper steps may be taken, if possible, to change the position of the fetus from posterior to anterior. If it cannot be done, one should not delay and allow the patient to become exhausted by a protracted labor, hoping Nature will do what she usually often fails to do, but apply forceps promptly.

Pseudo-Muscular Hypertrophy.

Dr. J. R. Rathmell, Chattanooga, reported a case of this affection which was accompanied by chorea. He related two cases which occurred in the same family and two others of which he had knowledge.

Dr. Charles P. McNabb, Knoxville, said that in 1898-9, he saw a boy with pseudo-muscular hypertrophy. A brother of the patient died three or four years previously of the same condition. This child developed chorea, then endocarditis, and two years later he succumbed from the effects of mitral insufficiency.

General Anesthesia with Chloroform and Ether.

Dr. Herman Hawkins, Jackson, confines himself to these anesthetics for three reasons: (1) Because the problem of a perfect general anesthetic is still unsolved. (2) Universal use requires general knowledge, and efforts should be made to perfect individual skill in administration by reviewing and emphasizing familiar, but important, features of the subject. (3) For the sake of brevity. Personally, he prefers ether, but not to the exclusion, entirely, of chloroform. On the contrary, he urges every physician to be familiar with the administration of both, and to be prepared to say which should be selected in a given case. The anesthetist should be guided by this rule, Give all needed, but not one drop more than is necessary. Time each administration and measure the amount of drug used in every case.

Needs of a Physician.

Dr. L, A. Yarbrough said that the medical embryo should have a normal heritage. He means by this, pure blood circulating through a sound body, nourishing an evenly balanced nervous system, supported by a firm osseous structure, clothed with well-rounded muscles, rendered strong by plenty of exercise either in work or athletics. The foundation for his education should be very carefully looked after. He should be taught at home, at the common school, at the high school, the college, and at the university, how to think, how to obtain practical knowledge from books, and how to learn something from everybody and everything with which he comes in contact. If he would become a great scholar he must needs find in study a pleasure, not a drudgery. A taste for study must be cultivated. He needs to have a practical education, in addition to what is commonly called good horse sense, for in learning the theoretical, the practical must not be neglected. He must have a sound body to possess the strength to sustain those qualities which will enable him to surmount all obstacles encountered in the exercise of that art, which is trying to a man's soul, much less his body, and a sound mind to generate the wisdom whence comes the science and the art.

Legislation.

Dr. A. B. Cooke, Nashville, related the experience that he and the other members of his committee had in trying to get certain bills through the state legislature. The committee, however, notwithstanding the bitter opposition encountered from the drug trade, was successful in getting a pure food law passed, for which the association voted its unanimous thanks.

(To be continued.)

ST. LOUIS MEDICAL SOCIETY.

Regular Meeting, held March 23, 1907.

The President, Dr. John C. Morfit, in the Chair.

Re-Education in Organic Lesions of the Cord.

Dr. Marc Ray Hughes presented two patients to illustrate his reconstruction of an old method of re-education of the motor fibers in sclerosis. Instead of using the stair or step method advocated by Fraenkel, Dr. Hughes urges these patients to use their minds to control the muscles all over. The patient is also told to wear rubber heels so as not to become to familiar with the touch of the floor. The treatment consists more of exercises than anything else, although tonic treatment is also included. These patients simply do what they are told, thus re-educating the muscles unconsciously.

Injection of Gasserian Ganglion Through Foramen Ovale for Trifacial Neuralgia.

Dr. V. P. Blair employed the method described by Ostwald in one case of trifacial neuralgia with good result. The patient had had an attack of grip about nine years ago, and following this there appeared a tic, mostly of the maxillary division of the fifth nerve, although some of the fibers of the second nerve were also involved. The man was never without pain, although at times there were remissions in the attacks. There was a good deal of shock after the first injection, and the patient complained of a tingling sensation over the root of the nerve, but the neuralgia was better. At the end of a week the pain returned, but after the third attempt at injection, when the Gasserian ganglion was reached, there was absolute cessation of the pain and a complete anesthesia. There has been no return of the neuralgia since then.

DISCUSSION.

Dr. W. M. C. Bryan asked whether any untoward effects follow injection of the Gasserian ganglion or of any nerve.

Dr. Louis Hauck said that in two cases in which he made use of this method of treatment, the first branch of the third nerve was affected, causing bulging of the eye, strabismus, and a slight ptosis. All these signs disappeared later. Dr. Hauck has modified the Ostwald method slightly. He passes the needle along the superior maxillary bone until resistance is met. In order to reach the third branch the needle is passed along the ramus to the pterygoid process; then along the base of the skull until the needle slips from the bone, entering the foramen ovale. He said that even if one should fail to reach it exactly, the injection of the alcohol will not fail to produce the desired results.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held March 20, 1907.

The President, Dr. George W. Webster, in the Chair.

Relation of Tonsillitis to Rheumatism.

Dr. E. Fletcher Ingals said that he has gradually fallen into error regarding the relation of tonsillitis and rheumatism, and that what has appeared to him merely casual is, in fact, due to an identical cause for the two affections in from 13 to 29 per cent. of all cases of acute tonsillitis. Forty-five per cent. of the cases of tonsillitis have a rheumatic history, but 16 per cent. of other affections of the throat and chest also have a rheumatic history, so that not more than 29 per cent. of the cases of acute tonsillitis can fairly be attributed to the rheumatic poisons, and more than half of these are very doubtful. Among his patients only 19 per cent. gave a history of previous attacks of articular rheumatism and 18 per cent. a history of muscular pains that they ascribed to rheumatism. Eight per cent. of the cases of acute tonsillitis were attended by or immediately followed by articular rheumatism; the same number claimed to have had muscular rheumatism, while in 5 per cent. the rheumatic attacks immediately preceded the angina. There is not as yet, he said, sufficient evidence to prove that the tonsil is the only or even the chief portal of entrance for the rheumatic poison. Considering, however, that, in all probability, acute articular rheumatism represents a mild type of septic hematogenic infection of the joints, there is no reason why the tonsil with its notorious facility for infection with pyogenic germs should not, possibly, even frequently, assume the rôle of an infected wound leading to septic consequences of a systemic nature. These septic conditions vary in degree and location, and rheumatism is, perhaps, one of the phenomena. The evidence does not justify the belief that inflammation of the tonsil may prevent or take the place of an attack of rheumatism. The statement that the acute beginning of muscular rheumatism is nearly always preceded by tonsillitis is not supported by the histories of his cases, as in only 2 per cent. did muscular rheumatism follow tonsillitis. However, in 6 per cent. muscular pains that were called rheumatism attended the tonsillitis, though these may have been due to the fever attending the inflammation of the tonsils.

DISCUSSION.

Dr. J. A. Capps referred to the type of cases with acute cervical adenitis that occurs especially in children with a simple sore throat. This combination of sore throat and adenitis is important for two reasons: First, the combination has in the last year been more prevalent than usual, and, second, an interesting feature is the etiology of these infections. The clinical picture is this: A child has a sore throat, with high temperature and a correspondingly rapid pulse. On examination the throat is not ulcerated, nor is there any follicular tonsillitis, but simply a red, congested throat. The soft palate, tonsils, pharynx and nasopharynx take part in this redness equally. The temperature remains high for several days. The infection is more severe than one expects from the first examination; then gradually the temperature subsides. Perhaps there has been a slight glandular swelling, but not pronounced, when the symptoms exacerbate. The temperature rises usually to 104-5°; the pulse is rapid again; the child seems quite as ill or more so than at the first visit, and there is noticeable a decided swelling of the cervical glands, particularly near the angle of the jaw, involving the deep cervical glands. The enlargement of the glands, at first discrete, is very apt to become diffuse, and is very rapid in its progress, until the lump becomes the size of a hen's egg or the size of a fist. Usually it is quite hard and tender, irregular in outline, so that the individual glands can not be made out definitely. This tumor mass may remain without much change; the elevation of temperature continuing for a week or two, possibly longer, when it either begins to subside or else the case goes on to suppuration. A red spot appears at some point, and either suppurates spontaneously or is opened, a small quantity of pus being evacuated. Usually the whole group of glands does not suppurate, but only a portion of them. He has seen five such cases which would come within this group. Cultures were taken from the throat in four, and in all four influenza bacilli were found in considerable number. There were present also streptococci or staphylococci. Two of the cases went on to suppuration, and the pus from both showed streptococci in large numbers.

Dr. D. N. Eisendrath said that cases of acute enlargement of the lymph nodes of the neck probably correspond to some extent with those described by Pfeiffer in 1899 as glandular fever. In the cases which he saw the enlargement of the lymph nodes was out of proportion to the height of the temperature. A child, for instance, would have a temperature of 104.5°, with a relatively small number of lymph nodes enlarged, not larger, perhaps, than the average-sized marble. During the present winter these cases have assumed a different type, in that not only have they affected the lymph nodes of the neck, following primary sore throat, but they have affected other lymph nodes, as those of the axilla, the groin, apparently taking part in the process of a general infection, so that in some cases it was thought there was an acute lymphatic leukemia until the blood was examined. He said there have been reported 11 undoubted cases of primary tuberculosis of the tonsil, the majority of them having been verified by autopsies and by finding primary tuberculosis of the tonsil, in which there were no other tubercle bacilli found in the body, the primary focus being in the tonsil, with secondary involvement of the lymph nodes of the neck. A surgeon in operating for tubercular glands of the neck should also remove the tonsils and adenoids. As to the relation between appendicitis and tonsillitis, scarcely a winter has passed during the last two or three years without surgeons having seen tonsillitis in children followed by typical attacks of appendicitis, so that clinically the association of the two diseases is quite well established.

Dr. R. H. Babcock said that in a very large percentage of cases the portal of entrance of the infection is the tonsil. A large percentage of the cases he sees are instances with some form of heart disease, and nearly all which he has investigated have shown either diseased tonsils or a history of previous sore throat. He believes the trend of investigation is to the effect that we must abandon the old notion that acute articular rheumatism is a blood disease in the sense of its being due to some chemical irritant; in fact, it is a specific disease, and there have been a great many observations made which go far to prove that the micro-organism responsible for attacks of acute articular rheumatism of the classical type is a diplococcus allied to the streptococcus, and which has been called the diplococcus rheumaticus.

With reference to the importance played by follicular tonsillitis in the production of acute endocarditis, he cited the instance of a young man in Chicago who developed an acute tonsillitis which subsided apparently in a few days. The patient, however, did not fully regain his health, and later developed symptoms which at first were thought to be those of typhoid fever. The disease proved to be a streptococcus infection with malignant endocarditis, pure streptococci having been obtained from the blood. The patient died six months later. The autopsy substantiated the diagnosis which had been made during life. In this case it was clear that infection started in the tonsil; that it was apparently a trifling tonsillitis, and yet it resulted in the man's death six months later.

Dr. Frank S. Churchill said that a child with enlarged and diseased tonsils is constantly exposed to repeated infections, such as those produced by the streptococcus and influenza bacillus; also the more serious infections, such as those produced by the Klebs-Loeffler bacillus and scarlatina. He always advises removal of adenoids and enlarged tonsils, if possible, in the late spring or summer, on account of the climatic conditions, for he has repeatedly seen children from whom adenoids and tonsils have been removed have persistent colds throughout the winter. The pediatrician does not see an arthritis in the most common and frequent manifestation of rheumatism. He sees, rather, endocarditis. Other manifestations of rheumatism are subcutaneous enlargements, erythema, pleurisy, appendicitis and chorea. Amberg, of Baltimore, who tested the opsonic index of breast-fed and bottle-fed babies, found that, as a rule, the index of breast-fed babies runs higher than does the index of bottle-fed babies, showing the greater resistance on the part of such babies to infectious diseases.

Dr. W. L. Ballenger said that the trend of opinion is that the tonsils are a source of infection not only of tuberculosis, but of rheumatism and many other conditions. He has removed many hundreds of tonsils with the capsule intact, and has yet to find many cases in which the crypts did not extend very near to the capsule. In order to remove the atrium of infection in these cases, the tonsils should be removed to the depth of the crypts, and the easiest and most certain way to do that is to remove the tonsil with its capsule.

Dr. C. M. Robertson said there have been more than 11 cases of primary tuberculosis of the tonsil reported up to the present time; but there were only 11 cases found postmortem, because by primary tuberculosis is meant that we are unable to find tuberculosis in other parts of the body than the tonsil as determined by the microscope. He agrees with Dr. Eisendrath that when removing tubercular glands of the neck it is necessary to remove also the tonsils, as the relationship between the two is now established.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Ointments.

(*Concluded from page 1294.*)

PHARMACOPEIAL PREPARATIONS.

Many good ointments are given in the United States Pharmacopeia, which we can prescribe if we are in doubt as to the proper amounts of the various ingredients used. The following are in the present Pharmacopeia:

Unguentum.
Acidi Borici,
Acidi Tannici,
Aquæ Rosæ,
Belladonnæ,
Chrysarobini,
Diachylon,
Gallæ,
Hydrargyri
Hydrargyri Ammoniati,
Hydrargyri Dilutum,
Hydrargyri Nitratis,
Hydrargyri Oxidi Flavi,

Unguentum.
Hydrargyri Oxidi Rubri,
Iodi,
Iodoformi,
Phenolis,
Picis Liquidæ,
Potassii Iodidi,
Stramonii,
Sulphuris,
Veratrinæ,
Zinci Oxidi,
Zinci Stearatis.

It might be well at this point to call attention to the fact that all medicines are limited in their action in any pathologic condition, and that the claims made for many of the proprietary ointments are ridiculous. Pharmaceutically they may be elegant, but therapeutically they are not superior to the above list, which nearly covers the ground of treatment as applied by ointments.

CERATES.

It is often desirable to have a firmer base to carry our active principles, especially when a local protective action is also desired. This is accomplished by adding more wax, as illustrated by the U. S. P. Ceratum:

Ceræ albæ	℥i	30
Petrolati albi	ʒv	20
Adipis benzoinati	ʒxiiss	50

Notice that this mixture contains 30 per cent. of wax; while the Unguentum contains 20 per cent. Cerates are generally used for local effect alone, as illustrated in the list given in the U. S. P.:

Ceratum.
Camphoræ,
Cantharidis,
Plumbi Subacetatis,

Ceratum.
Resinæ,
Resinæ Compositum.

A convenient use of the terms unguentum and ceratum is in the direction to the druggist, when prescribing a salve, to designate the firmness desired.

OTHER MEDIA.

In addition to the mineral, vegetable, and animal fats described, there are other media which fulfill the same indications:

Oleates.—As stated above, olein is a glycerid of oleic acid. If the oleic acid be combined with other substances we have a class called oleates which can be applied alone to the surface of the body or in combination with other fats. The list of oleates on the market is large, but only the following are found in the U. S. P.:

Oleatum.

Atropinæ	2 per cent. of Atropin
Cocainæ	5 per cent. of Cocain
Hydrargyri	25 per cent. of Mercury
Quininæ	25 per cent. of Quinin
Veratrinæ	2 per cent. of Veratrin

The reputed advantage of this class is the rapidity of absorption.

Lanolin.—Another class is the fat derived from the wool of sheep, which, closely resembling the secretions of the sebaceous glands of man, is readily absorbed. It was put on the market as Lanolin and given in the U. S. P. as Adeps Lanæ without water, and Adeps Lanæ Hydrosus, with about 30 per cent. water. Its chemical nature is entirely different from the other fats; it does not decompose and so can carry substances which the others can not; it absorbs an equal quantity of water (adeps lanæ hydrosus) does not contain more than 30 per cent., enabling it to carry many salts in solution.

Cacao Butter.—Cacao butter (Oleum Theobromatis) has a field of its own in being used as a vehicle to carry active substances in the form of suppositories to the orifices of the body. It is used also for cosmetic purposes, but seldom in the form of ointments for medicinal purposes.

Glycerin.—Glycerin is used in many combinations which are superior to fats for certain cases, mainly in local conditions, where fats are not desirable, as follows: Glycerite of starch (Glyceritum Amyli) makes a pleasing base for many purposes. It can be perfumed and made into a very elegant pharmaceutical mixture, as shown by the proprietary articles on the market. The popular clay poultices are mixtures of clay and glycerin with aromatics. The formula is given in the U. S. P. under the title Cataplasma Kaolini.

Another combination of glycerin is Gelatinum Glycerinatum, which is intended to be used as a base for making suppositories, but may be used also for ointments.

Soaps.—Soaps are often used as a medium for applying medicinal substances to the skin, but they are generally overrated, the beneficial effect being due to the cleansing action of the soap. A moment's consideration will show that a 5 per cent. phenol soap will yield a very dilute solution if any amount of water is used.

Terpenes.—The essential oils are entirely different from the other oils, being formed by the mixture of certain bases called terpenes. Only fifteen terpenes are known, while the list of essential oils is very large; the oxidation of these terpenes produces such compounds as camphor, menthol, eucalyptol, thymol, etc. These oils and derivatives are mainly used to perfume pharmaceutical mixtures. A very small quantity is sufficient to change an obnoxious-smelling mixture into a very attractive one. The main essential oils may also be used as irritants, antiseptics and anesthetics. The exudations found on trees are usually mixtures of terpenes and a soluble gum. For example, the exudation of the pine tree yields a solid substance called rosin (Resina) and a liquid turpentine (Oleum Terebinthinæ). The oil is rectified for internal administration and called Oleum Terebinthinæ Rectificatum. The term spirit of turpentine should not be used, as now we use the term spirit, to designate an alcoholic solution of a volatile substance, but we should use the proper name: oil of turpentine. Rosin is used on account of its high melting point to harden ointments and cerates. It is present in Ceratum Resinæ, Ceratum Resinæ Compositum and Ceratum Cantharidis. These exudations are the source of many of the balsams which formerly had such a high standing in the treating of all ailments, but now are simply used for the effect that the name produces.

SUMMARY.

Ointments are semi-solid preparations used for the application of medicinal substances to the surface of the body.

For local effect the mineral fats and the glycerin mixtures should be used as a base.

For systemic effect the vegetable and animal fats should be used. Pharmaceutical skill should be used to make them attractive to the sense of smell by the addition of some perfume and attractive to the eye by the use of some attractive coloring matter and the use of the collapsible tube.

Bronchitis.

If the patient is seen early, while the coryza is still present, the attack may often be aborted by administration of Dover's powder at bedtime, in combination with quinin, as follows:

℞.	Pulveris ipecacuanhæ et opii	gr. x	65
	Quininæ sulphatis	gr. v	32

Ft. pulvis. Sig.: One such powder at bedtime.

The patient may also be given a hot bath or a mustard footbath, and a glass of hot lemonade, with or without whisky. A saline laxative should be given the next morning. In the case of children a mild calomel purge may be given, followed by castor oil.

The patient should be kept in a warm, moist atmosphere, preferably indoors, and small doses of quinin should be given for a day or two.

Anders states that if this treatment fails, or if the patient does not come under observation early enough, the main objects of treatment should be: (a) To render the secretions free; (b) to hasten the expulsion of the sputum after it has been loosened. For this he recommends the following formulas:

℞.	Potassii citratis	ʒvi	24
	Liquoris ammonii acetatis	f℥v	145
	Spiritus ætheris nitrosi	f℥i	30
	Vini ipecacuanhæ	fʒii	8
	Syrupi pruni virginianæ q. s. ad	f℥viii	240

M. Sig.: One tablespoonful in water every two hours until the secretions are loosened.

If the temperature is maintained at 102 or 103 F., or over, tincture of aconite min. xxx (2.0) may be added to the above mixture. If a distressing cough with much tickling of the throat be present codein gr. ii-iii (0.12-0.19) may be added.

When the above prescription is not productive of free secretion and troublesome cough continues, Anders employs the following combination:

℞.	Ammonii chloridi	ʒv	20	
	Codeinæ	gr. iv-vi		25-.4
	Spiritus juniperi comp	f℥ss	15	
	Misturæ glycyrrhizæ comp	f℥iiss	75	
	Syrupi pruni virginianæ q. s. ad	f℥iv	120	

M. Sig.: One teaspoonful every two hours.

Potter, "Materia Medica, Pharmacy and Therapeutics," recommends the following formulas in acute bronchitis:

℞.	Antimonii et potassii tartratis	gr. ii		13
	Liquoris ammonii acetatis	f℥iv	120	
	Spiritus ætheris nitrosi	f℥i	30	
	Tincturæ aconiti	fʒss	15	
	Syrupi q. s. ad	f℥vi	180	

M. Sig.: One teaspoonful every two or three hours during the first stage.

℞.	Fluidextracti cimicifugæ	f℥ss	15
	Tincturæ opii deodorati	fʒi	4
	Syrupi tolutani q. s. ad	f℥ii	60

M. Sig.: A teaspoonful every four hours.

℞. Tincturæ sanguinariæ		
Tincturæ lobeliæ, āā	fʒi	4
Vini ipecacuanhæ	fʒii	8
Syrupi tolutani q. s. ad	f℥iv	120

M. Sig.: A teaspoonful every three hours.

For bronchitis in children, Koplik recommends the following simple and practical combination:

℞. Tincturæ opii camphoratæ	ʒi	4
Syrupi ipecacuanhæ	m. xxx	2
Syrupi tolutani	f℥ii	60

M. Sig.: One teaspoonful every three hours.

In capillary bronchitis in children Potter recommends the following formulas:

℞. Ammonii iodidi	ʒi-ii	4-8
Ammonii carbonatis	ʒii-iii	8-12
Syrupi glycyrrhizæ		
Syrupi tolutani, āā	f℥ii	60

M. Sig.: A teaspoonful every two or three hours.

℞. Quininæ sulphatis	gr. vi		4
Acidi sulphurici dil	m. xii		7
Syrupi	f℥ss	15	
Aquæ	f℥iiss	75	

M. Sig.: A teaspoonful every two hours to a child of 2 or 3 years; older children require more quinin.

℞. Liquoris ammonii acetatis	f℥ss	15	
Syrupi ipecacuanhæ	fʒi	4	
Morphinæ sulphatis	gr. 1/12		005
Syrupi acaciæ	f℥i	30	
Aquæ	f℥iss	45	

M. Sig.: A teaspoonful every two hours for a child 2 years old, when the face is pale, expression languid and skin cool.

It must be remembered that expectorants should never be given to infants, as they are unable to cough and may drown in their own secretions; emetics should be prescribed instead. Emetics are necessary when suffocative symptoms become prominent.

Burns and Scalds.

In the *Virginia Medical Semi-Monthly* M. Moran recommends the following for the treatment of burns and scalds:

Phenol (acidi carbolici)	1 per cent.
Balsami peruviani	5 per cent.
Olei ricini	94 per cent.

Gauze or cotton is saturated with the mixture and applied to the injured part. The dressing should be renewed daily.

Alcohol in Affections of Ear, Nose and Throat.

W. L. Ballenger, Chicago, states that alcohol is a valuable remedy for topical applications, and is especially useful in a gargle. It is astringent and antiseptic, and when properly diluted is cooling to an inflamed surface. He recommends the following combination:

℞. Alcoholis			
Aquæ cinnamomi, āā	f℥ii	60	
Liquoris formaldehydi	m. ii		12
Glycerini	fʒv	20	
Aquæ dest. q. s. ad	f℥viii	240	

M. Sig.: Use as a gargle.

This formula, Ballenger states, makes a good gargle in acute tonsillar and pharyngeal inflammations and in the soreness following removal of the tonsils. In very young children it may be used in a more diluted form.

In chronic otorrhea this author recommends alcohol in the following dilutions and mixtures:

1. Alcohol 1 part, distilled water 2 parts.
2. Alcohol 1 part, distilled water 1 part.
3. Alcohol 2 parts, distilled water 1 part.
4. Alcohol 3 parts, distilled water 1 part.
5. Alcohol 95 per cent.

These dilutions are used principally in the treatment of chronic suppurative otitis media. The meatus is first filled with the weakest solution, then mopped out, and each solution is applied in series until the patient tolerates the 95 per cent. solution. If the strongest solution is applied at once it causes considerable pain and irritation, whereas, if the strength is gradually increased these unpleasant results are avoided.

Medicolegal

Sale of Medicines by Unlicensed Employés.

The Appellate Term of the Supreme Court of New York holds, in the case of State Board of Pharmacy vs. Matthews, that tincture of arnica, tincture of iodin and spirits of camphor are medicines, within the meaning of a law relative to the sale of medicines. That they were not compounded at the counter, but were labeled, sealed and placed on the counter for immediate sale, it does not consider made any difference. It says that the suggestion that the statute, restricting sales of medicines by unlicensed employés, when literally construed, becomes unreasonable and unconstitutional, fails to recognize the ample power of the legislature to enact police regulations for the health and public welfare of the community, which can be threatened in no more perilous way than by the sale of medicines by inexperienced persons.

Pharmacopeia Purity Required in Sales by Grocers.

The Appellate Term of the Supreme Court of New York says that the defendant in the case of State Board of Pharmacy vs. Gasau, a grocer, sold in the course of trade a certain quantity of cream of tartar, which, instead of being 99 per cent. pure, according to the standard of the Pharmacopeia, contained 74.7 per cent. of cream of tartar and the rest in alum. Subdivision 2 of Section 197 of Article 11 of the Public Health Law of New York provides that "every proprietor of a wholesale and retail drug store, pharmacy, or other place where drugs, medicines or chemicals are sold, shall be held responsible for the quality and strength" of these commodities, with certain specified exceptions. Section 199 of said article provides that this article shall not apply to the sale by merchants of ammonia, bicarbonate of soda, borax, camphor, castor oil, cream of tartar, "except as herein provided." But the court thinks that the intention of the legislature, at the time it enacted the exception contained in Section 199 was obviously merely to except merchants who deal in cream of tartar and certain other persons from the provisions of the article regarding the visitorial duties of the State Board of Pharmacy and the granting of licenses in pharmacy, and not to except them from the general prohibition against adulteration which had not yet been enacted. When this general prohibitory clause was subsequently enacted, it contained no exception which could shelter the defendant; and its unrestricted application was permitted by the express language of Section 199, which was at the same time amended by inserting a qualifying clause that it should operate "except as herein provided." Since the defendant failed to bring himself within Section 199, it followed that he had rendered himself liable for violation of the public health law as a "proprietor of a retail . . . place where . . . chemicals are sold," and consequently the judgment against him must be affirmed.

Pay Recoverable for Caring for Smallpox Patients.

The Supreme Court of Arkansas says, on the appeal of Marion County vs. Bonds and another, where the latter parties sought to recover for waiting on and nursing certain smallpox patients, that the Arkansas statute provides that it shall be lawful for the county to allow accounts incurred by any person in preventing the spread and in nursing and caring for persons in their respective counties who have been afflicted with smallpox. It also provides that "no persons shall be allowed a greater sum for services rendered . . . under the provisions of this act than is customary for such services in other cases." The purpose of the law was to enable county courts to aid in the suppression of smallpox, but at the same time they are prevented by the last clause quoted from making exorbitant allowances for services rendered during the dread and stress of such contagions. They can not allow greater amounts than customary charges for "such services in other cases;" i. e., other cases than smallpox. The trial court correctly declared the law, in declaring as follows: "That the plaintiffs were entitled to the value of their services according to the market value for such labor in other fever cases—that is, according to the wages paid for labor generally in like services—and declares that $5 a day was reasonable wages for the plaintiffs, and declares that they were entitled, under the evidence, to this sum." The plaintiffs made out their cases by proof that the charges made were reasonable for the service they rendered. The proof that they worked night and day, not only nursing the stricken ones, but doing the household work besides, was sufficient to sustain the trial court's finding. The criterion for determining the proper amount is the value of such services, i. e., the service of nursing the sick, doing household duties, etc., made necessary on account of the disease, if such service or similar service were performed in other cases than smallpox. The lawmakers intended that no unusual and extravagant charge should be allowed on account of the exigencies produced by the dreadful disease. But, in the present cases, even if the amount allowed for nursing, under the proof, would have been unreasonable, the fact that the plaintiffs performed, in addition, customary household duties, made necessary by reason of the contagion, amply sustained the trial court's finding.

Statements Made to Alienist.

The Court of Appeals of New York says that in the homicide case of People vs. Furlong, counsel for the defendant claimed that the homicide was committed while the defendant was under the influence of epileptic furor. A physician of great experience in mental diseases testified that he was informed by some one that the court desired him to make an examination of the defendant, and that the latter was brought to the room where the examination was held, and that he made the examination and questioned the defendant to ascertain the truth in regard to his claim of insanity. The examination was made during one of the adjournments of the court, while the defendant was on trial. It was made without the knowledge or presence of either counsel. Whether due courtesy was shown to the counsel engaged in the trial in holding the examination without notifying them, the court says was a question it was not to pass on. The physician testified that before examining the defendant he had said to him that he thought it was for his interest to answer questions unreservedly and truthfully; that he might decline to answer any question that he might put to him, and that, while he was examining him in the interests of the court and not as either for or against him, anything he said in answer to his questions might be used against him.

The court holds that the statement which was made to the physician was not within the constitutional prohibition against compelling a defendant to give testimony against himself. The statement made by the defendant was properly received in evidence as an admission or for the purpose of showing that the defendant's statements made at different times were contradictory and inconsistent. The evidence was not incompetent because of the fact that the witness was a physician. The authorities cited by the defendant to show that unsworn statements by the defendant as to transactions prior to the time of the trial can not be given in evidence for use on which to base an expert opinion as to the sanity of the defendant at the time of the commission of the crime all relate to testimony in behalf of the defendant. Such testimony if allowed would permit a defendant to prepare his statement to fit his particular case. The reason for excluding testimony so offered in behalf of the defendant does not apply where it is sought to show conversations and statements of a defendant for use on a trial in behalf of the people.

Prescribing Remedies—Use of Hypnotism or Massage.

The Court of General Sessions of Delaware says, in the case of State vs. Lawson, through Chief Justice Lore, charging jury, that the defendant was charged with practicing medicine without a license. Under the statutes of this state it is a misdemeanor for any person to engage in practicing the profession of medicine, within the limits of the state, without first having obtained a license therefor. The persons classed by the statute as physicians are designated as follows: "Every person (except apothecaries) whose business it is for fee and reward to prescribe remedies or perform surgical operations for the cure of any bodily disease or ailing, shall be deemed a physician or dentist as the case may be, within the meaning of this act." Revised Code of 1852, amended in 1893, page 58, chapter 7.

The defendant did not contend that he had a license to practice medicine, but relied on the defense that he treated his patients personally by hypnotism and massage, without prescribing any remedies, and that such treatment is not in violation of the statute. The jury's inquiry, then was: Did the defendant, for fee or reward, prescribe remedies or perform surgical operations for the cure of any bodily disease or ailing?

It is the duty of the court to instruct the jury as to the meaning of the word "prescribe" remedies, used in the statute. In medicine, to "prescribe" remedies is defined to be "to write or give medical directions; to indicate remedies." It is not necessary that such prescription should be in writing. It may be given or indicated verbally. Any direction given to the patient for drugs, medicines, or other remedies, for the cure of bodily diseases, directing how they are to be applied to or used by the patient, is a prescription within the meaning of the statute. It would make no difference whether the direction was given by the person in charge of the patient himself or by another person, even though he be a licensed physician engaged by and under the control and direction of the defendant in that particular. State vs. Paul, 56 Neb. 369; Benham vs. State, 116 Ind. 112; *In re* Bruendlis' Will, 102 Wis. 45; O'Neil vs. State (Tenn.) S. W. 627.

Personal treatment of one person by another by hypnotism or massage alone, unaccompanied by any direction as to the use of drugs, medicines, or other remedies to be used by the patient, would not come within the term "prescribing remedies" used in the statute. When accompanied, however, by such direction as to the use of drugs, medicines, or other remedies by the patient, it would come within the terms of the statute and be in violation thereof. Should the jury, therefore, be satisfied, from the evidence, beyond a reasonable doubt, that the defendant did, for fee and reward, either by himself or by another under his direction, engage in the business of prescribing remedies for curing bodily diseases or ailing, the verdict should be guilty. If not so satisfied, it should be not guilty.

Proper Evidence in "Traumatic Appendicitis" Case.

The Supreme Court of Alabama says, on the appeal of Birmingham Railway, Light & Power Company vs. Moore, a personal injury case brought by the latter party, that the plaintiff contended that in a collision of cars, she received a blow on the lower part of the right side of the abdomen which superinduced "traumatic appendicitis." The evidence without conflict showed that she was a healthy woman up to the time of the collision, had never detected or felt any symptoms of appendicitis up to that time, nor had she received any injury before that time. It further showed that she had pain in the region of the appendix from the time she received the blow in her side, on the 11th of June, up to the 22d day of July, at which time she was operated on in a hospital; the operation demonstrating that she had appendicitis. The experts differed in their opinion as to whether the appendicitis, with which she was affected, was the proximate result of the blow—whether it was "traumatic appendicitis." This made a question for the determination of the jury, which rendered a verdict for the plaintiff.

It being necessary for the plaintiff to offer evidence to show that she incurred liability for medical bills, it was proper to ask her to state what was the amount she paid or was to pay the physicians she testified had rendered her medical services. If it was conceded that only reasonable bills for physicians' services were recoverable, this did not render the evidence sought objectionable; and, if no evidence was offered to show reasonableness of such services, the defendant should have moved the court to exclude the evidence, or should have asked a charge excluding such services as an element of damages.

It was proper to show that all and any means known to medical skill were resorted to, in the proper treatment of the plaintiff, to relieve her without subjecting her to the danger of an operation. The court can not say that remedies which would allay irritation would not postpone the necessity for operating for appendicitis.

Notwithstanding that the operation performed on the plaintiff was a successful one, it was competent to show the results that followed the operation, and as one of the results that the plaintiff would necessarily have to be careful with respect to her person, and the length of time such care would have to be observed.

Objection was made to the introduction in evidence of a part of a work on "Practice on Surgery," and of another on "Modern Surgery." Each of the books was shown to be a standard medical work. The parts offered in evidence pertained to the pathology of appendicitis, particularly relating to the disputed question of whether or not appendicitis could be caused by a blow or bruise—by traumatism. Under the rule established by this court in 1857 in the case of Stoudenmeier vs. Williamson, 29 Ala. 558, the objections to the introduction of the books were properly overruled.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

April 6.

1 *Eructations in Heart Patients. F. Schwyzer, New York.
2 Physical Processes of Immunity and Infection. J. Wright, New York.
3 *Spondylosis Rhizomelia. A. Gordon, Philadelphia.
4 Facilities for Treating Venereal Patients in the Dispensaries and Hospitals of New York. A. D. Mewborn, New York.
5 What Can Treatment Do for the Prophylaxis of Venereal Disease? H. G. Klotz, New York.
6 How Can Prophylaxis by Treatment in Cases of Venereal Disease Best Be Obtained? J. Pedersen, New York.
7 *Present Status of Preliminary Iridectomy as Related to Cataract Extraction. W. Reber, Philadelphia.
8 *Unpublished Observations on Endemic Neuritis. J. M. Wheate, Boise, Idaho.

1. **Eructations in Heart Patients.**—Schwyzer believes that it is chiefly patients with abdominal arteriosclerosis who are troubled with large amounts of gas. He calls the gastric syndrome in abdominal arteriosclerosis an intermittent claudication of the stomach, the only difference being that it does not show its circulatory insufficiency primarily by the feeling of pain, but by a sensation of pressure and by intense and partly futile contractions causing eructations which are followed by total relaxation.

3. **Spondylosis Rhizomelia.**—Gordon reports two cases of this kind. In the first case there was rigidity of the lower part of the spine and a kyphosis at the same level. Symptoms of involvement of the spinal cord and of the roots were very evident. A rheumatic personal or family history was absent. In the second case there were a very marked rigidity of the lower spine and an ankylosis of the large proximal joints of the lower limbs. Pain was present in both extremities and in the back. Cord involvement was evident. There was no rheumatic history. The reflexes in this case were exaggerated, while in the first case they were entirely abolished.

7.—See abstract in THE JOURNAL, Oct. 6, 1906, page 1130.

8. **Endemic Neuritis.**—According to Wheate, beriberi is an acute infectious disease, transmitted by direct infection, probably always through a skin abrasion on some vulnerable portion of the body. The specific organism causing the disease is an exceedingly small bacillus, usually seen in pairs, but not encapsulated, which is found in the cerebrospinal fluid and blood only during the acute or inflammatory stage of the disease, after which time it rapidly disappears from these tissues. The favorite habitat is virgin soil protected from sunlight. It is a slightly facultative anaërobe, and not very viable, being speedily killed by exposure to sunlight, as demonstrated by bacteriologic test and by clinical experience. The former classification of the disease as beriberi hydrops and beriberi atrophica is erroneous. There is but one form of beriberi, which is characterized by three stages: 1. The stage of invasion. 2. The stage of exudation, beginning in the cord and following by toxic motor and sensory paralysis of varying extent, which in typical cases proceeds to 3, the stage of compensation, in which the disappearance of the bacilli and the toxic stage results in the rapid (usually) disappearance of the dropsy in cases in which softening and dilatation have not progressed to the degree of permanent loss of compensatory action. The degenerative cord and nerve lesion is long present in all moderately severe cases, resembling the lesion in tabes in this particular, and even though the heart lesion appears to have subsided while the patient is leading the inactive life of a convalescent, the damage to function is permanent. This explains the numerous cases of sudden and unaccountable death in patients leaving hospitals apparently cured, as reported by many observers with extensive hospital experience.

Medical Record, New York.

April 6.

9 *Gastroscopy. C. Jackson, Pittsburg, Pa.
10 *Harmful Involution of the Appendix. R. T. Morris, New York.
11 *Cause and Cure of Cancer. A. C. Jacobson, New York.
12 *Diagnostic and Prognostic Value of Eosinophiles in Circulating Blood. L. Blumgart, New York.
13 *Four Cases of Syphilis Unassociated with Observable Secondary Manifestations. G. M. MacKee, New York.
14 *Early Separation of Jointed Twins (Xiphopagus). C. F. Kieffer, Fort D. A. Russell, Wyo.

9.—Practically the same paper was published in *Annals of Otology, Rhinology and Laryngology* for December 1906.

10. **Harmful Involution of the Appendix.**—Morris draws attention to the fact that the normal involution of the appendix, with replacement of the lymphoid, mucous and submucous coats by connective tissue, may produce unpleasant symptoms for a long period and thus become harmful to the patient. The process is distinctly irritative, not infective. Involution seems to guard the patient against infection. Normal involution of the appendix may begin early in life; but most patients who show its symptoms are over 25 years of age. Symptoms begin gradually; there is autointoxication with its train of symptoms, and there are intestinal dyspepsia, sensation of discomfort in the region of the appendix, an appendix that feels hard and narrow on palpation, and hyperesthesia of the lumbar plexus of the nerves. There is persistent distension of the cecum and colon with gas. Irritation of the nerve filaments is communicated to the intimate ganglia of the bowel walls and causes disturbance at the nearest point of the bowel. The sensation of discomfort in the appendiceal region is not due to distension with gas, but to the direct irritation of nerve filaments.

11. **Cause and Cure of Cancer.**—Jacobson advances a new theory as to the cause of cancer. He says that parasites may be concerned in the causation of cancer by means of local irritation that they produce, but only thus. The carcinomatous growth, he asserts, is a perverted growth, or perverted physiologic growth. At the degenerative period of life, when atrophy of the sexual organs occurs, physiologic energy that is produced in the body finds itself at a loss for an outlet. This energy goes to produce cancerous overgrowths. Peoples with less energy, like the inhabitants of Burmah, Persia and the East, are less apt to have cancer. Coley's results with toxins may depend on the engagement and diversion of this energy. For the etiology of benign growths the author postulates Cohnheim's theory, trauma, or parasites producing the irritation. For the etiology of malignant growths a further source is needed—perverted energy. Spontaneous disappearance of cancer would be due to readjustment of the energy of economy. Young, healthy individuals can not be inoculated because the fundamental factor, perverted energy, is wanting. This accounts for the metamorphoses of benign into malignant growths. Radical extirpation of cancer is not enough, because the perverted energy still exists, causing recurrence. When cancer occurs in the young, it is due to sexual anomalies with maladjustment of energy.

12. **Eosinophiles.**—According to Blumgart, the entire disappearance or very marked diminution of the eosinophiles, together with a distinct leucopenia, goes far to establish the diagnosis of typhoid in doubtful cases. A normal or increased percentage of eosinophiles speaks against typhoid. In cases of undoubted typhoid the presence of eosinophiles, even in small numbers, during the first week is a favorable sign and speaks for a probable mild type. Blumgart urges that no typhoid

patient should be considered cured or dismissed from observation before he has regained permanently at least a normal percentage of the eosinophiles.

13. **Syphilis.**—MacKee advises the exercise of extreme care in making a diagnosis of syphilis in cases unassociated with secondary manifestations before advising the recognized course of constitutional treatment. He says that a careful search for the *Spirocheta pallida* should be made in the primary and secondary lesions of every case, for if this is found it will confirm the diagnosis.

14. **Separation of Jointed Twins.**—Kiefler relates the history of an African, 66 years old, born on board a slave ship, as one of jointed twins. The mother died after a Cesarean section done by the ship surgeon. The surgeon also separated the twins, of whom, the other died. In the scar over the sternum, at the point of separation, began a keloid, which at the age of eight years, had to be removed, and returned, but not to become thick. Later, other keloids formed, of which one of large size is especially mentioned as appearing over the right temple and parietal region; it has been removed, but has returned, and now shows signs of malignant degeneration.

Boston Medical and Surgical Journal.

April 4.

15 *Campaign Against Uncinariasis in Porto Rico. B. K. Ashford, U. S. A., and W. W. King, U. S. P. H. and M.-H. S.
16 *Effect of Industry on Health. W. C. Hanson, Cambridge
17 Treatment of Chronic Urethral Discharge. B. Tenney, Boston.
18 *Crusade Against Tuberculosis in Germany (Continued.) E. A. Locke, Boston.
19 *Unusual Pupillary Phenomena in Hysteria. J. J. Putnam, Boston.
20 *Hysterical Trunk Deformity, Scoliosis. M. Bohm, Boston.
21 *Feigned Eruption in an Hysterical Man. Charles J. White, Boston.

15.—See abstract in The Journal, March 23, 1907, page 1057.

16. **Effect of Industry on Health.**—Hanson describes the attempt made recently by the State Board of Health of Massachusetts to establish factory inspection work on a scientific basis.

18. **Crusade Against Tuberculosis in Germany.**—This is the second installment of Locke's paper on this subject. In it he discusses the care of the sick as well as the prophylactic measures employed, such as the convalescent camps, farm colonies, sanatoria, the special institutions for the far-advanced cases, the dwelling house reform, the crusade against tuberculosis in children, and tuberculosis in the army and navy.

19. **Pupillary Phenomena in Hysteria.**—In the case reported by Putnam, there was dilatation, with complete immobility of the pupil of one eye, associated with spasm of the ciliary muscle of the other eye, the pupil of which was rather small habitually, but responded to light and with convergence.

20. **Hysterical Trunk Deformity.**—Bohm reports a case of lateral curvature of the spine which resisted all attempts at correction, but disappeared under extension or even in recumbency. There was no rotation present. Bohm is convinced that this is a case of hysterical scoliosis.

21. **Feigned Eruption.**—Following a burn of the right middle finger, White's patient developed a peculiar eruption which involved the back of the right hand and half of the extensor surface of the forearm. There first appeared small red spots which became covered with brown crusts and developed slowly in size until they became as large as a five-cent piece. Some of the lesions were two inches in diameter. The patient was well physically, but was extremely nervous. There were also some lesions on the dorsum of the right foot. Over the whole right half of the body the man was anesthetic, even the bulbar conjunctiva and nostril being insensitive to severe irritation.

St. Louis Medical Review.

March 30.

22 Examination of the Heart. W. H. Broadbent, London, Eng.
23 Some Phases of the Pathology of Cardiovascular System. G. McConnell, St. Louis.

Lancet-Clinic, Cincinnati.

April 6.

24 Semi-Centennial Anniversary of the Academy of Medicine of Cincinnati. N. P. Dandridge, B. P. Goode, C. D. Palmer and S. Nickles, Cincinnati.
25 Diphtheritic and Other Forms of Croup, with Special Reference to Intubation. W. A. Wells, Washington, D. C.
26 Etiology and Treatment of Convergent Strabismus. T. W. Floyd, Peoria, Ill.

American Journal of Medical Sciences, Philadelphia.

March.

27 *Acute Dilatation of Stomach and Its Relation to Mesenteric Obstruction of the Duodenum. L. A. Conner, New York.
28 *Operative Treatment of Fractures, Especially of the Long Bones. J. T. Vaughan, Washington, D. C.
29 *Leukemic Blood Picture in Fracture of the Ankle. C. E. Simon, Baltimore.
30 *The Luys Urine Separator. B. S. Barringer, New York.
31 *Colloidal Nitrogen in the Urine. W. McK. Marriott and C. G. L. Wolf, New York.
32 *Comparative Study of Occult Blood Tests; New Modification of Guaiac Reaction; Its Value in Legal Medicine. D. M. Cowie, Ann Arbor.
33 *Varicose Aneurism of the Aorta and Superior Vena Cava. C. Cary, Buffalo.
34 Nature of General Toxic Reaction Following Exposure to Roentgen Rays. D. L. Edsall and R. Pemberton, Philadelphia.
35 *Hypertrophy of Islands of Langerhans in Diabetes Mellitus. W. G. MacCallum, Baltimore.
36 *Universal Itching Without Skin Lesion; Hematogenous Urobilinuria; Malarial Poisoning; Peculiar Erythrocytolysis. J. K. Mitchell and A. R. Allen, Philadelphia.
37 *Fibroid Tumors of Vulva. E. A. Schumann, Philadelphia.
38 *Treatment of Diffuse Suppurative Peritonitis. J. A. Blake, New York.

27. **Acute Dilatation of Stomach.**—Conner bases his study on 82 recorded cases of acute dilatation of the stomach, 2 personal cases and 18 cases of mesenteric obstruction of the duodenum. He considers acute dilatation of the stomach a disease of considerable clinical importance, one which develops under a variety of conditions, but is especially frequeent after operation done under general anesthesia. In the majority of cases reported, there was found an associated dilatation of the duodenum; in fact, in a large proportion of cases, about one-half, the dilatation is associated with and seems to result from some form of obstruction of the duodenum. The most common cause of such obstruction is found to be constriction of the lower end of the duodenum, between the root of the mesentery and the vertebral column. The constriction occurs when the mesenteric root with the superior mesenteric artery, which runs in it, is stretched tightly across the duodenum as the result of traction exerted by the small intestine hanging over the brim of the pelvis. Although great dilatation of the stomach would doubtless increase the liability to mesenteric obstruction by crowding the intestines into the pelvis, Conner is of the opinion that in some cases at least, the duodenal obstruction is primary. The mortality among the reported cases was 72 per cent., but Conner says that there is much evidence to show that the disease can usually be controlled and cured, if the diagnosis is made and suitable treatment begun before complete collapse of the patient has occurred.

28. **Operative Treatment of Fractures.**—Vaughan is of the opinion that perfect adjustment in fractures of the long bones is seldom accomplished without operation, except in greenstick fractures and in some transverse fractures, in which the fragments may be displaced only partially and have not overridden as in some cases of Colle's fracture. He favors wire for holding the fragments together, because it is less bulky, because it can be applied with less injury to the soft parts, and because its action in holding the bones together continues longer than any of the other methods in use, except the bone ferrule. He has operated in 102 cases of fracture with only two fatalities, both occurring after operation on the neck of the femur. The methods employed and the results obtained are presented in full.

29. **Leukemic Blood in Fracture of Ankle.**—In a case of compound fracture of the right ankle, Simon observed a distinct increase in the polynuclear neurophiles, and a blood picture, which was typical of myeloid leukemia. At the time of the examination the patient was suffering from a cellulitis. The leg was amputated in the lower third, and one week afterward, with the recovery of the patient, there was a return to normal conditions.

30. **Luys' Urine Separator.**—Barringer has employed this instrument with much satisfaction in fourteen cases, two male and twelve female. The histories of nine of these cases are published. He says that any inaccuracy of results obtained by the use of the separator is to be attributed to its employ-

ment in unsuitable cases, or to a failure to recognize traumatic hemorrhage when it occurs. He has found the separator invaluable in cases in which one or both ureteral openings are obscured by cystitis; in cases in which the rapid excretion of pus or blood into the bladder clouds the bladder fluid, and in cases in which in a normal bladder one or both ureteral mouths can not be found.

31. **Colloidal Nitrogen in Urine.**—The nitrogen which is precipitated by absolute alcohol has been termed by Salkowski colloidal nitrogen. Marriott and Wolf repeated Salkowski's work with 11 specimens of urine, but do not recommend the method for clinical use. In the mixture precipitated from urine by alcohol, the nitrogenous carbohydrate described by Salkowski was not found. The authors state that the colloidal nitrogen of Salkowski does not bear any relation to the undetermined nitrogen.

32. **Occult Blood Tests.**—Cowie describes his modification of Boas' second modification of Weber's test for occult blood. As small an amount as one milligram of blood is said to produce a distinct reaction with this test. To one gram of stool, softened with water, if necessary, four or five c.c. of glacial acetic acid is added and mixed in a glass mortar. To this mixture, 30 c.c. of ether are added and allowed to extract for several minutes. To one or two c.c. of the extract an equal amount of distilled water is added, and the whole shaken thoroughly. To the resulting mixture, a few granules of powdered, guaiac resin are added, and after this has dissolved there are added 30 drops of old, water-white, chemically pure turpentine. By holding the container against the light, or in front of a white surface, the presence of blood is manifested by a distinct light blue color, which develops quickly in the upper half of the mixture, remains for a short time, and gradually disappears. Larger amounts of blood cause a more intense blue.

Cowie conducted several series of experiments for the purpose of determining whether or not the reactions for occult blood occur in the stools of individuals eating a meat diet. He found that individuals eating an ordinary meat diet seldom give a reaction in the stool with the occult blood tests. If a reaction occurs, it is in all probability due to some pathologic process in the gastrointestinal tract. The reader is referred to the original article for the detailed report of Cowie's experiments.

33. **Varicose Aneurism of Aorta and Superior Vena Cava.**—A case of this kind is reported by Cary. The patient died from rupture of the aorta into the vena cava.

35. **Islands of Langerhans in Diabetes Mellitus.**—MacCallum reports a case of diabetes mellitus that came to the postmortem room. On examination of the pancreas he found alterations in the islands of Langerhans, but felt that these alterations could hardly be interpreted as degenerative changes nor as changes which might bring about functional insufficiency. On the other hand, there were changes which seemed to indicate an actual increase in the bulk and functional capabilities of these islands. The islands were very conspicuous and seemed larger and much more deeply stained than normal. They were far less sharply outlined than normal and appeared to be almost everywhere directly continuous with the cells of the adjacent acini. In another case, to which reference is made, the pancreas presented an appearance almost precisely similar to that seen by MacCallum.

36. **Universal Itching Without Skin Lesion.**—In the case reported by Mitchell and Allen the persistent, universal itching was caused by the presence of urobilin in the circulation, which in its turn was the result of a peculiar hemolysis caused by chronic malarial poisoning. The patient also suffered from Raynaud's disease, probably of the same malarial origin, slight renal irritation and general nervousness. All attempts to relieve the itching were ineffectual until treatment was directed to the improvement of the blood-making function, together with the employment of sweat baths and stimulating douches, and the moderate, long-continued administration of iodids, mercury and arsenic.

37. **Fibroid of Vulva.**—Schumann reports a case of myxomatous fibroma of the left labium majus, occurring in a woman, 45 years of age, and which had existed for eight years. The tumor was extirpated without difficulty, under ether anesthesia. The hemorrhage was slight and easily controlled.

38. **Treatment of Diffuse Suppurative Peritonitis.**—As is known, Blake is an advocate of thorough peritoneal lavage in the treatment of diffuse suppurative peritonitis. He says if one has left nothing in the peritoneum that can be absorbed there is no need of drainage. If something is left which probably will not be absorbed, drainage is indicated, but one should drain only to the doubtful substance. The drain is then a sort of safety valve.

In comparing fatal cases, Blake finds that the employment of drainage apparently has had little influence on the results. Of 78 cases of diffuse peritonitis caused by appendicitis, death occurred in 15; 7 of these were not drained and 8 were drained. Of the patients who recovered, 31 were not drained and 32 were drained. Of 13 patients, with peritonitis caused by perforations or ruptures of the stomach and upper intestines, 4 died; 2 of these were drained and 2 were not drained. Of the 9 patients recovering, 5 were drained and 4 were not drained. Of 8 patients, with perforation of typhoid ulcers, 4 died, of whom 3 were drained, and one was drained through an abscess in the pelvis. Of the 4 patients who recovered, 2 were not drained, and 2 were drained through the pelvis, there being abscesses present. The abdominal wounds were drained in practically all the cases; the statement "not drained" refers to drainage of the peritoneal cavity. Blake believes that his patients have made smoother recoveries by the omission of drainage, but that careful judgment must be exercised in every case, because some cases need drainage and some do not; some patients seem to do better with irrigation, while some get well without irrigation or drainage, and some patients die, whether drained or not, washed or unwashed.

The Post-Graduate.

39 *Jaundice. A. Pisani, New York.
40 Importance of Systematic Education of Hospital and Dispensary Patients Afflicted with Venereal Disease. F. Cabot, New York.
41 *Exophthalmic Goiter. P. Horowitz, New York.
42 1906 Report on Pulmonary Tuberculosis of New York Post-Graduate Medical School and Hospital. W. J. Mersereau, New York.
43 *Nasal and Intranasal Primary Syphilis. A. Fanoni, New York.
44 Two Cases of Gastric Ulcer. A. F. Chace, New York.
45 Presentation of Popliteal Artery Removed from Case of Diabetic Gangrene of the Foot. S. Lloyd, New York.
46 Diagnosis and Treatment of Gastric Ulcer. R. H. Halsey, New York.
47 Surgical Treatment of Gastric Ulcer. F. Torek, New York.

39. **Jaundice.**—Three of the five cases reported by Pisani were examples of intralobular compression jaundice; one was a case of interlobular compression jaundice, while the remaining case was a good illustration of extrahepatic jaundice. In all three classes there was an obstruction, with escape of bile by the natural channels. From a study of these cases Pisani draws the following conclusions: 1. All forms of jaundice are either intralobular, interlobular or extrahepatic. 2. All forms of jaundice are due to obstruction of the biliary passages. 3. The severity of jaundice in the intralobular and interlobular forms varies, depending on the amount of biliary radicles occluded. 4. The differential diagnosis between the intralobular and interlobular forms of jaundice is generally reached after considering the history of the case and the result obtained in its treatment. 5. In the extrahepatic form of jaundice in which the obstruction is due to biliary calculi, it is always advisable to submit the patient to a thorough medical treatment, as explained above, before allowing him to submit to operative interference. 6. If the obstruction does not yield promptly to medical treatment, surgical interference should be instituted at once.

41. **Exophthalmic Goiter.**—Horowitz reviews the clinical history of this condition and reports eight cases, seven in women and one in a man. In several of the cases the high-frequency current was employed with some success.

43. **Nasal and Intranasal Primary Syphilis.**—Fanoni reports in detail the histories of four cases of primary, nasal syphilis. In one case there was a chancrous erosion of the tip of the nose; in another there was a typical chancrous ulcer of the right side of the septum of the nose; a third patient presented

a thickened, dull red, semilunar patch on the left ala nasi, and the fourth patient had a thickened incrustation of the inner aspect of the right ala nasi and of all the septum.

Virginia Medical Semi-Monthly, Richmond.

March 22.

48 Benign Stricture of Rectum. M. E. Nuckols, Richmond.
49 *Treatment of Burns and Scalds. M. Moran, Pinners Point.
50 Case of Uncinariasis. G. Baughman, Richmond.
51 *Treatment of Inoperable Carcinoma. S. H. Graves, Norfolk.
52 *Retropharyngeal Abscess. R. Glasgow, Lexington.
53 Principles of Surgery. S. McGuire, Richmond.

49. **Treatment of Burns and Scalds.**—An abstract of this article appears in the Therapeutic Department of this issue.

51. **Treatment of Inoperable Carcinoma.**—In the treatment of inoperable carcinomas, Graves employs either caustics, Roentgen, violet or radium rays, or serum therapy. He says that the selection of cases for any particular treatment is of great importance, and calls for considerable judgment and discrimination on the part of the operator. He describes his methods in full, and adds that he would not recommend the use of any of these agents in any case in which the patient is in good condition and will submit to an operation.

52. **Retropharyngeal Abscess.**—A case of this kind is reported by Glasgow, who emphasizes the importance of careful diagnosis, digital exploration, and the necessity of prompt surgical intervention, as soon as fluctuation can be detected.

Journal of the Michigan State Medical Society, Detroit.

March.

54 *Chronic Middle-Ear Suppuration and Surgical Interference. E. Amberg, Detroit.
55 Comparison of the Old Time and the Modern Physician. C. L. Girard, Escanaba.
56 Relation Between Anemia and Early Stages of Tuberculosis. B. R. Shurly, Detroit.
57 Hernia. H. A. Haynes, Ionia.
58 Pregnancy: Diagnosis, Hygiene, Delivery and After-Treatment. F. A. Weaver, Charlotte.

54. **Otitis Media.**—According to Amberg, only exceptionally a chronic middle ear suppuration which does not respond to mild treatment without more thorough surgical interference should be allowed to continue. He says that the less radical procedures should first be considered and that the more radical measures should not be delayed too long.

Surgery, Gynecology and Obstetrics, Chicago.

March.

59 *Surgical Treatment of Tuberculosis of the Kidney. H. A. Kelly, Baltimore.
60 *Vaginal Section as an Operation of Choice. H. T. Byford, Chicago.
61 *Tuberculosis of the Kidney. C. P. Noble, Philadelphia.
62 *Hysterectomy and Removal of Body of Uterus. J. W. Bovée, Washington.
63 *Comminuted Fracture of Both Ends of Radius. J. C. Logan, Pittsburg.
64 *Foreign Bodies in the Vagina. N. W. Sharpe, St. Louis.
65 *Occlusion of Femoral Vein. J. G. Sheldon, Kansas City, Mo.
66 Celiac and Mesenteric Plexuses and Their Rôle in Abdominal Shock. L. Buerger, New York City, and J. W. Churchman, Baltimore.
67 *Surgery of Typhoid Perforation. J. W. Long, Greensboro, N. C.
68 *Primary Operations for Obstetric Debility. E. Reynolds, Boston.
69 *Reticulum in Small Round-celled Sarcoma and Lympho-Sarcomata. M. G. Seelig, St. Louis.
70 *Akanthosis Nigricans. W. Meyer, New York City.
71 *Vaginal Cesarean Section. J. F. Moran, Washington, D. C.
72 *Aid to Intestinal Suturing. A. F. Jonas, Omaha.
73 *Technic of Cleft Palate Operation and Removal of Silk Sutures. A. M. Vance, Louisville.
74 Symptoms of Versions and Flexions of Uterus. A. Theilhauber, Munich, Germany.

59, 60, 61.—See abstracts in The Journal, Jan 26, 1907, page 351.

62.—See abstract in The Journal, Jan. 5, 1905, page 72

63. **Comminuted Fracture of Both Ends of Radius.**—In the case reported by Logan, the chief interest centers in the fracture of the head of the radius, although the complication of a Colle's fracture of the same bone makes it of greater rarity. The fracture was the result of a fall down a short flight of steps.

64. **Foreign Body in Vagina.**—Sharpe reports the case of a woman, 75 years old, who wore a pessary for 35 years. During the last 25 years the appliance had not been removed. The pessary was almost completely enveloped. The vagina had become distorted into an hour-glass or funnel shape. The pessary was very much eroded and opposite the urethra there were slight incrustations.

65. **Occlusion of Femoral Vein.**—Sheldon reports a case of sarcoma in the left inguinal region, which extended from a point three inches below Poupart's ligament into the pelvis. It seemed to be intimately associated with the femoral vein. There was considerable edema of the leg from occlusion of the femoral vein by pressure. Sheldon succeeded, however, in dissecting the tumor from the leg without wounding it. No hemorrhage occurred, and six months after the operation there is no evidence of recurrence of the tumor, although the entire leg is considerably larger than its fellow. The man has not been prevented from pursuing his occupation as a farmer.

67. **Surgery of Typhoid Perforation.**—Long presents a brief résumé of the history of this subject and reports two cases. In one case the perforation occurred on the thirtieth day of the disease, and was followed by an extensive peritonitis. An operation was done successfully, but the patient succumbed nine days afterward, from acute dilatation of the stomach. In the second case the perforation occurred through the walls of a Meckel's diverticulum, which sprang from the proximal side of the transverse colon. An operation was done and the patient made a rapid and uninterrupted recovery.

68. **Primary Operations for Obstetric Debility.**—Reynolds discusses the delivery of debilitated women by operative methods, intrapelvic or abdominal, before labor, in the absence of mechanical impediments and as a method of choice.

69. **Small Round-Cell Sarcoma and Lymphosarcoma.**—Seelig has made a careful study of the reticulum of these two varieties of sarcoma, with a view to establishing a basis for differentiation. He found that the quantity of reticulum present varies within such broad limits and with such irregularity that it is impossible to associate definitely either type of tumor with the amount of reticulum it contains. He says that inasmuch as a study of the reticulum in lymphosarcoma and in small round-cell sarcoma of lymph nodes reveals no histologic differences, it is warranted and expedient to group these two types of lymph node tumors under the one head of malignant lymphomata.

70. **Akanthosis Nigricans.**—This paper is supplemental to one on cancer of the colon read by Meyer before the May (1906) meeting of the American Surgical Association, and abstracted in The Journal, June 30, 1906, page 2016.

71.—See abstract in The Journal, Jan. 26, 1905, page 351.

72. **Aid to Intestinal Suturing.**—The double suspension loop method employed by Jonas is carried out as follows: After the ends of the intestine to be sutured have been smoothly trimmed with scissors, the circumference is divided into three divisions, one of the points of division being at the mesenteric attachment. The intestinal ends are first brought together by a suture at the mesenteric attachments, carefully including the mesentery in the suture; then, at one of three divisions in the intestine, a round, straight, or curved needle, armed with a suture, is passed in and out, including the serous and muscular coats in the bite of the needle, leaving a free margin of one-fourth of an inch for inversion. The needle with the same thread is then passed over to the other intestinal end and is made to pierce serosa and muscularis in the same manner as before. The needle is then removed; that part of the thread which extends between the free intestinal ends is then grasped and pulled, thus forming a loop. By grasping the loop thus formed and catching the free ends of the thread, a double loop is formed. A second thread is passed in the same manner as the first one, forming a second double loop. The threads are now grasped with hemostats, and when pulled taut, the intestinal ends are drawn together closely with a sero-serous inversion. The suturing can now be done quickly and accurately by whichever suture method may be deemed advisable.

73. **Points in Surgical Technic.**—In order to avoid stitch-hole infection in cleft palate operations, Vance uses silkworm gut and a pair of ordinary aspirator needles of small size. Through one, he threads a silkworm gut double, and through the other a single strand is placed. The needle threaded with the double suture is passed first, the loop being pushed through after the needle, and opposite this is placed the needle

with the single thread. The single suture is engaged in the loop and on withdrawing both needles, the loop pulls the single suture through, leaving it in the proper position to be tied. This procedure is repeated until sufficient sutures are in place. A second point mentioned by Vance is the use of a simple little instrument for removing a silk ligature from a pedicle wherever it may be situated.

Buffalo Medical Journal.
March.

75 *Surgical Aspect of Gastric Ulcer. E. A. Smith, Buffalo.
76 The New Pharmacy and the Old. W. B. Birchmore, Brooklyn, N. Y.
77 Nature, the Good Physician. J. D. Macpherson, Akron, Ohio.
78 *Obstruction in the Region of the Pylorus. T. Jameson, Rochester, N. Y.
79 Visions of Mary Czajka. F. E. Fronczak, Buffalo.

75. **Gastric Ulcer.**—Smith says that although operative treatment is indicated for frequent and debilitating hemorrhages, and also for repetition of severe hemorrhage, patients suffering from a single severe hemorrhage are best treated medically. Exploratory operations are recommended in obscure cases presenting gastric dyspeptic symptoms and in which gastric ulcer is suspected. Smith says that certain cases of gastric ulcer are favorable ones in which to do resection of the pylorus with anastamosis between the duodenum and stomach.

78. **Obstruction in Region of Pylorus.**—Jameson reports two cases; in one the obstruction was caused by a large gallstone which was lodged at the junction of the cystic and common ducts, and in the other the fundus of the gall bladder adhered to the greater curvature of the stomach in such a way as to cause a bending and narrowing of the pylorus, when the stomach was distended. In a third case there was stricture of the pylorus and in a fourth case a tumor mass was palpable in the region of the pylorus. This patient refused operation and died from starvation after two weeks.

St. Paul Medical Journal.
March.

80 *Mitral Stenosis Cases. G. G. Sears, Boston.
81 Suppurative Otitis Media. F. E. Burch, St. Paul.
82 Conservative Treatment of Suppurative Otitis Media. A. C. Heath, St. Paul.
83 Surgical Treatment of Suppurative Otitis Media. C. Williams, St. Paul.
84 *Gastric and Pyloric Adhesions. A. W. Abbott, Minneapolis.

80. **Mitral Stenosis.**—Sears' paper is based on a study of 50 cases which came to autopsy. The cardiac lesion was confined in 25 cases to the mitral valve; in seven others the mitral lesion was the chief finding, but was combined in two with chronic fibrous pericarditis and in five with inflammation of the aortic valves. Aortic stenosis complicated nine other cases, aortic insufficiency three, and tricuspid stenosis six. In four of the latter aortic regurgitation was also present and in one case aortic stenosis.

84. **Gastric and Pyloric Adhesions.**—Abbott reports six cases which illustrate the clinical importance of adhesions in the gastric region as a cause of symptoms, the etiology of which is often overlooked. Abbott says that many cases of so-called nervous and hysterical dyspepsia are due to adhesions about the stomach and pylorus, and that in all cases in which an operation is done for ulcer, pyloric obstruction or gall-bladder disease, the operation should be considered incomplete unless a thorough exploration for adhesions has been made and those adhesions corrected, so far as possible.

Interstate Medical Journal, St. Louis.
March.

85 *Hydronephrosis. A. T. Cabot, Boston.
86 Psychotherapy. M. A. Bliss, St. Louis.
87 *Resurrection Days. M. Frank, Chicago.
88 The Roentgen Ray as a Diagnostic Aid. E. H. Skinner, Kansas City, Mo.
89 Surgery Among the Chinese. T. H. Kee, Manila, P. I.

85. **Hydronephrosis.**—Cabot reports four cases of traumatic hydronephrosis and two of true hydronephrosis.

87. **Resurrection Days.**—Frank writes about the days in England and Scotland when the study of anatomy was surrounded by great difficulties because of the scarcity of anatomic material, the bodies being "snatched" usually by professional "body snatchers," most of whom came to grief through the efforts of the law.

Journal of the Arkansas Medical Society, Little Rock.
March 15.

90 Pathology of Carcinoma of the Uterus. N. Klein, Texarkana.
91 Advantages of the Pneumatic Sigmoidoscope Over the Ordinary Proctoscope. W. V. Laws, Hot Springs.
92 Tubal Pregnancies. P. Hunt, Texarkana.
93 *The Physician and Nostrum. E. Bok, Philadelphia.
94 Importance of a Clear Understanding of the Vasomotors and the Utilization of Their Function to Get Best Therapeutic Results. W. C. Abbott, Chicago.
95 Premature Burial. J. J. Johnson, Biggers, Ark.

93.—This article also appeared in THE JOURNAL, Feb. 23, 1907, page 688.

Indiana Medical Journal, Indianapolis.
March.

96 Use of Forceps. L. P. Drayer, Fort Wayne, Ind.
97 Case of Cesarean Section. J. Kolmer, Indianapolis.
98 Poisoning by Illuminating Gas. C. Sudranski, Greencastle, Ind.
99 Surgical Physiology of the Circulation. G. Crile, Cleveland.
100 *Management of Eczema. J. C. Johnston, New York.
101 Cheerful Literature for Convalescents. Mrs. C. Smith, Cincinnati.

100.—This article appeared in the *New York Medical Journal*, Oct. 20, 1906, and was abstracted in THE JOURNAL, Nov. 3, 1906, page 1512.

Medical Sentinel, Portland.
March.

102 Modern View of Neurasthenia and Its Treatment. R. L. Gillespie, Portland.
103 Diagnosis and Treatment of Ulcer of the Stomach. C. E. Sears, Wallace, Idaho.
104 Technic of Abdominal Operations. A. R. Cunningham, Spokane, Wash.
105 Expert Testimony on Insanity. W. Everly, Seattle.
106 Diffuse Septic Peritonitis. T. J. Costello, Lewiston, Idaho.

Western Medical Review, Omaha.
March.

107 Pulmonary Stenosis. H. L. Ewing, Lincoln.
108 Surgery of the Gall Bladder. R. H. Rhoden, Fremont.
109 Duodenal Ulcer, with Report of a Case of Perforation. M. J. Ford, Omaha.
110 Facts of Importance in Behavior of Certain Infections. D. W. Beattie, Neligh.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.
March 23.

1 *Clinical Experience with Spinal Analgesia. A. E. Barker.
2 *Infiltration Anesthesia in Major and Minor Surgery. G. J. Arnold.
3 *Cholelithiasis. E. S. Bishop.
4 *Removal of Enlarged Tonsils. R. Maclaren.
5 *Case of Gastroenterostomy Combined with Gastrostomy, for Ulceration of the Stomach. B. G. A. Moynihan.
6 *Insanity, Its Causes and Increase. G. H. Savage.

1. **Spinal Analgesia.**—After a very careful study of spinal analgesia in 100 cases, Barker gained the impression that there is undoubtedly a place for spinal analgesia in surgery, but only when those who would employ it have studied its theory and practice fully so far as they are known. He says that it is not for casual use by the inexperienced.

2. **Infiltration Anesthesia.**—Arnold believes firmly in the value of infiltration anesthesia for both major and minor operations. His own list of operations include the following: Gastrostomy; herniotomy; suprapubic cystotomy; closure of an artificial anus; laparotomy for intestinal obstruction; radical cure of varicocele; removal of a mass of suppurating tuberculous glands in the groin; extirpation of the saphenous vein and its tributaries for varix. Arnold says that by a combination of regional anesthesia of the great nerve trunks, and local infiltration at the seat of operation, major amputations can be performed without general narcosis.

3. **Cholelithiasis.**—Bishop discusses the history of cholelithiasis. He lays great stress on eliciting pain on pressure over the affected bile channel, as a diagnostic symptom.

4. **Tonsillectomy.**—Maclaren prefers to operate with the patient under the influence of a general anesthetic and in the lateral posture. The tonsil is dissected out carefully, traction being made on the gland with a vulsellum forceps, either with a sharp-pointed scalpel or with blunt dissectors, depending on the firmness of the gland and the degree of its attachment to

the underlying structure. There is said to be only a moderate amount of bleeding, which is controlled easily by finger pressure. The gland when thus removed has never returned. Healing is generally complete in about ten days.

5. **Gastroenterostomy and Gastrostomy.**—The patient, on whom these operations were performed by Moynihan suffered from extensive ulceration of the stomach and consequent stenosis of the pylorus, the result of the accidental swallowing of hydrochloric acid. A posterior gastroenterostomy was performed in the usual manner, the opening in the stomach being made nearer to the cardiac orifice than usual. The gastrostomy opening was made on the anterior surface midway between the curvatures and well toward the cardiac end. A rubber drainage tube was passed through this opening into the stomach and out again through the gastroenterostomy opening into the distal limb of the jejunum. The patient was fed through this tube for 17 days, when food was again given by the mouth. The tube was removed in the fourth week and the patient has made a complete recovery.

6. **Insanity.**—Savage sums up his paper as follows: Heredity has a small share in the causation of general paralysis; it is more frequently seen in relationship with melancholic than maniacal states. This has some connection with the longer life of persons nowadays. They not infrequently show the weight of years in mental depression. Melancholic states are much more likely to recur in families than maniacal disorders; all forms of insanity, especially sensory hallucinations and their resulting delusions with fixed obsessions, are chiefly dependent on hereditary taint; moral imbecility and asocial and criminal tendencies often arise in very neurotic families. Idiocy, mental weakness and eccentricity are common in the children of physically decadent parents. There is no such thing as transmission of any form of insanity direct, but there is a distinct danger of the passing on of a nervous instability which leads to mental disorder resulting from slight or even normal physiologic strain. Insane parents may have sane children. Consanguinity alone does not produce mental disorder. Eccentric and nervous (not insane) parents may give rise to whole families of idiots or defectives.

The Lancet, London.

March 23.

7 *Permanent Defenses of the Body. B. L. Abrahams.
8 *Acute Infective or Toxic Conditions of the Nervous System. E. F. Buzzard.
9 *The Renal Function in Its Relation to Surgery. J. W. T. Walker.
10 *Carcinoma Mammæ in the Mouse. E. F. Bashford and J. A. Murray.
11 Opsonins and Immunity. J. L. Bunch.
12 Rôle of Blood Plasma in Disease. H. Campbell.
13 *Tests for Acetone in the Urine. B. J. F. Jacksontaylor.
14 *Case of Rupture of Very Early Extrauterine Pregnancy, Laparotomy, Recovery. C. A. S. Ridout.
15 *Case of Strangulated Hernia Associated with Acute Hemorrhagic Pancreatitis. W. H. Brown.

7. **Permanent Defenses of the Body.**—Under this heading Abrahams discusses the physiologic reserve or the power which each organ, each tissue, each cell has of calling up its own latent energy in its defense, and the biochemical inter-relation of organs, by which one of them can, by chemical means, evoke in another changes which act in its defense, and the nervous mechanism, by which the main organs can call to their aid, not only each other, but the nervous system as well.

8. **Acute Infective or Toxic Conditions of the Nervous System.**—In this the second of the Goulstonian lectures, Buzzard takes up the consideration of acute poliomyelitis. He believes that the following conclusions concerning this disease are justifiable:

1. It is an acute specific fever occurring sporadically and epidemically, differing from many others but resembling some—variola, for instance—in the facts that its lesions may be discrete or confluent and that its results may be permanent. 2. Its essential lesion is an inflammation of the interstitial tissue of the central nervous system due to the presence of micro-organisms or their toxins probably in the blood (but possibly in the lymph) circulating within that system. 3. The fact that the gray matter suffers more than the white matter is explained by the greater vascularity of the former, and the resistant character of the component parts of the latter. 4. The same morbid process underlies some cases of encephalitis, both of the brain stem and the cerebrum, among which may probably be included many examples of infantile hemiplegia. 5. The bacteriology is at present practically an unknown quantity. Bacteriologic investigation of the blood, as well as of the cerebrospinal fluid, is indicated, and more complete examination of other organs, especially of the intestines.

9. **The Renal Function in Relation to Surgery.**—In his second Hunterian lecture, Walker discusses the methods at the disposal of the surgeon in estimating the function of one kidney.

10. **Carcinoma in Mouse.**—Bashford and Murray describe certain anatomic and pathologic features of sporadic tumors of the mouse.

13. **Test for Acetone in Urine.**—Jacksontaylor believes that the sodium-nitro-prussid test may be rendered more simple, delicate and accurate by substituting strong ammonia for the liquor potassæ and by eliminating the use of acetic acid. The ammonia solution remains on top, and if acetone is present, even in minute quantity, a well-marked and absolutely characteristic ring of magenta or petunia appears at the junction of the two fluids, within from one to three minutes, and gradually spreads upward, pervading the whole of the ammonia solution if acetone is present in considerable amount.

14. **Rupture of Extrauterine Gestation.**—In Ridout's case the rupture occurred at about the fourth week of pregnancy. The embryo occupied a position in the region of the isthmus of the left tube. The signs and symptoms presented by the patient pointed to internal hemorrhage of an extensive character.

15. **Strangulated Hernia and Acute Pancreatitis.**—Brown's patient, aged 60, had enjoyed good health up to the time that symptoms of strangulation of a right inguinal hernia manifested themselves. The herniotomy was done, but did not afford the patient much relief from his symptoms. He died the next day, and at the necropsy the disease of the pancreas was discovered. The symptom from which the patient suffered most was vomiting.

The Clinical Journal, London.

February 27.

16 Fecal Leaks and Fistulæ. C. B. Lockwood.
17 *Asthma in Infants and Children. E. Cautley.
18 *Dysmenorrhea. T. G. Stevens.

March 6.

19 *Psoriasis. H. R. Crocker.
20 *Prevention of Pain After Surgical Operations. J. J. Clarke.

March 13.

21 Treatment of Rickets. G. A. Sutherland.
22 *Surgical Treatment of Ascites. L. A. Bidwell.
23 Real and Apparent Differences in Incidence of Cancer. E. F. Bashford.

March 20.

24 *Present Position of the Radical Operation for Inguinal Hernia. W. M. Eccles.
25 Real and Apparent Differences in Incidence of Cancer. E. F. Bashford.

17.—An abstract of this article will appear in the Therapeutic Department of The Journal, April 27.

18. **Dysmenorrhea.**—Stevens declares that alcohol should be forbidden and morphin never prescribed for dysmenorrhea. He reviews the treatment usually employed for this condition.

19. **Psoriasis.**—Crocker says that the specifics which experience has shown to be most useful in psoriasis are arsenic, thyroid extract, salicin, and in a few cases, mercurial injections. Locally, tar and chrysarobin may be used. If there is great inflammation, Crocker treats the case as if it were one of eczema.

20. **Prevention of Pain After Operations.**—Clarke says that the three causes of pain after operations are tension, movement and inflammation, and that by adopting procedures which will obviate the occurrence of these conditions, no pain will be felt by the patient after operation.

22. **Surgical Treatment of Ascites.**—Bidwell discusses simple tapping and laparotomy. He advises making the preliminary incision through the skin before introducing the trochar so as not to drive into the abdominal cavity any portion of the epidermis, to avoid passing the trochar through the skin

which is so difficult to sterilize and to insure rapid union of the wound. The edges of the wound are approximated with a horse hair or silkworm gut suture, and then a dressing is applied and fixed with collodion. In this way prompt healing of the wound is secured.

24. **Radical Operation for Inguinal Hernia.**—Eccles says that the radical operation for inguinal hernia is now well established, has a very low death rate, is very highly successful, and renders a large number of members of the community fit to take their place without the inconvenience and danger of a hernial protrusion.

Medical Press and Circular, London.

February 27.

26 Treatment of Concomitant Convergent Strabismus. J. B. Story.
27 Gynecology of To-day and Fifty Years Ago. W. D. Spanton.
28 *Membranous Dysmenorrhea. S. J. Aarons.
29 Large Fibromyoma of Uterus. J. H. Dauber.

March 6.

30 *Empyema of the Maxillary Antrum. P. Dempsey.
31 Psycho-rhythm and Recurrent Psychoses. (To be continued.) T. B. Hyslop.
32 The Poor-law Medical Service in Ireland. T. Donnelly.
33 Case of Fatal Extravasation of Urine from Ureter, Caused by Ulceration Due to Minute Calculus. R. Johnson.

March 13.

34 *Pneumococcal Infections Requiring Surgical Treatment. E. W. S. Carmichael.
35 *Therapeutic Notes. W. Carter.
36 Points in Treatment of Enlarged Prostate. L. G. Gunn.
37 Psycho-rhythm and Recurrent Psychoses. T. B. Hyslop.
38 Case of Renal Calculus Simulating Appendicitis. S. J. Ross.

March 20.

39 *Diabetes. T. K. Monro.
40 *Syphilis Simulating Typhoid. J. D. Rolleston.
41 Prognosis and Treatment of Lobar Pneumonia. J. O. Affleck.

28. **Membranous Dysmenorrhea.**—Aarons reports four cases of membranous dysmenorrhea with the passage of a cast from the uterus.

30. **Empyema of Maxillary Antrum.**—Dempsey's method of treatment is based on that advocated by Bonninghaus. It is described in full.

34. **Pneumococcal Infections Requiring Surgical Treatment.**—Carmichael discusses the pneumococcal infections of the serous and synovial membranes and of tendons.

35. **Therapeutic Notes.**—Carter discusses briefly the use of trypsin in the treatment of cancer; the use of oil of turpentine in a case of rapidly recurring hemorrhagic effusion into the left pleural cavity; the use of Warburg's tincture (tinctura antiperiodica, N. F.) in the treatment of cases of malarial fever that resist quinin, and the use of strychnin and arsenic in the treatment of chorea.

39. **Diabetes.**—Monro discusses the clinical history of diabetes and sounds a note of warning in reference to the use of the so-called diabetic bread which, he says, is not always reliable because too often it is loaded with starch. He advises applying the iodin test to make sure that the bread is sufficiently free from starch.

40. **Syphilis Simulating Typhoid.**—Rolleston reports two cases of syphilis that simulated typhoid fever. Typhoid was excluded by a persistently negative Widal reaction.

Annals of Tropical Medicine and Parasitology.

February 1.

42 Insects and Other Arthropoda Collected in the Congo Free State. R. Newstead, J. E. Dutton and J. L. Todd.
43 Description of Two Species of African Ticks. G. Neumann.
44 Parasites in the Museum of the School of Tropical Medicine, Liverpool. A. Looss.
45 Presence of Spirochæta duttoni in the Ova of Ornithodoros moubata. R. M. Carter.
46 Therapeutics of Trypanosomiasis. B. Moore, M. Nierenstein and J. L. Todd.

Annales de l'Institut Pasteur, Paris.

Last indexed, page 1219.

49 (XXI, No. 2, pp. 81-160.) *Campaign Against Malaria in Algeria. (Algérie—1906.) E. Sergent.
50 *Experimental Hypersensitiveness and Anti-hypersensitiveness to Horse Serum. (Anaphylaxie et anti-anaphylaxie.) A. Besredka and E. Steinhardt. Id. (Phénomène d'Arthus.) Nicolle.
51 *Syphilitic Antibodies in Cerebrospinal Fluid in General Paralysis (Anticorps syph.) A. Marie and C. Levaditi.
52 Inefficacy of Radium in Treatment of Rabies. (Rage et radium.) A. Calabrese.

49. **Campaign Against Malaria in Algeria.**—Sergent divided the country into zones and has applied prophylactic measures in one zone after another as they were reached in turn in the course of five years. Comparison of the results in a protected zone and in the unprotected adjacent zone has provided a most striking example of the benefits of the prophylactic measures. The weeds were mown once a month, the suspicious pools of water were petrolized, and oil was sprayed with a garden pump into the recesses of the barns and outhouses, followed by spraying with twice the amount of water, to kill the adult mosquitoes. The houses were all screened, and adults took 20 c.c. of quinin one day with 40 c.c. the next. Illustrated circulars were distributed, containing advice for protection against malaria, and placards with the same were posted in all the cars, depots, postoffices and other gathering places. Large colored posters were placed in the schools, city halls and depots. The picture postal card was also pressed into service to extend the knowledge in regard to transmission of malaria by mosquitoes and the new prophylactic measures based thereon. The conditions in the different zones are tabulated for comparison, the tables giving the "reservoir for the virus" in the inhabitants with enlarged spleens, and stating the possible breeding points for the mosquitoes in the ponds, etc.

50. **Experimental Hypersensitiveness to Horse Serum: Anaphylaxis.**—Besredka and Steinhardt have been studying the liability to severe and even fatal symptoms noticed when guinea-pigs, which have served for dosage of antidiphtheria serum, are injected with horse serum from 10 to 12 days later. Control animals are not affected. The same injection of horse serum, made before the end of the 10 or 12 days, seems to be harmless for the animal. More than this, it seems to induce the protection of antibodies, which have the effect of vaccinating the animal. The anti-anaphylactic action seems to follow very closely the injection of the horse serum; even a single intraperitoneal injection of 5 c.c. of horse serum was able to confer immediate immunity, allowing the animal to bear without injury an injection of 0.25 c.c. of horse serum directly into the brain in less than two hours afterward. This immediate immunity conferred on the brain, in less than two hours after intraperitoneal injection, is regarded by the writers as absolutely unprecedented in science. The organs of the animals in which this anti-anaphylaxis had been induced did not display any specific properties when tested later. It seems probable that the sensitized guinea-pig, after having served for the dosage of diphtheria serum, although it appears healthy, yet in reality has some latent lesion in the brain. Direct injection of the horse serum into the brain arouses this latent lesion to fatal activity. Nicolle reports research on the same subject, especially that phase known as the "phenomenon of Arthus." His conclusions are that it is due to the production of a special and specific antibody in response to repeated injection of horse serum.

51. **Hemolytic Test in General Paralysis.**—Marie and Levaditi have been experimenting with the hemolytic test, based on the absence of hemolysis in a sample of blood when the serum to be tested has been added to the fluid. In examination of the cerebrospinal fluid of 17 patients without general paralysis, the hemolytic test was invariably negative, while it was positive in 73 per cent. of 39 patients with various phases of general paralysis, and was constant in the more advanced cases. In nine cases of tabes or tabo-paralysis the proportion was only 66 per cent. Their experiences demonstrated further that syphilis alone, or a brain lesion alone, is not able to induce positive findings. Positive results are observed only when there are syphilitic lesions affecting both cortex and membranes, and when these lesions are in an advanced stage. Whether the antibodies in the fluid, causing the positive response to the test, are really syphilitic antibodies or not can not be decided at present. Experiments on apes are now under way in an endeavor to solve this problem.

Bulletin de l'Académie de Médecine, Paris.

53 (LXXI, No. 9, pp. 313-338.) Optometric Scale to Exclude Simulation. (Echelle optométrique polyoptotypique.) Armaignac.
54 *Experiences with Sleeping Sickness. (Maladie du sommeil.) Thiroux and Anfreville. Id. L. Martin.
55 (Nos. 10-11, pp. 339-374.) *Decortication of Lung for Empyema. (Décortication du poumon par la méthode de Delorme.) L. Picqué and Delorme.

54. **Experiences with Sleeping Sickness.**—Thiroux and Anfreville report seven cases of sleeping sickness among the natives of Senegal. The cases were all imported, the disease not being endemic in this French colony. Martin reports five cases of the disease treated at the Paris Pasteur Institute in white men returning from a sojourn in Africa. Laveran presented their communications and discussed their conclusions, giving also a historical sketch of the various methods of treating sleeping sickness to date. Some of these patients were practically moribund when first seen, but the others are apparently cured. The medication was mostly with arsenic, alone or with strychnin, or a combination of a stain—trypan red—and arsenious acid. The native patient cured is a lad about 13, and Laveran suggests that the disease may be more easily cured in the young than in adults. Four of the white patients have practically recovered, but symptoms recurred and the trypanosomes were found again in the blood whenever the treatment was suspended for any length of time; and there is still auto-agglutination of the red corpuscles. Martin gives the arsenic every fifth day at first and then every eighth day, keeping it up for months.

55. **Decortication of the Lung for Chronic Empyema.**—Picqué reports a case of persisting empyema after an extensive stab wound in which three operations with resection of ribs and the Estlander operation had failed to relieve. He then performed the operation advocated by Delorme, which he calls decortication of the lung. Marked improvement followed at once, and in three weeks exercises to strengthen the lung function were commenced. The Roentgen rays reveal the dilatability of the lung and also the thickness and the resistance of the encapsulating membrane. A pleuro-pulmonary process induces the formation of a more adherent membrane than a pleural process alone. The best results are attained with chronic purulent streptococcus and staphylococcus pleurisies. Delorme does not advise decortication of the lung except when the lung remains immovable in spite of respiratory exercises commenced soon after the empyema is incised, especially when the suppurating cavity extends for 6 cm., that is, when the surface of the lung is from 6 to 8 cm. below the wall of the thorax. He cuts a flap including the third and sixth ribs, on the anterior lateral wall of the thorax, the base above at the back. Turning back this flap, he makes the toilet of the pleural cavity and the surface of the lung, and then incises the encapsulating shell that imprisons the lung, taking care not to injure the parenchyma. After mobilizing this shell, he excises it as completely as possible, and the lung at once expands and even protrudes through the opening in the wall of the thorax. The article is illustrated.

Archiv f. klinische Chirurgie, Berlin.

Last indexed, page 459.

56 (LXXX, No. 4, Pp. 843-1031.) Operative Treatment of Fractures. (Op. Behandlung von Fract.) E. Ranzi.
57 *Pathology and Treatment of Benign Bladder Tumors. (Gutartige Harnblasengeschwülste.) M. Weinrich.
58 Typical Fracture of Radius. (Fract. des Radius.) K. Poulsen.
59 *Physio-pathologic Study of Induced Hyperemia. (Venöse Hyperämie.) E. Homberger.
60 *Ligation of Thyroid Arteries for Goiter. (Unterbindung der Schilddrüsenarterien beim Kropfe.) B. P. Enochin.
61 *Method of Anastomosis in Gastrointestinal Tract. (Neue Methode zur Herstellung von Anastomosen am Magendarmtrakte.) J. M. Flint.
62 Experiences with Resection of Tumors in Cecum and Colon at One Sitting. (Einzeitige Res. von Coecal- und Colontumoren.) J. Bakes.
63 *Surgical Treatment of Non-cancerous Gastric Affections. (Nicht krebsige Magenleiden.) Gelpke.
64 *Transplantation of Thyroid Tissue into the Spleen. (Transpl. von Schilddrüsengewebe in die Milz.) E. Payr.

57. **Treatment of Benign Growths in the Bladder.**—Weinrich describes three cases which he thinks illustrate the great value and the good results of Nitze's intravesical technic in treatment of papillomata of the bladder. One patient was a physician, and he returned three years after the first operation to have it repeated on account of return of the growths. He has since been permanently cured. The first patient has been cured for 10 years to date.

59. **Theoretical Study of Bier's Induced Hyperemia.**—Homberger concludes his article with the statement that with an inflammatory focus, outside of the part that is bright red from the influx of arterial blood, and inside of the region beyond, which is bluish from venous congestion, there is always a zone in which there is hyperemia, and in which oxidating processes are going on with great energy. The blood is unusually rich in carbonic acid, but the waste is rapidly deported, thus ensuring increased warmth. This venous hyperemia ensures increased oxidation, and this is what is accomplished by Bier with his constricting band. This method does not detract in any way from the value of the old, tried methods of application of cold to inflammation. After the first contraction under the influence of the ice bag, the vessels become widely dilated, including the veins. The cold transforms the arterial hyperemia—in which the oxygen is swept along too rapidly to be utilized—into a venous hyperemia. The latter does not differ in any pathologic-anatomic respect from that induced by Bier's constricting band.

60. **Ligation of Thyroid Arteries for Goiter.**—Enochin gives an illustrated description of six patients with large vascular goiters improved by ligation of the thyroid arteries. This procedure is indicated only in this class of goiter, but it is followed by a progressive reduction in the size of the goiter and subsidence of the subjective disturbances. In some cases the general nutrition is much improved, but the cosmetic result is comparatively slight. In ligating the inferior thyroid artery, he includes the artery and its encircling connective tissue in the ligature, according to Drobnik's technic. A double ligature is not indispensable. A drain between the carotid artery and the spine is liable to cause injury to the vessels.

61. **New Method of Anastomosis.**—Flint has devised a cutting instrument with which he claims it is possible to unite any two hollow organs without soiling the field of operation with the contents of either. It consists of scissors, one blade 16 cm. and the other 25 cm. long, both tapering to a needle point. The walls of the organ to be anastomosed are sutured together. The blades of the scissors are then run through the walls, parallel to the row of sutures, a short distance above them. A second row of sutures is then taken beyond the place where the scissors are run through the walls. After these sutures are drawn up and tied, the walls between the two rows of sutures are cut through with the scissors, bringing the two blades together, and then pulling out the scissors entirely. No opening is thus made into either organ until after the two have been firmly united both above and below the opening. He says that in gastroenterostomy and entero-anastomosis on 24 dogs the method has proved its great simplicity, rapidity of execution and the rapid healing of the wound by primary intention. The operation was also done on the intestine of the cadaver, after filling the intestine with water; not a drop of water escaped during the operation. The communication issues from Paltauf's Institute for General and Experimental Pathology at Vienna.

63. **Surgical Treatment of Non-Cancerous Stomach Affections.**—Gelpke discusses plastic operations on the pylorus and fixation of the stomach, and asks if they should not be preferred to gastroenterostomy in non-cancerous cases, and if this combination does not deserve wider application. His results with five patients thus treated have been most excellent. One patient was a woman of 53 who had suffered for years from gastric disturbances. The stomach was much enlarged, reaching to the symphysis. A plastic operation on the pylorus plus gastropexy banished all disturbances; and the patient gained 30 pounds in weight and has had no further symptoms during the two years since. In the case of a man of 58 with extreme dilatation of the stomach from cicatricial stenosis, a similar operation restored approximately normal conditions. A woman of 40 with extreme gastroptosis and incoercible vomiting has been free from symptoms since the operation was performed, as also a fifth patient, a x-para, with ulcer symptoms for 22 years. In two other cases a simple plastic operation on the pylorus cured all the disturbances resulting from cicatricial stenosis of the pylorus. In two other cases gastroptosis was treated by fixation of the stomach, and the results have been permanent for several years to date. The simple operation of gastropexy, he thinks, is indicated as much as nephropexy for wandering

kidney, and is less difficult and dangerous than the latter. He had to perform a laparotomy two years afterward on one of his patients for another cause, and found the stomach still solidly fastened in the region of the costal arch. He fastens the middle of the anterior stomach wall, parallel to the greater curvature, to the lower costal arch, passing the needle around the cartilage, or else to the anterior abdominal wall at this level. If convenient, he brings the thread through the entire abdominal wall, using strong silk and taking firm hold. He works through a median incision as the pylorus may require a plastic operation at the same time.

64. **Transplantation of Thyroid Tissue into the Spleen.**—The picture of an apparently normal little girl accompanies Payr's communication, showing the unmistakable improvement in the child with severe infantile myxedema, whom he treated by implantation of thyroid tissue in the spleen. The operation was done in December, 1905, and his report was mentioned in The Journal, Feb. 2, 1907, page 460. The hair, nails, manner of holding the head and tongue no longer differ from that observed in normal children, and the child has grown 12 cm. in less than nine months, with corresponding improvement in intelligence. The thyroid implanted was taken from the mother.

Centralblatt f. Chirurgie, Leipsic.

Last indexed, page 740.

65 (XXXIV, No. 1, pp. 1-32.) *Simplification of Total Resection of Ribs for Empyema. (Total resektion des Brustkorbes.) C. Bayer.
66 Apparatus for Cupping Treatment. (Therapie mittels negativen Luftdruckes nach Bier-Klapp.) O. Salkindsohn.
67 New Esophagoscope. (Oesophagoskopie.) T. Kölliker.
68 (No. 2, pp. 33-64.) *Special Syndrome of Streptococcus Appendicitis. (Zur App.-Frage.) E. Haim.
69 *Illumination of Operating Rooms. (Beleuchtung, etc.) L. Heidenhain.
70 *Mishap from Spinal Anesthesia. (Folgeerscheinung nach Lumbalanästhesie.) E. E. Goldmann.
71 (No. 3, pp. 65-88.) Tennis Elbow. (Tennis-Ellbogen.) G. Preiser.
72 (No. 4. pp. 89-112.) Cause of Post-operative Pneumonia. (Entstehungsursache postop. Pneumonien.) G. Engelhardt.
73 Suprahyoid Pharyngotomy. (Pharyngotomia.) J. K. Spisharny.
74 (No 5. pp. 113-144.) Plastic Operations on Peritoneum with Isolated Pieces of Omentum. (Peritonealplastik.) S. S. Girgolaff.
75 Latent Changes in Appendix Under the So-called Medical Cures. (Latente Veränderungen des Wurmfortsatzes.) P. Fiori.
76 (No. 6, pp. 145-176.) *Operative Treatment of Muscular Wry-neck. (Muskulär Schiefhals.) Gerdes.

65. **Simplified Operation for Old Chronic Empyema.**—Bayer describes a technic which answers the same purpose as Schede's resection of the thorax wall, while it is much less serious, as the soft parts are all retained. A vertical incision is made about two fingers' breadths back of the anterior axillary line. It crosses all the ribs at the anterior origin of the serratus magnus, commencing at the third rib and extending to the ninth and tenth. This incision does not injure any large blood vessel or involve any large muscle. Through this incision the ribs are subperiosteally resected for about 2 cm. The entire wall of the thorax is opened with the thermocautery, in the zone thus left without ribs, and, after inspecting the cavity, the ribs were resected to right and left as required. It is astonishing, he says, how easy it is to shell out the ribs under these conditions, resecting them for as long stretches as deemed desirable, with the greatest ease. The operation is further facilitated by a supplementary incision parallel with the lowest rib, the first, perpendicular incision crossing it in the middle. If the wall of the thorax is very rigid it may be necessary to scrape the costal pleura and to make a few cross cuts. Only in case of a tuberculous process does he think it necessary to sacrifice the wall of soft parts. He gives illustrations of two patients operated on by this technic. The wall of the thorax does not sink in so far as by the Schede technic, while the scars are much less prominent. The retention of all the soft parts reduces the resulting disfigurement to almost nothing.

68. **Importance of Bacteriology of Appendicitis.**—Haim thinks that important data can be learned from bacteriology which will serve as guides in treatment. If the observations of others confirm his own experience, it will be found that appendicitis due to the streptococcus occurs in an epidemic form in spring and fall, while it is seldom observed at other seasons. It affects the young especially, and prognosis is good for them, but the rare cases of streptococcus appendicitis in the elderly almost invariably terminate fatally. Streptococcus appendicitis requires immediate intervention, while the comparatively milder colon bacillus appendicitis may heal without intervention. It is possible that the varying statistics of different writers on apppendicitis are due to the varying bacteriology of their cases. Haim asserts that in the Scandinavian countries the colon bacillus and the pneumococcus seem to be the general causal agents, while in Italy and England the colon bacillus alone is incriminated. In Germany, France and possibly also in America, the streptococcus and the colon bacillus are the germs at work. He has noticed certain symptoms as especially frequent in certain streptococcus epidemics of appendicitis, such as herpes or icterus, and thinks that by collecting sufficient data it may be possible to differentiate the severe from the mild cases by the specific symptoms observed and the bacteriologic findings.

69. **Illumination of Model Operating Room at Worms.**—Heidenhain has four large 1-ampere electric lights suspended from the ceiling to form a rectangle about nine feet above the floor. The operating table stands in the square formed by the lights, and is thus illuminated from all sides. The shadow cast by one lamp is illuminated by the light from the other three lamps. The walls and ceiling are of white tiles, but a dado of dark blue tiles runs around the room to rest the eyes. Krönig insists that with white walls and electric light the eyes must have some place where they can rest and as a protection against being dazzled. The light of a powerful arc lamp outside the operating room enters through an opening in the wall and is focused on a mirror, from which it can be reflected into the abdomen or other body cavity by adjusting the mirror.

70. **Severe After-Effects of Spinal Anesthesia.**—Goldmann relates the history of a man of 52 who was operated on under chloroform and morphin for hernia. The operation was tedious, lasting fully two hours, but the patient soon recovered. Two months later he returned for herniotomy on the other side, an insignificant operation for a small, reducible hernia. This time the operation was done under spinal anesthesia. The anesthesia persisted for five hours and was followed by severe pains in the feet and calves, back, arms and neck, being most severe in the heels. Large doses of morphin were required to relieve the patient. The pains continued for two weeks. The second day after the operation the heels showed symptoms of gangrene, and the skin of the heel became mummified down to the fascia. The patch of gangrene on each heel was about the size of the palm of a hand, and Goldmann ascribes it to a trophic disturbance, the result of the spinal anesthesia. The patches finally healed, but the patient still complains of diffuse pains, especially headache, but without objective findings, and he presents the aspect of neurasthenia.

76. **Operative Treatment of Muscular Torticollis.**—Gerdes states that he has obtained most excellent results in 11 cases of wry-neck in which he divided the scalenus anticus. This is a comparatively simple operation, while the results are fully as good as with more complicated technics, and it insures against recurrence better than mere tenotomy. When abnormally shortened the scalenus anticus causes curvature of the vertebræ in the neck. He was unable to find any record of treatment of wry-neck by division of this muscle, but he has found that the deformity is corrected when this muscle is severed. He has thus operated on 11 patients since 1897, with excellent and permanent results. He makes a transverse incision, about 5 or 6 cm. long, a finger's breadth above the clavicle, beginning over the tendon of the sternal portion. Both tendons are then divided near their origin, and also the fascia of the neck until the jugular vein is completely exposed. Then the posterior belly of the omo-hyoid muscle is drawn upward and outward, and the jugular vein is drawn inward. This exposes the scaleni and the phrenic nerve is seen, a white cord running across the scalenus anticus, with the brachial plexus over the scalenus medius. The scalenus

anticus is then isolated with a blunt instrument, care being taken to avoid injury to the phrenic nerve, the plexus and the jugular vein; the scalenus anticus is divided over the subclavian artery which lies beneath it. It is easily severed and a distinct snap can be heard. In the depth of the wound the transverse process of the seventh cervical vertebra can be felt. Any existing tendency to cervical scoliosis is at once corrected by the operation. It is not necessary to divide the scalenus medius. He tampons the small incision for forty-eight hours, and after the fourth day commences active and passive exercises, continuing them as required for three or six weeks. He does not approve of supporting apparatus, but trusts exclusively to the early exercises. As division of the scalenus protects better against recurrence than mere tenotomy, while the scar is no more prominent, he advises this technic in all cases of wry-neck, even the milder forms.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed, page 911.

77 (XXXI, No. 3, pp. 65-96.) *Experimental Study of Remote Results of Spinal Anesthesia. (Spätfolgen der Lumbalanästhesie.) A. Falkner.
78 *Three Female Monsters Born to Same Parents. (Reihe missbildeter Mädchen.) E. Schirmer.
79 Locking Device for Forceps. (Zangenschloss.) O. Rapin.
80 Care of Abdominal Walls During Pregnancy and After Childbirth. (Pflege der Bauchdecken.) W. N. Clemm.
81 (No. 4, pp. 97-128.) Spontaneous Expulsion of Entire Muscular Wall of Cancerous Uterus After Cauterization with Zinc Chlorid. (Spontane Ausstossung, etc.) A. Blau.
82 Malformation of Genitalia complicated by Myoma. (Missbildung der Geschlechtsteile mit Myombildung kompliziert.) A. Czyzewicz.
83 Eclampsia without Convulsions. (Eklampsie ohne Krämpfe.) Schlutius.
84 Pregnancy and Normal Childbirth After Operative Treatment of Chronic Inversion of the Uterus. (Op. geheilter chron. Uterusinversion.) Born.
85 (No. 5. pp. 129-168.) Disturbances in the Separation of the Decidual Layer at the Point of Reflection, and Their Relations to Abortion, Placenta circumvallata and Exchorionic Development of the Fetus. (Störungen der Deciduaspaltung am Reflex-Basaliswinkel, etc.) P. Kroemer.
86 *Method and Technic of Pubiotomy. (Technik der Hebotomie.) L. Seeligmann.
87 Instrumental Dilatation in 3 Cases of Placenta Prævia. (Die Methode Bossi.) E. Guasoni.
88 Retention of Membranes; Treatment. (Eihautretention.) Bollenhagen.
89 (No. 6, pp. 169-200.) *Ventrofixation. (Ventrifixur.) W. Liepmann.
90 *Osteomalacia and Suprarenals. (Nebennieren und Osteomalakie.) L. M. Bossi. First part in No. 3.
91 Pregnancy After Steam Cauterization. (Gravidität nach Atmokausis.) P. Meyer.
92 Technic of Steam Cauterization. (Technik der Atmokausis.) L. Pincus.
93 Treatment of Asphyxia Neonatorum with Infusion of Oxygen. (Sauerstoff-Infusionen.) L. Seitz.

77. **Experimental Study of After-Effects of Spinal Anesthesia.**—Falkner writes from Chrobak's clinic at Vienna to relate the negative results of a series of researches undertaken on rabbits to determine whether intraspinal injection of an anesthetic, according to the usual technic for spinal anesthesia, would have any permanent effect on the elements of the central nervous system. He reviews the various mishaps that have been reported as occurring in the clinic, but he was unable to detect any changes in the nervous system in the animals for which the anesthetic could have been responsible.

78. **Series of Female Monsters from Same Parents.**—Schirmer relates the history of a healthy married couple, with healthy antecedents, who had 8 children. The first three were boys, all robust children; then followed a girl with half of the head wanting, then a robust boy, then another girl with the same deformity, then a strong, healthy boy. These seven children were born in the course of fourteen years. An interval of seven years then elapsed, and a third girl was born, presenting the same deformity as the others. He thinks that this remarkable series of female monsters confirms the assumption that the sex of the embryo is determined in the ovum, and that each sex has its own separate place of development, possibly one ovary for the males and the other for the females. The maternal organism was evidently alone responsible for the monstrosities. In a second case described, an viii-para was delivered of triplets, one small but healthy boy and two girls, both with one-half of the head wanting. There was thus a female hemicephalus in five pregnancies of two apparently normal woman, mother of a number of healthy sons.

86. **Technic of Pubiotomy.**—Seeligmann urges all who have any experience with pelvis-enlarging operations to send him a brief report of each case, to collect material for a decisive judgment in regard to the merits of the different technics. Address Dr. Ludwig Seeligmann, Hamburg, Germany. The Bumm method seems simplest, but Seeligmann's experience has convinced him that his own technic is the safest. The Bumm technic, he says, has already a record of 5 per cent. mortality for the mothers and 5 per cent. for the children, not to mention minor mishaps.

89. **Ventrofixation.**—Liepmann gives an illustrated description of Bumm's method of fastening the uterus to the anterior abdominal wall. Instead of fastening the round ligaments close together, the stitches are taken some distance each side of the incision, and the loop of round ligament is drawn out through a small slit in the peritoneum on each side. By this modification of the original technic the traction of the stitch on each side pulls the top of the fundus of the uterus flat. The fixation is to the submuscular layer of connective tissue, the silk threads being tied over the fascia. The uterus retains approximately normal movability, and the position of the organ and the adnexa is approximately normal.

90. **Osteomalacia and the Suprarenals.**—Bossi here relates the later history of the woman with osteomalacia who improved to such a remarkable extent under suprarenal extract, as mentioned in THE JOURNAL, March 2, 1907, page 817. She was safely delivered of large twins and is now in the best of health, nursing her children. He says that this is almost incredible when he reflects on the serious condition of the woman when first seen, only 23 days before the delivery, when the softened and yielding bones and intense pains suggested imminent danger of their breaking under the stress of the increasing size of the uterus. The favorable outcome he ascribes exclusively to the suprarenal treatment. Another patient with osteomalacia, the pelvis much deformed and yielding to the encroaching uterus in the sixth month of pregnancy, has since been under observation. The woman was scarcely able to stand and could walk only when supported by two persons. The slightest movement, even in bed, caused her intense pain. The pelvis was so deformed from the osteomalacia that the two spinous processes of the ilium were scarcely more than an inch apart. Improvement was manifest almost from the first injection of suprarenal extract, and at date of writing, 12 days later, the patient is entirely free from pain and can walk with merely the help of a cane. Bossi further reports that he removed the right suprarenal gland from a gravid sheep. The animal showed no special disturbances for a week, when it was noticed that it could not step about with the same freedom as before, and in a few hours this interference with the animal's movements became marked. The next day the joints throughout the body showed deformity, the hip bones were evidently twisted inward and were painful on pressure. It now seems to be impossible for the animal to stand up or to walk. Bossi adds that he does not wish to be premature in his judgment, but that this experience certainly denotes some connection between the removal of the suprarenal and the development of the osteomalacia.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

94 (XXXIII, No. 9, pp. 329-368.) *Human Cells as Parasites. (Menschliche Zellen als Parasiten.) H. Ribbert.
95 *Pathology of the Heart Beat. (Herzschlag.) M. Bönniger.
96 *Prognosis of Pulmonary Tuberculosis. (Lungentub.) E. Rumpf.
97 *New Staining Technic for differentiation of Human and Bovine Tubercle Bacilli. (Neue Färbemethoden.) C. Spengler.
98 *New Researches on Dysentery. (Ruhr.) Kruse.
99 Progress in Spectacles. (Brillengläser.) E. H. Oppenheimer.
100 An Improvised Stand for Roentgen Tube. (Feld-R.-Tisch nebst Stativ.) Gillet.
101 (No. 10, pp. 369-408.) Treatment of Tuberculous Hip-Joint Disease. (Tub. Coxitis.) A. Hoffa.
102 Madelung's Deformity of the Hand. (Mad.'sche Deformität.) Pels-Leusden.
103 Two Cases of Experimental Infection of Cattle with Human Tuberculous Material. (Uebertragung auf das Rind.) A. Eber. Id. A. Weber.
104 Defective Perception of Musical Sounds. (Diplakusis.) A. Barth.
105 White Precipitate of Mercury in Salve Form. (Hydrarg. præcipitatum album pultiforme.) H. Vörner.
106 Recent Patents of Interest to Physicians. (Erfindungen, etc.) G. Justi.

94. **Human Cells as Parasites.**—Ribbert presents new arguments to sustain his well-known views in regard to the genesis of tumors. He believes that tumors are the proliferation of cells which have lost their connection with the organism as a whole and live on it as parasites. He asserts further that myelogenic leukemia has a similar origin, being nothing but the result of parasitic proliferation of marrow cells which have lost their connection with the bone marrow as a whole. Lymphatic leukemia is the same kind of proliferation in cells of lymphatic organs living on as parasites. Cancer research should aim, he says, to determine what processes of growth gradually separate the cells from the rest of the organism and start them on their parasitic existence.

95. **Pathology of the Heart Rhythm.**—Bönniger describes a number of cases, with tracings, which he classes in a special group for which digitalis must be avoided, as it would only aggravate the condition. The principal feature of the cases is the auriculo-ventricular extra systole, which is shown instructively by the Roentgen rays. Other symptoms are extreme irregularity and systolic venous pulse, but the liver does not pulsate. The functional disturbance may be very slight and there are no serious signs of stasis and none of the other signs of tricuspid insufficiency. Systolic active pulsation of the right auricle can be seen with the fluoroscope while the unfavorable influence of digitalis is soon manifest. In a typical case of this kind, a woman of 46, suffering from severe nephritis, presented an irregular pulse with systolic venous pulse, but no symptoms of tricuspid insufficiency. The heart beat was regular but very slow (32), and unmistakably originated in the auriculo-ventricular fibers. The bradycardia became transformed later into tachycardia. The venous pulse was then presystolic and very weak. The importance of this simultaneous contraction of the auricle and ventricle is not so much from the standpoint of function, as this may be only slightly impaired, but from the standpoint of therapeutics, as digitalis only aggravates the irregularity and tachycardia. In about 60 cases of venous pulse of which he has the tracings fully a third belong in this group. The tracings closely resemble those of tricuspid insufficiency, but the conditions of the dilatation of the auricle are exactly the reverse from tricuspid insufficiency. The enlargement of the auricle is not due to regurgitation of blood, but the pulsation is an active contraction of the part. He reproduces a number of tracings and compares them with those of Mackenzie.

96. **Prognosis of Tuberculosis of the Lungs.**—Rumpf regards the predisposition or habitus as less important for the prognosis than others assume—other things being equal. More important is the fact of the patient's being a poor eater or having a tendency to catarrhal affections. If these tendencies can be overcome, the outlook seems to be as good for the "predisposed" as for the others. The years between 16 and 30 give the largest proportion of restoration of earning capacity. He percusses with the patient breathing through the mouth and bids him cough while examining each part of the area separately. The character of the râles is particularly important, and whether they are diffuse or limited to a circumscribed area. In his experience, râles vanished in 308 patients under treatment, and 89.6 per cent. of these retained their earning faculty into the fourth year afterward. In 356 others, râles could still be distinguished, but they were comparatively slight, and the earning capacity was retained into the fourth year in 89.6 per cent., while in 326 others with metallic râles on dismissal, only 12.9 per cent. retained their earning capacity into the fourth year, and 75.8 per cent. had died. When the pulse is persistently fast, and especially when also small, the prognosis should be guarded, as also in cases with unstable pulse and temperature, fluctuating after physical or emotional stress. There is hope that the temperature may return permanently to normal so long as the weight increases or even remains stationary. Climatic factors have been shown to be less important than formerly assumed by the results published from sanatoria in northern countries, Holland, Denmark, and elsewhere, which compare favorably with those from the most famous sanatoria, summer or winter. In no other affection does the prognosis depend so much on the character of the patient and his cooperation as in tuberculosis. A much better outcome can be counted on in a sanatorium than when the patient remains in his usual environment, and Rumpf even goes farther than this and separates the sexes, receiving in his pay pavilion only women patients. He has been much pleased with the improvement that has followed this discrimination, and thinks that it has materially bettered the prognosis for his patients.

97. **Differentiating Staining Technic for Tubercle Bacilli.**—Spengler has found both human and bovine tubercle bacilli in 60 per cent. of all his phthisical patients. When this symbiosis is observed the tuberculosis seems to run a more chronic course, while infection with either of the species alone is of a more rapid, progressive type, and such patients nearly always have more or less fever. In order to differentiate the bacilli more readily he has devised three new staining technics which he describes as adapted for practical clinical use as well as for the bacteriologist. With the first, the "Hüllenmethode," the bovine tubercle bacillus shows up gigantic besides the human tubercle bacillus, with other differences. The second technic, the "Pikrinmethode," shows and differentiates the bacilli well even when their envelopes have been partly destroyed. The third technic, the "Farbächtmethoden," has particular advantages for all the acid-proof bacilli. These technics succeed, he asserts, when all others fail.

98. **New Researches on Dysentery.**—Kruse brings out among other points that hemorrhagic and diphtheric catarrh of the large intestine can occur solely from toxic influences. Certain conditions may favor the development of virulence in ordinary saprophytes, and autoinfection can then result, as in pneumonia. The germs thus rendered virulent may infect other individuals and induce typical dysentery in them. Jensen was able to induce dysentery in new-born calves by feeding them with boiled milk or giving a small amount of creolin or pyoktanin. The findings in the resulting dysentery were exactly the same as in dysentery under natural conditions. Kruse emphasizes the fact that autoinfection and transmissibility are thus not incompatible. He relates extensive studies on immunization and announces favorable results with an antidysentery serum which unites bactericidal, opsonic and antitoxic properties.

106. **New Patents.**—An illustration is given of a little device to put on the finger which automatically holds and compresses the stomach tube so that it can be readily inserted with the finger. Another illustration shows a rest cure shelter that always turns its back to the wind. The rear wall of the little garden house is made of glass to admit the sunshine while keeping out the wind. The whole is built on a kind of turntable, and is connected with a large weather vane. As the weather vane shifts with a change in the wind, the garden house turns with it, always presenting its solid rear wall to the wind.

Therapie der Gegenwart, Berlin.

107 (XLVII, No. 12, pp. 529-576.) *Anomalies in Thorax Favoring Healing of Tuberculous Lesions. (Disposition bei der Lungentub.) M. Westenhoeffer.

108 *Principles for Treatment of Appendicitis During Pregnancy. (Soll man vor der App.-Op. die Schwangerschaft beendigen oder nicht?) O. O. Fellner.

109 Present Status of Treatment of Pulmonary Phthisis with Induced Pneumothorax. (Lungenphthise und künstlicher Pneumothorax.) F. Klemperer.

110 Treatment of Nervous Children in Sanatorium Schools. (Schul-Sanatorien.) G. Flatau.

111 *Neurasthenia as Symptom of Latent Tuberculosis. (Neurasthenie und latente Tub.) Weinberg.

107. **Anomalies in the Thorax Favoring Healing of Tuberculous Lesions in the Lungs.**—Westenhoeffer reports the postmortem findings in two cases of pulmonary tuberculosis in which the lesions had been arrested and were retrogressing under the influence of compression of the lung from complicating pyopneumothorax in one case and under the influence of passive hyperemia, resulting from a valvular affection, in the other. The conditions in the first case resembled those artificially produced by pneumothorax induced as a means of curing a tuberculous pulmonary affection. In the second case

the conditions resembled those induced by Bier's technic of induced hyperemia. In both cases the spontaneous tendency toward healing occurred as the result of resting the parts, just as a tuberculous affection of the kidneys is benefited by change to a dry, hot climate where the skin perspires so freely that the kidneys are relieved of a large part of their work and are able to heal during this comparative rest. Comparing the two methods of artificial pneumothorax and artificial passive hyperemia, he says that the former accomplishes its purpose of causing the collapse of the lung much more effectually than any other technic yet tried. The valvular affection in his second case had existed for six years, and yet the lesion had not retrogressed to such an extent as in the other case in which the primary lesion had been much more extensive. He concludes from these findings that passive hyperemia is not able to check effectually the development of tuberculous lesions if other unfavorable factors work against it. This assumption is confirmed by a third case in which a primary tuberculous affection developed in the peritoneum notwithstanding existing cirrhosis of the liver. A healthy peritoneum has great resisting powers, but when injured it yields before the mildest invasion. The congestion in the region, resulting from the liver affection, evidently afforded a predisposition to tuberculosis in this case. This was manifest also in another case in which the functions of one lung were impeded by adhesions, the tuberculous lesions in this part being much more severe than in the free parts of the lung. In conclusion, Westenhoeffer declares that hindrance in the performance of its function favors the development of a tuberculous affection in an organ, while complete suspension of function favors a cure.

108. Appendicitis During Pregnancy.—Fellner advocates operating in appendicitis entirely regardless of an existing pregnancy. If the child is dead or if there are appreciable signs of labor, the laparotomy should be preceded by the evacuation of the uterus. If the uterine peritoneum is sound, vaginal Cesarean section may be ventured, otherwise delivery induced by another route is preferable.

111. Neurasthenia as Sign of Latent Tuberculosis.—Weinberg states that it has been a frequent experience in his practice to find that patients exhibiting symptoms of neurasthenia, but without an apparent trace of tuberculosis, developed tuberculosis after a few years. He warns that patients with neurasthenia should be regarded as suspicious of tuberculosis, especially if the complexion is particularly pink and white, or grayish or yellowish, or if the patients are very thin. Systematic recording of the temperature or the tuberculin test may reveal the tuberculosis underlying the supposed idiopathic neurasthenia in many cases.

Nordiskt medicinskt Arkiv, Stockholm.

Last indexed XLVII, page 1864.

112 (XXXIX, Internal Medicine, No. 3.) *Autopsies at Copenhagen. (Sektionen am Kommunehospital.) V. Scheel.
113 *Comparative Study of Local Action of Anesthetics. (Lokalwirkung von Cocain und Stovain.) C. G. Santesson.

112. Autopsies at Copenhagen Hospital and Thymic Death.—A number of the more interesting cases are illustrated, among them one of intense lymphosarcomatosis of the stomach and adjoining intestine, and another of senile atrophy of the liver with torsion of the gall bladder. A typical specimen of "icing liver" is also shown. In three instances the death of a child could not be explained except by the hyperplasia of the thymus. One was a healthy boy of nearly 11, found dead in bed in the morning, with no signs of a struggle, apparently sleeping quietly. The thymus measured 2x7x8 cm. and weighed 40 gm. Scheel paid particular attention to the size of the thymus in other cadavers to establish the normal size for the various decades in life. In 27 children under six months the thymus ranged in weight from 1.2 to 19 gm.; in 34 children between six months to a year old, the thymus ranged from 1.75 to 21 gm.; in 17 between 5 and 10, the thymus weighed from 1.5 to 23.3 gm.; in 11 between 10 and 20, from 3 to 21 gm. In 64 persons between 20 and 60, the thymus weighed from 1.6 to 46.8 gm., the average being about 11 gm., and in 35 persons between 60 and 80, the thymus ranged in weight from 1.1 to 38.4 gm., with an average of about 11 gm. The thymus may induce death by compression on the trachea or on the heart and main arteries, and also by paralysis of the heart by toxic or reflex action. In examining 36 cadavers of persons who had died of delirium tremens, fatty degeneration of the liver and chronic leptomeningitis were the only findings noted with any constancy. Arteriosclerosis was less prevalent than in corresponding groups of non-alcoholics of the same age.

113. Local Action of Anesthetics.—Santesson's experiments on frogs and rabbits have demonstrated to his satisfaction that cocain—and still more, stovain—affect the neurilemma and change it in a specific manner. The myelin and also the neurokeratin are more or less altered, and in some of the nerve fibers were found altogether destroyed. His experiments were made with scraps of nerve just taken from the living animal. His findings indicate a special affinity between the poisons and certain elements of the neurilemma. This affinity favors the penetration of the drug through the protecting sheath to the conducting elements of the nerve.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

A System of Medicine by Many Writers. Edited by Thomas Clifford Allbutt, M.A., M.D., LL.D., Regius Professor of Physic in the University of Cambridge and Humphry Davy Rolleston. M.A., M.D., F.R.C.P., Physician to St. George's Hospital. Volume II. Part I. Infective Diseases and Intoxications. Part II. Tropical Diseases and Animal Parasites. Cloth. Pp. About 1,050 each. Price, $5.00 per volume. New York and London: Macmillan Co., 1906.

Roentgen Rays in Medical Work. By David Walsh, M.D., Ed., Senior Physician, Western Skin Hospital, London, W. Part I. The Electrical Apparatus, by H. L. Jones, M.D., Cantab., F.R.C.P., Lond., Medical Officer in Charge of Electrical Department of St. Bartholomew's Hospital. Part II. Medical and Surgical, by the Author. Fourth Edition. Cloth. Pp. 433. Price, $4.00 net. New York: William Wood & Co., 1907.

Manual of Obstetrics. By A. F. A. King, A.M., M.D., LL.D., Professor of Obstetrics in the Medical Department of the George Washington University, Washington. Tenth Edition Revised and Enlarged. With 301 Illustrations in Text and Three Plates. Cloth Pp. 688. Price, $2.75 net. Philadelphia and New York: Lea Bros. & Co., 1907.

Essentials of Chemistry and Toxicology, for the Use of Students in Medicine. By R. A. Witthaus, A.M., M.D., Professor of Physics, Chemistry and Toxicology in Cornell University. Thirteenth Edition. Revised by R. J. E. Scott, M.A., B.C.L., M.D. Cloth. Pp. 306. Price, $1.00. New York: William Wood & Co., 1907.

Surgical Diseases of the Chest. By Carl Beck, M.D., Professor of Surgery in the New York Postgraduate Medical School and Hospital. With 16 colored and 162 Other Illustrations. Cloth. Pp. 368. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co., 1907.

Diagnostics of Diseases of Children. By Le Grand Kerr, M.D., Professor of Diseases of Children in the Brooklyn Postgraduate Medical School. Fully Illustrated. Cloth. Pp. 542. Price, $5.00 net. Philadelphia and London: W. B. Saunders Company, 1907.

Treatment of Disease. A Manual of Practical Medicine. By Reynold Webb Wilcox, M.A., M.D., LL.D., Professor of Medicine at the New York Postgraduate Medical School and Hospital. Cloth. Pp. 911. Price, $6.00. Philadelphia: P. Blakiston's Son & Co.

Transactions of the Western Surgical and Gynecological Association. Sixteenth Annual Meeting, held at Salt Lake City, Aug. 30, 1906. Cloth. Pp. 324. Minneapolis: Press of the *Journal-Lancet*, 1907.

Annual Report of Vassar Brothers Hospital, Poughkeepsie, N. Y. Founded by Matthew Vassar, Jr., and J. G. Vassar. Incorporated June, 1882. Paper. Pp 24. Poughkeepsie: A. V. Haight Co., 1907.

Tenth Annual Report of the Trustees of the Massachusetts State Sanatorium at Rutland. Nov. 30, 1906. Paper. Pp. 29. Boston: Wright & Potter Printing Co., 1907.

Zwillingsschwangerschaft mit heterotopem Sitz der Früchte. Von. Fr. von Neugebauer, Warsaw. Paper. Pp. 165. Price, 6 mk. Leipsic: Verlag von Dr. Werner Klinkhardt.

Nineteenth Report of the State Board of Health of New Hampshire. For the Two Years Ending Nov. 1, 1906. Cloth. Pp. 319. Concord: Rumford Printing Co.

Eighth Biennial Report of Colorado State Board of Health, Jan. 1, 1905, to Dec. 31, 1906. Cloth. Pp. 115. Denver: Smith-Brooks Press, 1906.

Transactions of the American Climatological Association for the Year 1906. Volume xxii. Cloth. Pp. 303. Philadelphia.

Annual Report of St. Joseph's German Hospital, of Baltimore, for the Year 1906. Paper. Pp. 33.

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Original Articles

THE DIGESTION OF THE PROTEIDS OF COW'S MILK IN INFANCY.

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The proteids in cow's milk give rise to no digestive or nutritive disturbances in the feeding of young infants. If the foregoing statement be a fact, and I am convinced that it is, then the theories and practices that now hold the American profession with regard to the artificial feeding of infants must be radically altered. For years the idea of proteid indigestibility has existed, based principally on some crude test-tube experiments and the misappreciation of certain appearances of the baby's stools, and this error has lived because none challenged the hypothesis, but everybody accepted the casein indigestion as an easy explanation of the difficult digestion of cow's milk during infancy. However, such a mass of incontrovertible evidence has been presented by Escherich, Heubner and Rubner, Budan, Finkelstein and more especially by Czerny and Keller, that one must now admit that such a thing as the proteid indigestion of cow's milk is untenable.

INDIGESTIBILITY OF PROTEIDS NOT TENABLE.

The theories of the difficult digestion of cow's proteid were based on the following hypotheses, as stated by Czerny:

Conclusions drawn from the firm coagulum that forms in a test-tube when rennet is added to cow's milk, and the greater amount of proteid in cow's milk than in human milk; the presence of curds in the stools; mechanical irritation by hard clots, causing colic, etc.; the "foreign" albumin of cow's milk, a toxic irritant, and the putrefaction of proteid remnants.

When rennet is added to cow's milk in a test-tube a firm clot forms only when the test-tube is allowed to stand without agitation. If the tube be sealed and slowly inverted so as to imitate, even though crudely, the churning movements of the stomach, a fine flocculent precipitate is formed, and if one removes cow's milk from a child's stomach with a stomach tube a similar flocculent precipitate is obtained. If any conclusion can be drawn from the behavior of cow's milk with rennet, it is such as would not speak for its indigestibility. The so-called curds in the bowel movement of infants, by which are meant the common whitish, yellowish-white, or yellowish lumps, are not proteid material, but are fats or fatty soaps; rarely are they inspissated mucus or clumps of bacteria. Chemical examination of these masses will reveal their nature, and clinically they can be lessened or caused to disappear from the stools without altering the proteid contents by diminishing or removing the fat from the milk food. In hundreds of experiments in which I have given an undiluted fat-free milk to babies, at times giving more than a quart in 24 hours, never, after careful examination, have I seen curds in the stools.

For such experiments, distinction must be made between skimmed milk and fat-free milk. Fat-free milk, which can be obtained by the centrifugal separation of milk, contains less than 0.5 per cent. of fat, and such a small amount of fat can be disregarded. When milk is skimmed by allowing it to stand in a suitable vessel until the cream rises and is skimmed away, or even siphoning the lower milk, the amount of fat in such milk is often more than 1 per cent., and such skimmed milk may occasion small, whitish, pin-point masses to appear in the stool when administered to a susceptible infant.

If curds or clots are not formed by the proteids, then no mechanical injury can be produced by the proteids, and the symptom of colic has been absent from the babies fed on proteid-rich, fat-free milk.

Biedert's hypothesis of "injurious food remnants," by which he taught that the casein masses precipitated in the stomach were retained in the gastrointestinal tract where they underwent putrefactive decomposition, and irritated the alimentary mucosa and might precipitate an attack of gastroenterocolitis; Biedert's hypothesis can be refuted by experiments with fat-free milk. It is found on experiment that the proteid content of milk resists bacterial decomposition for a long time. In the stools of many infants fed on proteid-rich, fat-free milk I have never been able to discover the least putridity. In three cases of ulcerative iliocolitis I have fed sterilized, undiluted, fat-free milk and have seen the bowel movements quickly change from lumpy, mucopurulent, bloody, putrid evacuations to smooth, salve-like, yellowish-brown movements devoid of offensive odor.

The hypothesis of Hamberger concerning *art-eigenes* and *art-fremdes* albumin has only a theoretic interest. The harmlessness of the proteid can be demonstrated clinically by its administration to any infant. I have given fat-free, proteid-rich milk to a large number of babies, over 200 in hospital and in private practice; to the premature new-born, to the infants in three cases of ulcerative iliocolitis, and in three cases of hereditary lues, to many atrophic babies, etc., and the result in each case was the same, so that one can state with the assurance of a mathematical demonstration what must follow every time the experiment is made.

In such an experiment as the following give a baby weighing, let us say, seven pounds, from three to four ounces of sterilized, fat-free, undiluted cow's milk every four hours, or five feedings in the 24 hours. The child will present no symptoms of distress, no meteorism, no vomiting of clots, no belching of gas, and its bowel movements will be smooth, soft, salve-like, brownish-yellow, homogenous and without offensive odor. The color of the movement may vary from a very light yellow to brownish-yellow, but with this single variation of color every other condition will be as I have briefly described. I have made such experiments innumerable times, always with like results. The following cases are reported in more or less detail, illustrating the ease of proteid digestion.

CASE REPORTS.

Case 1. *Patient.*—Baby A. was admitted to Wesley Hospital when three days old with its mother, who had a severe puerperal infection. The infant had a temperature of 100 F. On admission it weighed 5 pounds 12 ounces. Physical examination was negative.

Treatment.—The infant was given one-half grain of calomel in divided doses and weak barley water for two days. The temperature was then normal and it was given a small amount of milk, which was slowly increased to three ounces in 24 hours. There were free green curdy bowel movements and the milk was discontinued on the ninth day and one ounce of cream given with whey and barley. The food was continued for three days. The stools were increased in number, the curds became more numerous and the weight diminished. The food was changed, and through an error 20 ounces of whole milk was given for one day, when eight very curdy green bowel movements followed. The following day fat-free milk was given and the character of the stools changed immediately. They were soft and yellowish, with no curds. Two days later a number of fine curds were noted in the stool and it was learned that a siphoned milk, which was not fat free, had been used that day. The babe continued to thrive on the diet as shown in the chart. On September 15 one ounce of whole milk was added to the mixture and on the appearance of small curds it was withdrawn. A week later four ounces of whole milk were added to the food. Next the stools became hard and marble-like and whole milk was again withdrawn. Six days after this one ounce of cream was added; after this the bowel movement again became dry and firm and the tongue was coated; then the cream was removed. On the forty-sixth day the child was taken home by the mother in very evident good health, good color, active, eager for its food, no colic, gaining in weight and with clear, salve-like yellowish-brown stools.

	September			October													November		
Date	24	26	29	2	5	6	8	9	10	12	15	17	24	26	29	30	3	6	14
Cream . . . . . . Ozs.				1												1			
Milk. . . . . Ozs.		1	3		20						1		4						
Fat-free milk . . Ozs.						10	8	10	12	18	17	21	13	21	21	19	21	21	
Whey . . . . Ozs.				8															
Barley water. . . . Ozs.	18	9	8	5															
Water . . . . Ozs.		10	9	6		10	8	6	4	6	6		4			1		3	
Milk sugar. . . . .Ozs.	½																		
Cane sugar. . . . . Ozs.		1	1	1	⅜	⅜	⅜	⅜	⅜	⅜	¾	¾	¾	¾	1	1	¾	1	
No. of feedings	12	10	10	10	10	10	8	8	8	8	8	7	7	7	7	7	7	6	
Amount in ounces . .	1½	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	
Fats	0.	0.2	0.6	0.8	4.	0.	0.	0.	0.	0.	0.1	0.	.8	0.	0.	.8	0.	0.	
Proteids	0.	0.2	0.6	0.6	4.	2.	2.	2.5	3.	3.	3.	4.	3.	4.	4.	4.	4.	3 5	
Carbohydrates.	3.7	5.6	6.0	7.5	6.	4.7	5.	5.	6.	5.2	6.5	8.	7.3	8.	9.	9.	8.	8.	
Total calories, ...	114	148	187	239	485	145	133	151	169	231	288	300	312	300	330	364	300	320	
Energy quotient . . .	25	67	65	85	179	51	47	53	60	82	99	100	100	99	103	120	96	103	
No. of B. movements.	2	4	2	4	6	8	3	2	5	1	1	2	1	2	2	4	3	1	2
Weight in pounds*. .	$5.^{12}$	$5.^{14}$	$6.^{4}$	$6.^{0}$	$5.^{15}$	6.			$6.^{1}$	6	$6.^{4}$	$6.^{6}$		$6.^{11}$		$6.^{14}$	$6.^{15}$	7	$7.^{9}$

* Weight is indicated in pounds in ordinary figures, ounces in superior figures.

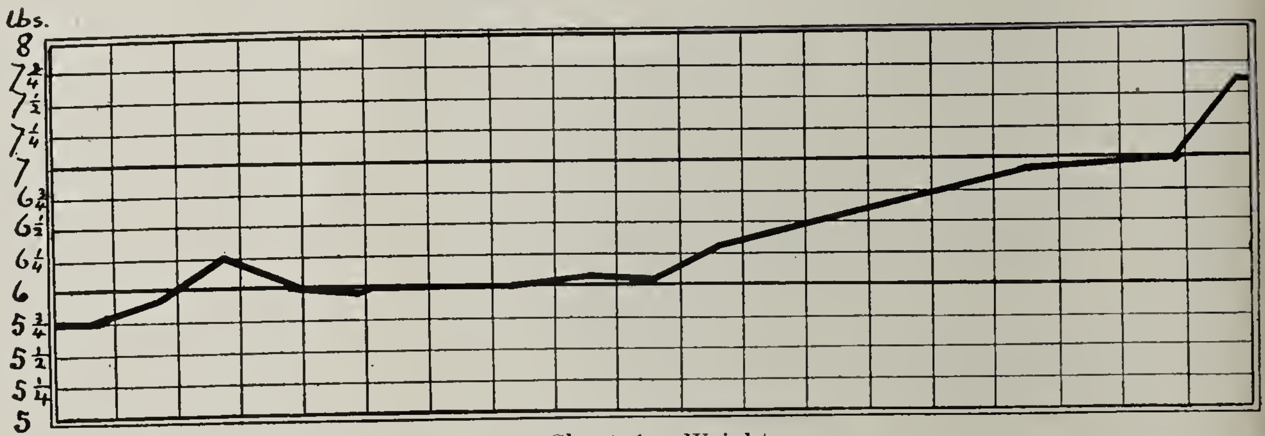

Chart 1.—Weight.

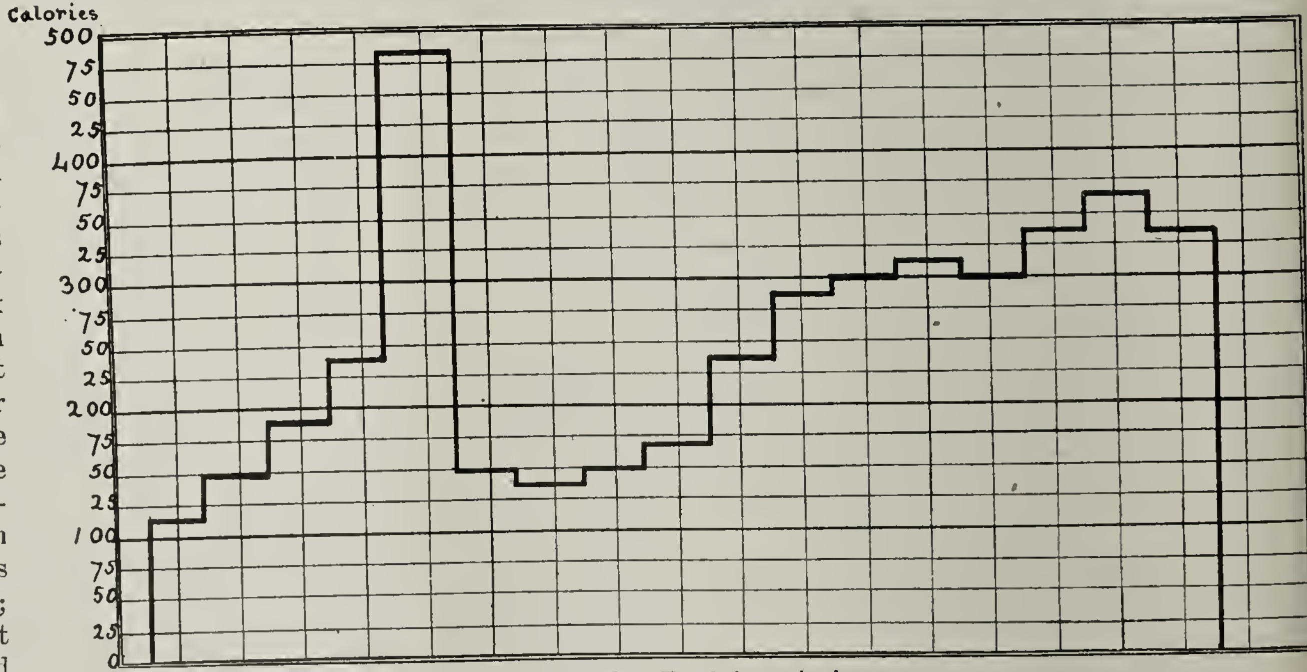

Chart 2.—Food in calories.

Charts 1 and 2 tabulate the food and progress in this case.

Case 2. *Patient.*—H., male, aged 3 years, was admitted to Wesley Hospital.

History.—There are four children in the family, all well; the father and mother are in good health. The child was breastfed and had no serious illness until three weeks before admission to hospital, when the present sickness began suddenly with vomiting, high fever and diarrhea. The fever and diarrhea had continued up to the time of admission. The bowel movements were very frequent, from 10 to 20 a day; were very offensive, liquid and contained blood, mucus and pus.

Examination.—The child was in a condition of extreme emaciation and prostration when admitted to the hospital. He weighed 20 pounds. Lying on his back in great apathy, and with deeply sunken eyes, he looked more like a corpse than a living child. He was very dull and exhibited resistance only when disturbed for examination, feeding or changing his diapers. The cervical axillary and inguinal lymph glands were slightly enlarged. The skin was dry and pale, and the tongue was very red and dry, the teeth were covered with dry secretion and the angle of the mouth was fissured. The heart beat was rapid and the muscle tone muffled; there were no other abnormal findings in the chest. The abdomen was sunken, but without muscular rigidity or tenderness. The liver could be felt an inch below the costal arch; the spleen was not palpable. Blood examination revealed 25,000 leucocytes. There was no Widal reaction. The bowel movements were thin, numerous, greenish and slimy; very small in amount, consisting of curds and débris and masses of pus, and were blood streaked. The odor was very offensive.

Treatment.—Details are shown in Chart 2. The child was placed on stimulation, and fat-free milk and arrowroot were ordered every four hours. He took his nourishment only in small amounts and that after persuasion. The following day the stools were examined and found to contain many colon bacili and cocci, pus, and starch granules. The child vomited several times and rejected his food. On the third day he was fed through a nasal catheter; four ounces of sterilized fat-free milk were given six times in the 24 hours. From this time on there was no vomiting and the character of the bowel movements changed. There were never any curds in the stools while he was taking the fat-free milk even, as seen in the chart, when he was having more than a quart a day. The soft yellow salve-like stools soon replaced the early stools and putridity was absent. On the fifth day in the hospital his temperature became 102+ F. The following morning the explanation of the rise in temperature was found in a red, swollen and tender condition of the right parotid gland; with this exception the improvement was uninterrupted. The additions that were made to the diet are shown in Chart 3 and illustrate the value of determining the energy quotient, in order properly to nourish the child.

Entero-colitis.

	October																November									
Date	15	16	17	18	19	20	21	22	23	24	25	29	27	28	29	30	1	2	3	4	5	6	10	12	16	30
Whole milk . . . Ozs.																5	5	5	5	5	5	5	5	5	10	10
Fat-free milk . . . Ozs.	4	4	20	30	30	30	30	30	30	30	30	30	30	30	30	35	35	35	35	35	35	35	35	35	40	40
Arrowroot water . . . Ozs.	8	8																								
Cane sugar . . . Ozs.																½	½	½	½	½	½	½	½	½	½	½
Wheat flour . . . Ozs.														2	2	2	2	2	2	2	2	2	2	2	1	1
Quantity . . . Ozs.				6	6	6	6	6	6	6	6	6	6	6	6	8	8	8	8	8	8	8	8	8	10	10
No. of Feedings . . .				5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
No. of B. movements . . .	?	?	?	?	8	8	8	5	7	4	9	7	2	4	7	5	5	2	5	4	2	2	2	2	3	2
Blood . . .	B	B	B		B	B																				
Pus . . .	P	P	P	P	P	P	P	P	P		P															
Mucus . . .	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M										
Vomiting . . .	V	V	V																							
Total calories . . .	64	[200	300—]											540		655									790	790
Energy quotient . . .	7	[22	33—]											60		72									81	68
Weight . . . Lbs.	20	20	19.^{15} —]									19.^{15}		19.^{15}						20.^{4}		20.^{10}		21.^{2}	21.^{5}	22

SUMMARY.

A child entering the hospital in a very grave state with a severe ulcerating enterocolitis was fed on a fat-free, proteid-rich diet, without sign of distress or indigestion of this food. This food seemed to have a decidedly beneficial and therapeutic effect in allaying the inflamed bowel and lessening the putridity of the bowel content.

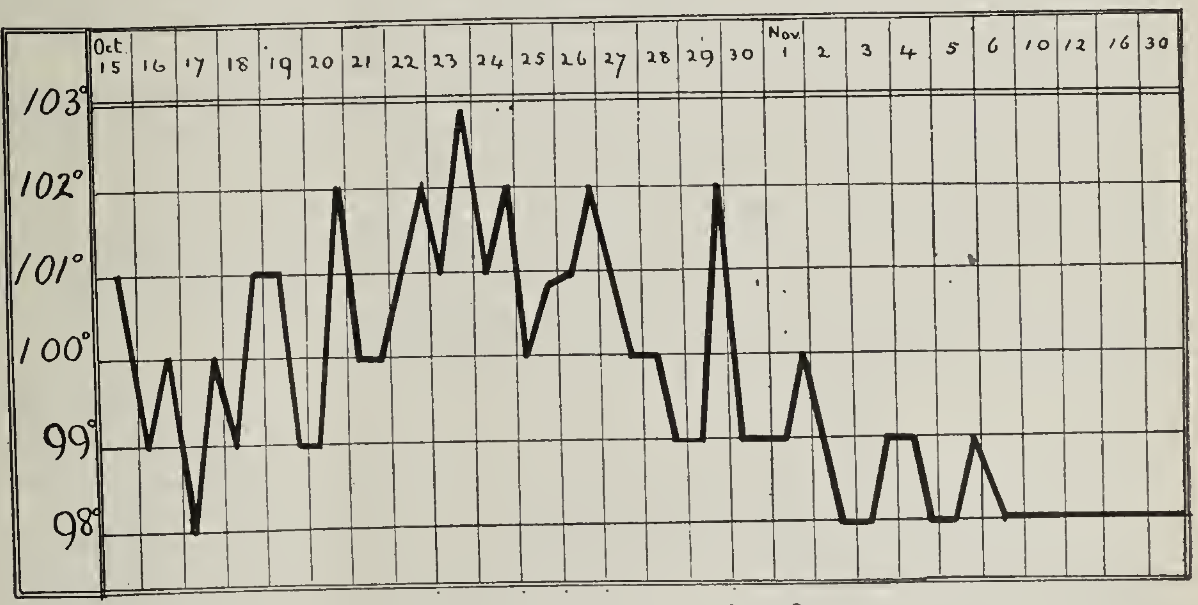

Chart 3.—Temperature in Case 2.

A 10-months-old child, three weeks ago, was taken suddenly ill with ileocolitis. For two weeks the conditions were much like those described in the preceding case. The child was put on fat-free, proteid-rich milk, and is now taking 8 ounces five times a day, or 40 ounces in the 24 hours. The movement was soft, absolutely free from any sign of curd, yellowish in color, salve-like in consistency and inoffensive in odor. The therapeutic result is similar to that in the other cases of ulcerative ileocolitis.

An atrophic child, now in Wesley Hospital, aged 5 months and weighing a half-pound less than he did at birth; that is, 7 pounds; he is taking as food 30 ounces of fat-free, sterilized milk a day. He was admitted to the hospital because his mother was worn out in her efforts to find a food for the child. The baby cried all the time, said the mother. On a fat-free milk, given every four hours, he has gained seven ounces in ten days; has no symptoms of colic and is much more contented. There are never any curds in the stools.

PERCENTAGE SCHEDULES FAULTY.

The former ideas of the nutritive and digestive disturbance that arose in the artificial feeding of infants on cow's milk were based on the hypothesis that the proteid content of cow's milk was difficult to digest and, without demonstrating this, every means were taken to overcome the assumed difficulty. The milk was diluted until the proteids were reduced almost to the vanishing point. The proteids were split by the addition of rennet, and whey containing the "soluble" albumin with cream additions came into popular use. Alkalies, such as bicarbonate of soda or of potash or lime water, were used to diminish the curd coagulum. Cereal decoctions were said to have a similar action. The predigestion of the casein by pepsin or pancreatin was likewise prescribed, and of late we are told that citrate of soda makes proteid digestion easier.

Ludwig F. Meyer says that the difference in the behavior of human and of cow's milk should no longer be sought in the different caseins and their lighter or harder digestibility. The principal difference in the two milks, he says, consists much more in the whey, especially with regard to the contained ferments and inorganic salts.

The fact is we have no single symptom or group of symptoms from which we may conclude that any injury to the infant occurs from the albuminoid material in cow's milk, and with the demonstration of this fact all the methods advocated to aid in the digestion of the proteid are without foundation, are useless and may be harmful. It is not to be understood that this article advocates the feeding of babies on a fat-free or skim-milk diet. The normal baby demands a proportion of fat in its food, and the amount is a problem for individual determination. As mentioned in Dr. Brenneman's paper, the most frequent source of overfeeding is an excessive amount of fat, and the most dangerous foods are the cream mixtures. The cream mixtures give too much fat and too little proteid. If, as the champions of the percentage method of feeding tell us, "the modification of the proteid is the most important change necessary in cow's milk, for it is the proteid which gives most of the trouble to the infant's digestion," then it must follow, after the demonstration of the innocuousness of cow's proteid, that the percentage method is built on an erroneous idea. Moreover, since the published schedules on the percentage basis exhibit a high degree of overfeeding and do not accurately tell the amount of food that a child is having, there is little, if any, reason at present for the existence of the method.

THE VALUE OF WHOLE MILK MIXTURES.

It may be asked what can be offered in its place, and I should answer the feeding of normal infants on whole milk mixtures, beginning with dilution not to exceed one part of milk to two parts of water and lessening the dilution until whole milk is reached, sometimes from six months to a year; and such whole milk should contain not to exceed from 2 to 3 per cent. of fat rather than 4 per cent., as is present in certified milk.

The baby from the first week should not be fed oftener than every four hours during the day and twice at night, and the amount at each feeding should be enough to satisfy its appetite. Few babies, if fed only every four hours, will take too much food. A check against overfeeding should be applied, however, in every child by estimating the caloric value of the food taken during the 24 hours. The caloric value of the infant's food is a matter of easy calculation.

For a further discussion of the caloric check against overfeeding I refer to the paper by Dr. Brenneman on that subject. It is understood, of course, that the food of the infant should be properly balanced and contain fat, carbohydrates and proteid in due proportion. The food elements, fat, proteid and carbohydrates, are not isodynamic in the sense that metabolism can be properly and continuously provided for on a diet made up entirely of any one or two of these elements. But what this due proportion should be is a matter for study in the individual case and not a part of this paper, except in so far as it points out the harmlessness of cow's milk proteid, and leaves for consideration the importance of a proteid rich diet.

CONCLUSIONS.

1. There is no evidence that the proteid of cow's milk causes any digestive disturbance in the infant.
2. All experiments prove that cow's proteid is easy to digest and resists putrefaction.
3. The methods mentioned above as aids in the digestion of the proteids are without reason.
4. In sterile, fat-free milk we possess an unequaled therapeutic agent in the treatment of the nutritive disorders of infancy.

Ten Laparotomies for Adhesive Peritonitis with Final Cure.—Greiffenhagen relates in the *St. Petersb. med. Wochenschr.* for October 13 the details of a case of chronic peritonitis with recurring lesions in a housemaid of 35, a primipara, finally cured after nephropexy had been done four times and laparotomy ten. The woman had had varioloid and scarlet fever as a child, but otherwise nothing could be discovered to account for the adhesive peritonitis. The appendix, adnexa and other organs were sound. The numerous operations were undertaken principally to relieve the intense recurring pains, without much hope of a permanent cure, but the patient has been in good health for eight years since the last operation. The first symptoms to attract attention were those from wandering kidney.

GLEANINGS FROM FOUR YEARS' EXPERIENCE IN THE CORRELATION OF CLINICAL AND RADIO-DIAGNOSTIC FINDINGS.

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During the past four years I have consistently employed as a diagnostic aid the *x*-ray in the field of internal medicine, and this in hospital, private and consultation work. The method followed was routined, thus: A thorough clinical examination was first made and a tentative diagnosis formed, then a radiogram was taken and, if necessary, the fluoroscope used; if the clinical and radiographic evidences did not tally, the patients were re-examined, special attention being directed to the discrepancy. Thus the clinical and radiographic pictures were finally correlated and the previous errors noted. It frequently happened that many clinicians had the opportunity of seeing the same patient and of forming tentative opinions: internes, those seeking postgraduate instruction, general practitioners and hospital physicians. In such event the varied errors were recorded.

The first year's work served to develop sufficient skill in the use of the *x*-ray to make it of service and incidentally to demonstrate the high educational value of the method outlined since.

1. Diagnostic errors could be frequently corrected while the patient was under clinical observation.
2. Those who had arrived at wrong clinical conclusions could not readily cavil at the correct one when the latter was based on such correlated and partly visible work.

It seems to me that, notwithstanding the loss of the plates and detailed records in the late San Francisco fire, short reports of group cases showing the diagnostic value of such correlated work and the recording of the lessons learned, and of some of the common mistakes made by internes and those seeking postgraduate instruction, might be of service.

DIAPHRAGAMATIC AFFECTIONS.

Case 1.—Middle-aged man, whom previous examination had shown to be free from organic disease.

History.—An oculist had been testing his eye refraction and had used hyosein as a pupil dilator. This had upset him, had made him nervous, and that morning he found he could not empty his chest during expiration.

Examination.—When he was stripped I was surprised to see that during the expiratory phase two cup-shaped hollows became evident, one at the outer border of each rectus muscle at the lower margin of the thoracic cage. These hollows almost disappeared during the latter part of inspiration, to become again marked during expiration, and the more strenuous the gentleman's expiratory endeavors became, the greater became the capacity of these retractions. The patient was neither dyspneic, nor in pain, but was mentally annoyed. The complaint of inability to expire completely, plus the hollows in the line of the diaphragm insertion, naturally suggested some abnormality in the action of that muscle.

X-ray Examination.—The fluoroscopic picture was interesting. The diaphragm moved up and down piston-like during respiration, but instead of each half being dome-shaped, it was as though the summit of each dome had been cut off, each half presenting a striking resemblance to a table mountain. This appearance was maintained during the whole respiratory phase and was evidently caused by a localized, bilateral spasm of the diaphragmatic fibers.

Since during inspiration the insertion and origin of these fibers were approximated, the clinical evidence of the spasm diminished during this phase, so that without the fluoroscope I could only have surmised the probable, with the fluoroscope I could see the actual. The fact that such local spasm of this muscle can occur, is instructive and perhaps may be the cause of some of the crampy pains in its neighborhood, though this patient had no pain, and may explain the origin of some of the antero-posterior liver grooves not uncommonly found in the postmortem rooms.

After an afternoon spent on the golf links this man's diaphragm acted in the normal manner. Whether the hyoscin was directly responsible as the man declares, or whether it was simply a factor in producing a nervous condition, during which functional, bilateral local diaphragmatic spasm developed, I cannot say.

The movements of the diaphragm serve as an index of the movements of the basal surface of the lungs, and are better studied with the fluoroscope than in any other way. The edges of the lung base may move in the complemental pleural spaces without there being a corresponding diaphragm movement, and hence diaphragm movement and expansion of the lung basal edges are not necessarily synonymous. The Litten phrenic wave, on the other hand, is caused by the peeling off of the diaphragm from the chest wall in its descent and serves to indicate its excursion. Hence our clinical examination should include a diligent study of both these phenomena.

The most common errors in this connection noted during this work have been:

1. No estimation of the lung border movement has been attempted.
2. The extent of movement of the lung basal edge has been percussed, for only at one or, at most, two spots, and the result has been assumed to answer for the whole margin, consequently the clinical search for localized adhesions or for small loculated basal effusions, was insufficient, and any deductions drawn as to their presence or absence were illogically based.
3. The pulling up of the chest wall was commonly percussed as diaphragmatic movement.
4. No phrenic wave was looked for.
5. If looked for, the inspiratory sucking-in of the lower intercostal spaces was often mistaken for it.
6. Those who looked for and found it, often considered it unnecessary to estimate by percussion the lung border movement in a circumferential manner, even though they had only seen the phrenic wave in the axillary region.
7. Palpation sensitiveness was rarely sought for.

Practical clinical skill in the diagnosis of conditions in this region is difficult to acquire. The fluoroscope will aid much in the interpretation and, if used correctly, in the acquisition of such clinical ability.

OLD APICAL DISEASE.

Case 2.—A young, well-developed woman, came to my office desiring to know the nature of a lump in her neck. There was a history of chronic cold some years previously.

Examination.—Inspection, palpation, percussion, and auscultation revealed nothing abnormal, except that the right supraclavicular and infraclavicular regions were not as prominent as the left.

X-ray Examination.—The fluoroscope showed a pear-shaped, dark, clean-edged shadow almost as large as an English walnut, just under the right clavicle. The history of a cold, the slightly sunken apex, the dense shadow, indicated an old, healed and probably calcified tubercular focus. The glands in the neck were considered tubercular and their removal advised, the patient being told of the old lung lesion. She visited many physicians, all of whom denied that there was or had been anything wrong with the right lung. She returned to tell me of my error, and it was only when she saw the dense shadow on a radiograph plate that she recognized the truth of my contention.

This case forms one of a series of similar ones in which in well-developed persons a slightly shrunken apex was the clinical corollary of a marked, clean-cut radiographic shadow. Such old lesions are often not noted in clinical work, since such patients present no symptoms of active lung disease.

The following errors are common:

1. Very little time is given to inspection and hence slight retractions are not noted.
2. The height and breadth of the lung apices are not as a routine measure percussed.
3. If differences in height and breadth be noted, they are not infrequently interpreted as errors of development.

Patients with such old lesions react to tuberculin; they occasionally get influenzal apical infiltrations. The composite picture almost invariably insures a diagnosis of active tuberculosis, even though no tubercle bacilli can be found, and, while this is satisfactory from the standpoint of treatment, a report of the cure of such cases of supposedly active tuberculosis is, of course, very misleading. The radiograms themselves may aid in the deception, but the continuous absence of the tubercle bacilli, the presence of bacillus of influenza, and the much darker, old shadow in the radiogram will, when correlated, serve to lead us to a correct diagnosis.

Of the relative value of pure clinical and radiographic work in the diagnosis of incipient apical tuberculosis I will say nothing, inasmuch as these methods are no more rival measures than are the clinical examinations of an acute abdominal lesion and the estimation of that patient's leucocyte count, but are handmaidens to each other. This case brings out the value of the radiogram from the standpoint of the relationship between the physician and the patient. The doubters become convinced when a radiogram of the normal and a radiogram of their own diseased lung or enlarged heart is shown them and become much more amenable to treatment and ready to diligently carry out the physician's instructions.

CENTRAL PNEUMONIC PATCHES.

Case 3.—Patient, male, lately come to San Francisco from China, was seen in consultation. He complained of daily chills and excessive sweating.

Examination.—Patient looked septic. Liver and spleen much enlarged. Leucocytes 12,000. The heart and lungs seemed normal, the abdomen was not rigid, the liver was not tender, no malarial parasites could be found in the blood, and no amebæ in the stools, the urine was normal. He had been taking quinin with no apparent effect. We were inclined to suspect the presence of a deep seated liver abscess, but before deciding, we determined to make a fluoroscopic examination.

X-ray Examination.—With the fluoroscope we saw, centrally placed in the left lower lobe, just above the diaphragm, a dense shadow about the size of a tangerine orange. At deep inspiration the diaphragm descended and allowed the light to penetrate between it and the mass.

Re-examination.—Carefully re-examining the patient and paying particular attention to the left posterior lung base, one could detect over the site of this shadow, an increased resistance on percussing with the passive finger resting firmly on the chest, and over this area the vocal fremitus was diminished and the breath sounds faint. These physical signs alone would not have justified a diagnosis, and at best would have suggested waiting to determine if they should change. The correlated picture, however, made the diagnosis of a central patch of pneumonia, with a blocking of its feeding bronchus, occurring in a man who previously had a large liver and spleen (probably hypertrophic stage of atrophic cirrhosis) extremely probable and such the after history proved the case to be.

Case 4.—A young Englishman, who had come from China, was seen in consultation with Dr. Brunn. He had been having chills and fever, and marked sweating, for which he had been unsuccessfully treated with quinin.

Examination.—No parasites were found in his blood, his leucocyte count was 12,000, no amebæ present in the stools. Liver and spleen both enlarged. The tentative diagnosis here also had been liver abscess. Examination of the lungs disclosed an area, just below the left scapular angle, where there was an increased percussion resistance; here a few râles could be heard and the expiration was slightly bronchial. A diagnosis of a central patch of pneumonia was made and its presence afterwards confirmed by the fluoroscope. The malarial parasites were later found so that we had to do with a case of malaria, which a central patch of pneumonia had complicated.

These two cases were interesting from several standpoints. In the first place, they show us we must not jump at a diagnosis of liver abscess in patients who have come from districts in which such abscesses are not uncommon, even though the past history, the symptoms and signs (chills, fever, leucocytosis, big liver) and the apparent absence of other causes are suggestive. The first case illustrated the value of the ray in the diagnosis of patches of central pnuemonia which present few signs, and such silent pneumonic areas are not rare, particularly in children. Further, it convinced me that I was better able to recognize such deep-seated infiltration by the sense of resistance than by the percussion note. This has been repeatedly impressed on me in this work, and in the clinics, where I try to get the men to test their results obtained from percussion sound and percussion resistance, I find they come to realize the highest value of the latter. The same applies to the determination of the heart borders and of superficial and deep dulnesses generally. Personally I know that if I wish to obtain percussion results corresponding with *x*-ray findings I have to go systematically over the chest, with light percussion, with moderately heavy percussion, with percussion resistance, the passive finger resting lightly on the chest wall, and with percussion resistance, the passive finger resting firmly on the chest wall.

I believe that in neglecting to emphasize the value of percussion resistance many teachers and authors err. Perhaps some physicians are so gifted in tone perception, etc., as to render other methods superfluous, but in those whom I have tested the pressure sense has become more reliable.

PERIBRONCHIAL GLANDULAR ENLARGEMENTS.

Case 5.—A young woman, seen in consultation with Dr. Wilson Shiels, had lost much weight. Dr. Shiels was unable to fatten her by any method whatever. No other symptoms were present except a slight cough.

Examination.—No cause was revealed for this loss of weight. A few glands could be felt in the iliac fossæ, and there was, perhaps, a slight percussion-palpation resistance over each lung root. The other signs, supposedly characteristic of the presence of peribronchial glands, were absent. Nevertheless the probable diagnosis seemed to me peribronchial tuberculosis.

X-ray Examination.—We took a plate in order to determine this, and found a good deal of infiltration around each lung root. At one spot a tubercular area had become calcified; the rest of the lung was entirely clear and the diaphragm at its normal level.

This case is a type of several I have seen in which clinically there have not been sufficient signs to render the diagnosis of peribronchial glandular tuberculosis more than probable. On the other hand, indications were absent of involvement of the more readily examinable structures in a person who looks tubercular and behaves clinically as if tubercular. In many such patients (both adults and children) I have by means of the radiogram demonstrated the presence of peribronchial glandular enlargement. One can not from one plate conclude that the process is still an active one. To determine this another plate taken under the same conditions must show an increase in the area of infiltration, or combined with the picture we must have the clinical indications of tuberculosis, such as evening rise of temperature, cough and, of course, at some time or other tubercle bacilli in the sputum.

Occasionally one sees patients in whom quite an extension has taken place from the root into the lung toward the tip of the shoulder, this central infiltration exhibiting exceedingly few indications of its presence, but the radiogram readily reveals the extensive involvement. We must, however, remember that in tuberculosis of the body, wherever situated, peribronchial tuberculosis, old or recent, is apt to be found postmortem and such, a good radiogram, can show antemortem. Further, in patients with non-tubercular pulmonary inflammations, abdominal carcinoma, esophageal carcinoma, etc., peribronchial glandular enlargement may occur, and I have seen several cases in which the shadows cast by such glands were clearly apparent in radiograms of patients suffering from these diseases, and this in the absence of any evident correlated physical signs. In such instances the possibility that they represent old tubercular peribronchial glands must always be borne in mind and the question determined by the whole clinical picture.

In two examples—one of lung carcinoma and one of bronchial carcinoma—the physical signs and the presence of multiple enlarged supraclavicular glands rendered the diagnosis easy, but the pictures obtained were so characteristic as to leave no doubt of the value of the plate in doubtful cases.

LOCULATED EFFUSIONS.—INTERLOBAR EMPYEMA.

Case 6.—A man, admitted into St. Luke's Hospital in Dr. Moffit's service, complaining of pain in the right hypochondriac region. The pulse was hurried and a moderate degree of fever was present. The interne diagnosed cholecystitis. Investigation showed that we had to do with one of those cases of thoracic disease which simulate an intra-abdominal lesion.

Examination.—Chest examination demonstrated posteriorly on the right side in the line of the great fissure a dull area, over which there were an increased superficial percussion resistance and a diminution of breath sounds. This area increased from day to day, finally becoming oval in shape. In increasing it evidently pressed on the lung tissue of the upper and lower lobes, giving the changeable physical signs that arise from the varying amount of air in the lung vesicles.

X-ray Examination.—Considering that we were dealing with a case of interlobar empyema we made a radiogram. A large oval shadow with sharp edges, the periphery darker than the center was readily seen, the center corresponding pretty nearly to the normal position of the fissure. The right diaphragm was quite as low as the left, as though Nature had determined to make as much room as possible for the collection, thus avoiding tension. Operation demonstrated the correctness of the diagnosis.

This case was to me very instructive, inasmuch as I had been asked some weeks previously to interpret an almost identical plate made from a patient whom I had not seen clinically. The differential diagnosis of the plate seemed to rest between a cyst of the lung and a loculated collection of fluid dependent on a local pleurisy or a rib tuberculosis. I thought it unlikely to be a cyst, inasmuch as I would have expected a cyst of such size growing in the soft lung parenchyma to have been more rounded. I, therefore, considered it to be due to one of the two latter conditions. Later I saw a more recent radiogram of the same patient. The oval shadow had vanished, the lung was quite clear, but now there was a little fluid in the pleural cavity which finally disappeared. In view of the correlated picture of the previous case and the two radiograms of this case, I believe it was a case of interlobar serous pleural effusion which had ruptured into the general pleural cavity and in that way a cure had resulted.

So much has been written on the value of the *x*-ray in the diagnosis of aneurism of the arch of the aorta that I have little to add on this subject. However, I have never seen such an aneurism depicted on the plate (and I have seen many) which did not give rise to clinical signs and whose presence ought not to have been surmised previous to the radiographic examination. I have watched patients in which I thought such to be the case, but they turned out to be examples of arteriosclerosis of the arch, the plate showing the characteristic knob on the left side. In such connection I would again emphasize the mistake made by so many of not cultivating the sense of percussion, palpation resistance, in percussing out dulnesses in this area; especially is this method of value in cases complicated by emphysema which may otherwise hide the aneurismal enlargement. But I do not doubt that there do occur small saccular aneurisms which exhibit no chest physical signs and which, of course, are distinctly visible on a good plate.

I would like here to refer to a remarkable case which I lately saw: An old man with Bright's disease had paralysis of one vocal cord. I carefully overhauled his chest for indications of aneurism and could find none. The interne, Dr. Loos, made the postmortem examination and reported a small saccular aneurism. He removed the heart and big vessels in mass with the contained blood. I saw the specimens and noted the presence of the aneurism, which was about the size of half a marble. We emptied the heart and aorta, and, lo! the pouch disappeared and its wall became in line with the adjoining walls, but remained somewhat loose. Two other physicians then entered the room, neither of whom could see any indication of the pouch. Such an occurrence must have been due to the wall at this point possessing enough elasticity to retract when once the dilating internal blood was removed, and this opens up the question whether functional dilatations are not temporary aneurisms and whether the vessels do not sometimes change at death just as may the size of the heart chambers.

I desire to add one word concerning dilatation or aneurisms of the descending thoracic aorta. I have seen several patients who have complained of one-sided chest pains, pseudoanginal in character, but without the other usual accompanying symptoms of anginal attacks. They have had this pain for years and have shown a markedly high systolic blood pressure. In some of these patients presenting no physical signs apart from a markedly accentuated second aortic sound, dilatation of the descending thoracic aorta can be shown as it runs behind the heart, and, though I have carefully looked, I have been able to find no corresponding correlatable physical signs. Potassium iodid in large doses alleviates and often dissipates the pain.

THE PNEUMOTHORAX GROUP.

Case 7.—*Patient and History.*—A young man, apparently in good health, had been seized some weeks previously with sudden left-sided chest pain. Since then he had been somewhat dyspneic, but had continued to get about.

Examination.—The left side of the chest moved less than the right, though it was more prominent, the percussion note was hyper-resonant, the respiratory murmur somewhat faint, the left diaphragm low and moved little or none. There was no amphoric note, no amphoric respiration, no coin sound, no displacement of the heart and, because of the absence of these supposedly characteristic signs, an error was made in diagnosis.

X-ray Examination.—With the fluoroscope I was able to convince the doubters that a pneumothorax was present as the lattice work of the chest was unnaturally bright, and the lung could be plainly seen lying along the vertebral column. It expanded a little at each inspiration and pulsated in an expansile manner apparently synchronously with the heart. Similarly in a considerable number of patients with pleuritic effusion I have been able by the use of the fluoroscope to confirm my clinical suspicions that air had been unintentionally admitted owing to bungling tapping.

There is no doubt but that there is a tendency for physicians to rely too much on the presence of so-called pathognomonic signs in the diagnosis of disease. This has been very apparent in the course of the work we have attempted to do and has been responsible for many diagnostic errors. It takes some time before one can successfully inculcate in a new batch of senior students that there are practically no pathognomonic signs, but that the diagnosis must be made from a much broader standpoint, and in that inculcation the ray has been very serviceable.

THE HEART AND PERICARDIUM.

As is well known, the auricular and ventricular pulsations can be plainly seen with the fluoroscope and the size of the respective chambers noted, and thus percussion ability can be gauged and acquired. I have not been able to time them, and in one thick-set patient with block heart the fluoroscopic examination was unsatisfactory. In such cases multiple tracings are to me much more convincing than any fluoroscopist's opinion.

In two patients referred for an *x*-ray chest examination I was able to suggest the presence of a pericardial exudate. Both patients were ambulatory. In one the pericardial exudate complicated a carcinoma of the mediastinum, in the other, lung and peribronchial tuberculosis. No postmortem was allowed of the first, but the pericardial sac in the other patient contained 300 c.c. of fluid. The diagnosis was suggested in both by radiograms. As I had not previously clinically examined the patients I can not say what had masked the exudate. We must admit, with Jones of Memphis, that many cases of pericardial effusions pass unrecognized. I can not but believe that some of the big dilated hearts that have diminished so wonderfully in size under Nauheim or Schott treatment have really been instances of unrecognized pericardial effusion. One example of this has lately come under my observation and its interpretation was plain. The failure to recognize these cases seems to be due to neglect on the part of the physician:

1. To suspect its possible presence.
2. To examine the patient in both the upright and recumbent positions.
3. To compare the apex beat and the outer limit of percussion resistance.
4. To test for palpation sensitiveness.

Some time ago I demonstrated plates which strongly suggested the existence of pericardial adhesions. For some months we had been testing, in hospital and clinic, the value of the clinical signs supposedly indicative of their presence. Our records were unfortunately burned. With Tallant we found Broadbent's posterior systolic retraction present in many patients in which there was no suggestion of adhesions, and in those who came to autopsy none was found. In such patients the position of the maximum retraction changed with deep respiration. In a small number no such change occurred. In these, other signs indicative of the existence of adhesions were evident, and it was in these that the radiograms also suggested their presence. The clinical recognition of these adhesions is at times easy, in other cases difficult, and in the latter class the ray is of distinct assistance.

ESOPHAGEAL DISEASES.

In some of these the radiograms, if correctly interpreted, will be of assistance. But we must never forget that esophageal tumors may pulsate and, in cases of abscesses, may actually show an expansile pulsation. We will avoid error if we remember that any tumor that has given rise to difficulty of swallowing as its first symptom is almost certainly esophageal in origin, however much it appears on the fluoroscope to resemble an aneurism. Again, in cases of esophageal pouches or dilatations consequent on spasm of the cardia, the radiogram will be of much service and will fulfill a function to which I have not alluded, viz: prevent dangerous inquisitive diagnostic meddling. The history of the patient, plus radiograms made with the pouch or dilatation, empty and then with the pouch containing milk with bismuth in suspension will render the diagnosis so easy as to make it superfluous to fiddle with double tubes or queer sounds, by the use of which perforation or ulceration may be produced. A physical sign, which as far as I know, has not been hitherto described, occurred in a case of an esophageal pouch and consisted in a change of pulse rhythm according as the pouch was empty or full. The change was more marked on deep respiration, and is, of course, readily explainable by the proximity of the pouch to the vessels, it, when full, exerting pressure on them. Reflection suggests that this pulse variation might be confined to one side, depending on the position of the pouch.

In esophageal diseases the correlation will be between the history, the symptoms and the radiogram, and hence a full history with events chronologically arranged is of extreme importance.

DISEASES OF THE ABDOMEN.

The diagnostic value of the x-ray in the diagnosis of renal, ureteral and bladder calculi and of vertebral and iliac disease is so universally recognized that little comment is here necessary. But we must not forget that shadows simulating those cast by calculi have been thrown by calcified retroperitoneal glands, by sesamoid bones, etc., so that some surgeons have even gone so far as to introduce a leaden stylet into the ureters and then photograph it *in situ* in order to determine if the doubtful shadow lay in the line of the ureter shadow. Such a proceeding is rarely necessary if we will properly correlate our clinical and radiographic findings and if we remember that segregation of the urine or, better, ureteral catheterization is as much demanded in the diagnostic study of these cases as radiography. Not infrequently the shadows of the kidneys themselves can be distinctly outlined on the plate, their relative size compared and any irregularity of the border noted.

I have never obtained definite radiographic outlines of the normal liver, but in cases in which pathologic changes have taken place in that organ modifying its density I have frequently succeeded in plainly outlining it on the photographic plate. Thus at the San Francisco County Medical Society I lately demonstrated a series of radiograms showing:

1. A Riedel's lobe.
2. A much enlarged liver which turned out to be the result of syphilis.
3. Another in which the enlargement was due to a liver abscess.
4. A series in which a corset lobe was plainly visible, running down toward the iliac crest.
5. A number in which the shadows cast by intrahepatic gallstones were distinct.

Of much help in the interpretation of some of these plates was the position of the large intestine, in liver enlargements its shadow ended at the lower border of those enlargements and, however big the liver was, the normal oblique line of its lower border was maintained. In kidney tumors, on the other hand, the bowel ran up alongside the tumor toward the shadow cast by the liver above. The nature of these masses could be readily detected by clinical means alone if the clinician persevered or varied his methods till he obtained complete relaxation of the abdominal wall, and then always remembered to trace the whole extent of the lower liver border. These points, however, received altogether insufficient attention from those working in the clinics. Similarly I have succeeded in registering on the plate a huge leukemic spleen, the notch being distinctly visible. in a patient who had been supposed to possess a tumor of renal origin. The blood picture was pathognomonic, however.

We can learn much of the position of the stomach, its size, its division into pathologic compartments and the likely therapeutic value of an abdominal support from radiography. I have not yet succeeded, as Hemmeter has, in getting radiographic evidence of the presence of a gastric ulcer, but have several times been guided to a stomach carcinoma.

I have up to now received little aid from the ray in the diagnosis of brain lesions. But it is probable that the technic which allows one to get beautifully clear anteroposterior views of the cranial air sinuses will help considerably in the differential diagnosis of the cause of the various headaches.

In conclusion I would suggest that:

1. Bilateral local functional spasm of the diaphragm can occur.
2. An appreciation of percussion resistance is of more assistance in diagnosis than is the percussion note.
3. An interlobar pleural effusion is sometimes serous, and hence the term interlobar empyema is a misnomer.
4. So-called functional dilatation of blood vessels are really temporary aneurisms, and that the vessels may change at or after death.
5. As Tallant has shown, many persons present the Broadbent retraction of the left lower posterior chest wall. In those cases in which there are no adhesions I have found that the position of the maximum retraction varies with the respiratory phases, being higher during expiration, lower during inspiration, while in cases with adhesions this change does not happen.
6. In patients presenting a pouch of the esophagus a change of pulse rhythm may occur, according as the pouch is empty or full, this variation being better marked during full respiration.
7. Pericardial effusions are often unrecognized and probably some cases of dilated hearts which have undergone extreme reduction in size from the Nauheim treatment have been instances of pericardial effusion.
8. The correlation of clinical and Roentgen diagnostic work as outlined will be of value as follows:

A. It will much increase the average physician's percentage of successful diagnoses.

B. It will enable even the expert clinician to assert that certain lesions are present whose existence he could otherwise only suspect, as e. g., peribronchial tuberculosis, central patches of pneumonia where the feeding bronchus is blocked, certain cases of bi- or triloculated stomach, and it will assist him to maintain a uniform standard, since it will tend to save him from errors made when he is brain weary and hurried.

C. It will be of some assistance in the relations between physician and patient.

D. It will sometimes render unnecessary dangerous inquisitive diagnostic methods, as, e. g., in esophageal pouches or dilatations.

E. It will assist the clinician in his endeavors to develop a high degree of clinical skill, helping him to sift his clinical armamentarium.

F. It will aid considerably in teaching, especially where it is necessary to correct rather than to instruct.

ADDENDUM.

In exposing many hundreds of patients for diagnostic purposes I have produced one burn. That was during the early work and should have been avoided. The burn healed with a good scar. I have seen no other evil results in patients. The summation of exposures renders the operator's task risky and dangerous. Protection must be thorough, and I would advise the clinician to have nothing whatsoever to do with radiotherapy.

MULTIPLE NEURITIS (NON-DIPHTHERITIC) IN CHILDREN.*

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Multiple neuritis in children is generally considered a rare condition. In Starr's[1] analysis of 154 cases of multiple neuritis, non-diphtheritic, none of the patients were under 15 years of age. In Remak's[2] series of 94 cases, 9 patients were between 10 and 20 years of age, but none below. Gowers[3] refers to it as extremely uncommon, as does Oppenheim.[4] Sachs[5] considers the question thoroughly and appears to have seen a number of cases, but gives no definite data.

Holt[6] speaks of the chief cause of multiple neuritis in children as being diphtheria, although it is occasionally seen after infectious diseases. He states that the metallic poisons rarely cause multiple neuritis in early life, and the same is true of alcohol. He refers to certain cases which have been assigned to simple exposure to cold. Buzzard[7] thinks it probable that a number of cases of so-called infantile paralysis are examples of multiple neuritis, especially those in which the patients make an exceptionally good recovery after a very long delay.

Cases of multiple neuritis in children have occurred in epidemics, usually associated with epidemics of anterior poliomyelitis. Medin[8] reports a most interesting series of cases which show this association. He studied cases occurring about Stockholm, viz.: 43 or 44 epidemic cases occurring in the year 1887, 29 sporadic cases occurring between 1888 and 1894 and 21 epidemic cases occurring during 1895. These were almost all cases of anterior poliomyelitis, but in the epidemic cases in 1887 he saw 6 of multiple neuritis and 2 during the epidemic of 1895.

The cases which Hammond[9] reported in 1895 occurring in an epidemic at Bridgeport, Conn., seem to have been almost exclusively cases of multiple neuritis. He recorded 10 in which the patients ranged in age from 4½ months to 4½ years; the youngest child died of inanition and dysphagia, the others improved. Caverly[10] and MacPhail[11] report a series of 126 cases of infantile paralysis occurring during the summer of 1894 in the city of Rutland, Vt. These cases were for the most part anterior poliomyelitis, "but in some there were elements strongly suggestive of multiple neuritis." Blackall[12] reports an epidemic in Australia. His 6 cases seem to have been cases of multiple neuritis. These cases occurring in epidemics are supposed to be due to some acute microbic infection, which it seems at times affects the spinal cord, at times the peripheral nerves and more rarely the brain and its membranes.

One of us (Dr. Greenbaum) has collected from the literature and tabulated 138 cases of non-diphtheritic multiple neuritis occurring in children. These cases are made up as follows:

	Total.	Boys.	Girls.	Not mentioned.
INFECTIOUS CASES.				
Gripppe.	3	2	1	0
Measles	8	2	5	1
Typhoid	5	4	1	0
Tuberculosis	1	1	0	0
Syphilis	2	0	0	2
Whooping cough	7	3	2	2
Chickenpox	1	0	0	1
Scarlet fever	6	2	4	0
Miscellaneous	15	6	5	4
	48	20	18	10
TOXIC CASES.				
Lead	19	11	6	2
Alcohol	5	5	0	0
Carbon monoxid	1	1	0	0
Arsenic chorea	19	4	13	2
Arsenic, non-chorea	4	2	1	1
	48	23	20	5
Ascending palsy	9	3	3	3
Unknown origin	33	11	9	13
	42	14	12	16
Total number of cases				138

In addition to these cases, Starr[1] says:

> All alcoholic drinks are not equally prone to produce paralysis. I have seen a case in a child of three years who had been given beer several times a day for several weeks.

Sachs[5] states:

> I have seen several cases of this description (malarial neuritis) in children who were brought to my clinic from the swampy parts of Long Island.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906. This paper was accompanied with a tabulated report of 138 cases, for which The Journal could not give space. The author offers to send a reprint of the complete article, including the case reports, to anyone on request. The entire article will also appear in the volume of Transactions of the Section on Nervous and Mental Diseases of the American Medical Association, 1906.

1. "Organic Nervous Diseases," pp. 102 and 120.
2. See Nothnagel's Spec. Path. u. Ther., xi, 3, p. 322.
3. "Diseases of the Nervous System," 3d ed., i, p. 152.
4. "Diseases of the Nervous System," p. 336, 2d Am. ed., i, p. 374, 2d German ed.
5. "Nervous Diseases of Children," 2d ed.
6. "Diseases of Infancy and Childhood," 2d ed., p. 831.
7. See Goodhardt: "Children's Diseases," 1899, 6th ed., p. 487.
8. See Neurol. Centrbl., 1891, p. 397; 1896, p. 1119; 1898, p. 703.
9. Med. Rec., Nov. 9, 1895.
10. The Journal A. M. A., 1896, p. 1; Med. Rec., 1894, Dec. 1, p. 673.
11. Montreal Med. Jour., No. 23, p. 417.
12. Australian Med. Gaz., 1904, July 20, p. 347.

Webber[13] says:

> Of all the patients, the youngest was nine years old. This is the youngest child in the list.

According to Oppenheim:[4]

> I have seen it several times in children from four to six years old.

It seems to us that the disease is probably not so uncommon as has been generally stated, but that the cases are not reported either because they are mistaken for ordinary infantile paralysis or else are not thought sufficiently interesting. Our experience in the Neurological Dispensary of the Johns Hopkins Hospital is somewhat unusual in two respects: 1, in the rather small number of cases of multiple neuritis in general; 2, in the large proportion of children we have seen among them. In the past 16 years, with an average of 1,200 new neurologic cases a year, we have seen only 21 cases in which the diagnosis of multiple neuritis (non-diphtheritic) has been made, and, out of these, 8 have occurred in children under 12. This does not include hospital cases where the severe adult cases are more apt to be sent directly. Among ward cases was one case of a child which was not recorded in the dispensary. The cases which we have to report include 5 girls and 3 boys, their ages being 3, 4, 5, 6, 9, 10, 10 and 12, respectively. Three of them followed typhoid fever, two of them having already been reported by Dr. Osler. In the other 5 cases we were entirely unable to determine any etiologic factors.

The clinical picture in all the cases was typical of multiple neuritis. The onset was generally acute with lassitude, fever and loss of appetite. Both arms and legs were affected in every case and practically symmetrically. Electric changes were generally present and the deep reflexes were lost in every case but Case 4, that of a girl of 12. We were never able to explain the persistence of the reflexes in this single case, unless it might have been a case of lead poisoning. In lead cases we have noticed that the knee-jerks are apt to be exaggerated, even at times when the legs were also themselves involved. All the patients improved, the arms improving first in every case except Case 4, the girl referred to, in whom the legs improved rapidly, but in whom, now 9 years after the onset, there is a stationary bilateral atrophic paralysis of the intrinsic muscles of the hands. This perhaps also indicates lead poisoning.

In a number of children there has been a tendency to the development of a slight contraction of the calf muscles. One of the patients showed a definite recurrence, and one two or three relapses.[14] The recovery in all was slow, extending over several months. We include only short abstracts of the cases.

CASE SUMMARIES.

Case 1.—Previously reported by Dr. Osler.

Patient.—D. S., boy, aged 9, was admitted to the Neurological Dispensary, Nov. 1, 1893.

History.—Patient had a severe fever of three weeks' duration; during convalescence, weakness of arms and legs with finally complete paralysis; foot-drop and wrist drop; great soreness of the muscles; progressive improvement; complete recovery after persisting for more than a year.

Present Condition.—Patient was seen April 17, 1906; had remained well, in perfectly normal condtion, except perhaps some slight weakness of the anterior muscles of the lower leg. "Can raise himself on his toes but not on his heels."

Case 2.—Previously reported by Dr. Osler.

Patient.—G. R., boy, aged 10, was admitted to the Neurological Dispensary,

History.—In September, 1894, he had had a severe attack of typhoid fever; in third week soreness in leg; gradual paralysis of arms and legs; on admission feebleness of arm muscles; grasp extremely feeble, double foot-drop; typical steppage gait; reaction of degeneration in leg muscles; great muscular soreness, arms and legs; discharged Feb. 4, 1895, after considerable improvement.

Case 3.—Referred to by Dr. Osler as a case following exposure to cold.

Patient.—H. J. F., aged 10, was exposed to wet and cold in September, 1894. On following morning complained of weakness in arms and hands. In the afternoon his legs were weak; by night he could not walk; was in bed for a month with fever and delirium. "He became perfectly helpless, but never at any time were there symptoms of typhoid fever."

Clinical History.—Patient was admitted Jan. 2, 1895. He was then pale and weak; walk typically steppage; cranial muscles, neck, shoulder and upper arm muscles all good, muscles of wrist, weak; dorsal flexors weaker; fingers were paralyzed; in legs, typical foot-drop; could not extend or flex the ankles, there was no particular sensitiveness of the muscles; sensation appeared normal; deep reflexes were absent; electrical changes in the weakened muscles.

Discharged from hospital, March 23, greatly improved. Returned later, in 1897, with arms perfectly normal; still some weakness of the ankle. In 1898 the right foot was almost completely normal; still some weakness on the left side.

Case 4.—Patient.—L. N., girl, aged 12, was admitted to the Neurological Dispensary in August, 1897, sick with fever and vomiting and pain in limbs.

Examination and Clinical History.—On examination she presented a typical picture of multiple neuritis, double wrist and foot-drop, except that the deep reflexes were all exaggerated. She could not sit up in bed; arms and legs seem to have been extremely weak. By September she had improved somewhat; could sit up and walk with assistance. Arms and legs were still very weak.

Subsequent History.—We were never able to find any etiologic factor, although we inquired diligently into her surroundings. We saw her constantly from 1897 to 1901 and infrequently since. She improved very greatly, particularly in regard to her legs which became normal. She was examined this year, is in excellent health; no abnormality about the legs, but her hands show a symmetrical atrophy, with loss of electrical response. This has been present and has not increased for the last eight or nine years. The deep reflexes are present and active, but not exaggerated.

Case 5.—*Patient.*—N. D., girl, white, aged 5, came to dispensary complaining of pain in legs and inability to walk, May 31, 1900.

History.—Patient had had good surroundings; no indication of any source of poisoning; she had always been a nervous child. On May 1 she became listless and feverish; appetite was poor; complained of pains in legs and arms; arms and legs became weak; manipulation of arms and legs was painful; when she entered the hospital she had double wrist-drop (slight); triceps reflex was present; double foot-drop; unable to walk; slight knee-jerk. Decreased electrical excitability in arms. Partial reaction of degeneration in legs.

Subsequent History.—Condition improved first in arms; she walked in September; was discharged from hospital, Oct. 18, 1900. During her stay in hospital she had irregular temperature, 101.5 being the highest. Child was fairly well through winter, but in summer of 1901 there was a recurrence of the neuritis which lasted a little over a month. She was examined in March, 1906. There have been no other recurrences; condition of her muscular system was practically normal; slight contracture of the gastrocnemius on each side; instep slightly more arched than normal; electrical reactions were normal.

Case 6.—W. E., girl, aged 3, white.

History.—Child had been rather sickly. In February, 1905, was operated on for swollen glands; in March had double pneumonia; during April and May was perfectly well. No source of poisoning was discoverable. In June she became fretful, had no appetite, was easily tired. In July she suddenly collapsed; arms and legs weak.

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[13] Multiple neuritis., Archives of Medicine, vol. xii, p. 42.

[14] Since the paper was read, this patient had a sudden attack of some acute disorder. The paralysis seemed to recur again and the patient died.

Clinical History.—Patient came to hospital Aug. 3, 1905, when she could hardly sit up. There was typical bilateral wrist and foot-drop; reaction of degeneration in muscles below elbow and knee; deep reflexes were absent; muscles were tender on pressure. Patient was given galvanism and massage daily. In a month her hands began to improve. By November she could stand alone and walk by holding her mother's hands. Deep reflexes in arms present; knee-jerk present, but ankle reflexes were not obtained. Condition continued to improve, but on December 6 there was a distinct relapse, particularly in the legs. Again began to walk December 18, and after that improvement was continuous. Note on April 12, 1906, records almost complete recovery, except slight contracture in the calf muscles.

Case 7.—History.—A. S., girl, aged 4. white, of a good German family, had had measles in May which lasted for two weeks. About the middle of June, 1905, she began to be fretful, had pain in stomach, back and legs, vomited, gradually lost power in walking and in a week was entirely unable to; also unable to use her hands.

Clinical History.—She was brought to the dispensary Nov. 11, 1905. There was no cause ascertainable except, perhaps, that she had been given "a mouthful of beer two or three times a week." There was bilateral wrist-drop, also some muscular atrophy; deep reflexes were absent; there was bilateral foot-drop. Movements of upper arm and legs above knee were normal. Calf muscles were slightly contracted. On left side knee-jerks were absent; right, just obtained. There were no reflexes from ankles. Pressure over muscles and nerves in arms and legs caused no pain. Typical reaction of degeneration in muscles of arms and legs.

Galvanism and massage daily. On November 19 the patient walked with typical steppage gait. She improved steadily. In March, 1906, the hands were nearly normal and the walk good. There was slight contracture of the gastrocnemius. In April, 1906, knee-jerks were normal.

Case 8.—*Patient.*—B. F., girl, aged 6, from West Virginia, was seen in the dispensary with Dr. Baer.

History.—Patient was a strong child up to her illness with typhoid fever, Oct. 8, 1905: she was very ill, had two relapses; became weak some time during the illness, just when is not known. She was sent to St. Mary's Hospital, Clarksburg, W. Va., Nov. 17, 1905, at which time both arms and legs were paralyzed. She improved greatly; left the hospital Feb. 18, 1906.

Examination.—On May 26, intrinsic muscles of the hands were slightly atrophied; muscular strength was fair; deep reflexes were doubtfully obtained; she walked with the typical steppage gait; strength of the hips and knees was good; there was marked weakness in flexors of ankles, the extensor calf muscles were stronger; knee kick was absent on right, doubtfully obtained on reinforcement on left; ankle reflexes were absent; plantar stimulation gave no response; pressure over leg muscles was not painful; electrical changes in legs were present, but not definitely determined on account of extreme irritability of child.

ADDITIONAL CASES.

A case seen in the ward of the Johns Hopkins Hospital has already been reported[15] because of its interest in relation to generalized lead paralysis.

Case 9.—A girl, aged 5½, was in the habit of scraping the cans in which the food came. Her arms had been weak for three months but two days before admission her legs became so weak that she was entirely unable to walk. There was a lead line on her gums, knee-jerks were normal. Unfortunately, she remained in the hospital only two days.

Case 10.—R. L., girl, aged 8, had multiple neuritis, following chorea and arsenic. Patient was seen with Dr. Cary Gamble, who will publish it in detail later.[16]

History.—During August and September, 1897, she had slight attack of chorea and was given Fowler's solution in seven drop doses. She took it in two courses and received in all 504 drops in about one month. On September 27 she began to lose power in legs and to complain of pins and needles.

Clinical History.—On October 1 she was admitted under Dr. Gamble's care to St. Joseph's Hospital. She had an arsenical skin eruption and complained of pins and needles in the calves of her legs, which were almost completely paralyzed. There were sensory changes over legs. Nerves and muscles were sensitive. Her condition remained practically the same until on October 18, when she began to complain of tingling in fingers, and on October 21 both hands became paralyzed. Next day she began to have difficulty in breathing, with rapid pulse. This was relieved by electricity, but the attacks recurred. On October 28 it was noted that the diaphragm was paralyzed. She died October 30.

SYMPTOMATOLOGY.

From a review of these cases and of the cases found in the literature, it appears that the clinical picture of multiple neuritis in children does not differ in any material manner from that presented by the disease in adults. Sensory troubles are difficult to determine in children, still subjective pains, paresthesia, pains on pressure over nerves and muscles, and pain on moving the limbs, either actively or passively, have all been described. Objectively, a decrease in the sense perceptions to touch has been found, together with pain and temperature as well as a delay in their conduction. The sensibility has been noted as normal in a number of cases. Sensory disturbances when present do not as a rule persist for a long time.

Electric changes have usually been found, although in certain of the cases the reaction has been noted as normal. The change may be only a decrease in excitability, but usually one of the grades of the reaction of degeneration is present. Atrophy is generally present and may be permanent. The deep reflexes are usually lost, but in certain cases have been noted as normal. The reflexes, if lost, usually return as the patient gets well.

The distribution of the paralysis is usually widespread and symmetrical, affecting both the upper and lower limbs, but the legs are generally more severely involved than the arms. This is especially true in cases following infectious diseases. In the lead cases, both the upper and lower limbs were involved 15 times. In two, the legs were alone involved. This confirms the statement which is generally made that lead paralysis in children is apt to involve the legs. In one of these cases one side alone was involved. In the alcoholic and arsenic cases the paralysis has affected both the upper and lower limbs, but here again the legs were more severely affected. The arms and hands are seldom involved alone, and in recovery they usually recover before the legs and feet.

DIFFERENTIAL DIAGNOSIS.

In diagnosis, the chief difficulty is to differentiate it from poliomyelitis, but the following points will be of help:

1. Multiple neuritis comes on more insidiously than poliomyelitis, but this is not always the case.
2. The cause in multiple neuritis may be known, such as metallic poisoning or a previous acute illness. In poliomyelitis the cause is unknown.

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[15] Johns Hopkins Hosp. Bull., 1904, xv, p. 159.

[16] This case is referred to in Dr. Osler's "Practice of Medicine."

3. Fever is more apt to occur at the onset of poliomyelitis.

4. Subjective pains may occur in either, but are perhaps more apt to occur in multiple neuritis and to last longer.

5. Objective disturbances in sensation, although difficult to estimate in children, point to multiple neuritis. Pain on pressure over muscles may occur in either.

6. Poliomyelitis may attack a single limb or the limbs in any combination and involve any group of muscles, but the paralysis is practically never bilaterally symmetrical and rarely affects all four limbs at one time. A widespread symmetrical paralysis is very characteristic of multiple neuritis.

7. Complete or nearly complete recovery is the rule in multiple neuritis; it is the exception in poliomyelitis.

8. A return of the knee-jerks and of the electric reactions to normal suggests the existence of multiple neuritis.

Besides poliomyelitis, the disease may in certain cases have to be differentiated from Friedreich's ataxia, tabes, hysteria, interstitial neuritis of Dejerine, progressive muscular dystrophy, myelitis, rickets, Pott's disease, progressive muscular atrophy and meningitis, but in these the history and associated symptoms makes the differentiation easy, and in none of them do we see the typical bilateral foot-drop and wrist-drop.

PROGNOSIS.

Prognosis is good. We note complete recovery in 58 of the cases in literature, in 46 partial recovery at the time of the report. In one case recovery failed to take place, and in 33 cases no mention is made as to the course of the disease. Fourteen cases were fatal: two arsenic, two alcohol, one lead, one unknown, six ascending paralysis, one angina follicularis, one syphilis. Of these, four have autopsy reports as follows:

Autopsy Reports.—Kahler and Pick: Nothing abnormal in nervous system.

Kast: Patient died of aspiration pneumonia. In the microscopic and macroscopic investigation the central nervous system was found normal. On the other hand, striking degeneration of the peripheral nerves, especially the hypoglossi, recurrent laryngeals, etc. The exact investigation of the rest of the peripheral nerves is not given, however it is conjectured that there are peripheral processes giving a symptom complex which clinically imports a spinal or bulbar disease.

Campbell: Pneumonia, tuberculosis, etc., disseminated degeneration of the myelin containing fibers through the white substance of the spinal cord and especially prominent in the posterior columns. Further, partial degeneration of the anterior and posterior nerve roots and finally degeneration in the peripheral nerves which, to be sure, was not of very high degree but was developed stronger peripherally.

Bergeron: Ranvier at autopsy found the nerve centers normal.

We note that five of the cases are recurrent; scarlet fever (Egis-Basette-Eglise), whooping cough (Surmay), unknown (Chapin).

TREATMENT.

In treatment, the cause, if possible, should be removed. A nourishing diet should be given, the bowels kept open. Rest in bed in the early stages, quinin in the malarial cases, massage, electricity, passive exercise, mild gymnastics and hydrotherapy are helpful. A tonic may be given. The pains usually disappear spontaneously; if they do not, hot baths or bromids will relieve them. If a permanent foot-drop or wrist-drop remain, the orthopedic surgeon may be consulted.[17]

DISCUSSION.

Dr. W. N. Bullard, Boston, said that he has seen a number of cases of this character, and asked Dr. Thomas if it is not possible that some of these unexplained cases were really due to diphtheria. In some of his own cases he has found it exceedingly difficult to discover the preceding disease, but many of them have been traced back to diphtheria.

Dr. H. M. Thomas, Baltimore, said that it is always hard to exclude anything absolutely, but that the cases to which he referred were not regarded as diphtheritic. The paralysis was different from that characteristic of diphtheria. The throat was not involved and there was no paralysis of accommodation. There must have been some toxin the cause of which was unknown. Certain cases of multiple neuritis in children have occurred in epidemics, usually in association with epidemics of anterior poliomyelitis, and it would look as if the same poison might be a cause of the two conditions.

A NEW MODE OF TREATMENT FOR INOPERABLE CANCER OF THE UTERUS BY MEANS OF ACETONE.*

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ST. LOUIS.

In recent literature there is a remarkable dearth on the subject of the treatment of inoperable cancer. The interest of the profession seems to be absorbed by the problems of earlier diagnosis and more radical operation in cases which are still within the reach of the surgeon. Yet, so long as the usual means of treatment fail to relieve in any degree the deplorable fate of the unfortunate ones who are beyond that reach, the attention and energy of the profession must also be claimed for improvements along the lines of treatment of inoperable carcinoma.

A rapid survey will substantiate these claims as far as inoperable cancer of the uterus is concerned. The much-heralded trypsin treatment has not come up to its promises. It has utterly failed in my cases and in those of most of the other observers. Roentgen-ray therapy in uterine cancer thus far at least has not accomplished any beneficial results. The experiences gained in the St. Louis Skin and Cancer Hospital prove that the Roentgen rays can not reach and destroy malignant growths in the cavities of the body.

The soundest suggestion of recent years is undoubtedly that of Lomer who advises curetting and thermocauterizing the diseased area thoroughly, and repeating this procedure at regular intervals of four weeks. Thus, by an extensive cicatrization of the cauterized tissues the remaining cancer cells, impaired as they are by the effect of the burning heat, would be deprived of their necessary nourishment. Unfortunately, this plan of treatment can not easily be carried out in practice. There are but few patients in my experience who will submit to these periodical operations, and I am not aware that Lomer's valuable suggestion has been confirmed by many reports from other quarters.

The hosts of other remedial agents need only be mentioned in order to be dismissed as absolutely useless:

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[17] For additional literature the reader is referred to the following: Abundo: Quoted in Neurol. Centrbl., 1891, No. 10, p. 396; Osler: "Studies in Typhoid Fever," ii, p. 404 to 411; Perrin: Arch. de Méd. des Enfants, Dec. 1902, p. 731.

* From the St. Louis Skin and Cancer Hospital.

Thyroid feeding, administration of drugs such as chelidonium majus, application of calcium carbid, electricity, the cancroin of Adamkiewicz, injections of various sera or of irritating substances such as alcohol, acetic acid, corrosive sublimate, methyl violet, venom of the cobra di capello, oil of turpentine, and arsenious acid.

The reader must bear in mind that, with the exception of trypsin and, perhaps, of the Roentgen rays, which aspired to a radical cure, all these modes of treatment merely aimed at making the patient's life endurable so long as it lasted. The primary object was, and still is, to reduce the weakening hemorrhages and to check the intolerable stench of the discharge. Yet, our pitiable helplessness in this respect can not be better illustrated than by the fact that two surgeons (Gottschalk and Kuestner) independently of each other, devised an artificial occlusion of the vagina (colpocleisis) as a last, though but temporary resort.

It is this distressing odor that has defied all our efforts. It is this odor that, in reality, constitutes the most formidable symptom of the disease, that makes devoted children wait almost impatiently for the death of a beloved mother, and that tends to break up all ties of family and friendship.

For the same reason, such patients are not willingly admitted in a general hospital. In an institution of the nature of the St. Louis Skin and Cancer Hospital, they seriously menace the workings of the hospital. Attending physicians as well as nurses suffer from the unbearable odor, and operable patients or those afflicted with less loathsome forms of cancer are easily driven away.

There was, then, every reason for trying to improve the existing conditions. For the last year and a half I have tried or tested a number of chemicals, without, however, receiving more than a passing encouragement. I may discuss the relative merits of these remedies in a later publication. In this report I merely wish to call attention to a new mode of treatment which thus far has yielded unexpectedly good results, and which in the limited number of cases in which it has been employed, seems to have successfully met the chief requirements in the treatment of inoperable cancer of the uterus.

This treatment consists of the methodical application of acetone. Acetone (Dimethyl-ketone, C_3H_6O) may be found, in traces, in every normal urine, and it increases in fever, with starvation, or with a purely meat diet. It is familiar to the clinician from its occurrence in the urine in cases of diabetes mellitus, in certain forms of digestive disturbances, and in some cases of carcinoma. Recently it has also been found in the urine of patients with ectopic gestation.

Physically, acetone is a transparent, colorless, mobile and volatile liquid of a characteristic ethereal odor and a pungent, sweetish taste. On the skin it causes the sensation of cold. It has found extensive use in laboratory technic for hardening tissues prepared for microscopic examination. Tissues shrink rapidly in acetone owing to its intensely hygroscopic qualities, and, if left in the fluid for more than half an hour they are, as a rule, too hard for the microtome knife.

It was my idea to utilize these laboratory observations for practical purposes. If the ulcerating surface of the cancer could be hardened *in vivo,* the discharge could be checked until the escharotic portion would be cast off. The resulting free surface could then again be hardened. It would perhaps, also, be possible to harden deeper portions or even the entire tumor, thus rendering the malignant growth temporarily harmless.

The treatment should, if feasible, be preceded by a thorough excochleation of the ulcerating area. The curetted cavity or crater is then carefully dried with cotton sponges and from one-half to one ounce of acetone is poured into the wound through a Ferguson or other tubular speculum. For this purpose the pelvis of the patient must be raised as in Trendelenburg's position. The narcosis may now be interrupted and the patient be left in this position for from fifteen to thirty minutes. Next, the acetone is permitted to run out through the speculum by lowering the pelvis of the patient and the cavity is packed with a narrow gauze strip soaked in acetone. The healthy mucosa of the vagina and the vulva are cleansed with sterile water and dried.

After this preliminary curetting and cauterization, the regular treatment which requires no further hospital care, is administered twice or three times a week, beginning the fourth or fifth day after the operation. This is done without narcosis and may be given with the patient in bed or on the ordinary examining chair or table in the office. The pelvis of the patient is raised and the tubular speculum is inserted into the cancerous cavity. With the progressive diminution of the crater, smaller specula are gradually employed. The speculum is filled with acetone and held in place by the patient's hand for half an hour, and is then emptied in the manner described above. Care should be taken to prevent the acetone from running over the vulva or perineum.

The immediate effect of this simple procedure is the following. Any slight oozing is checked almost instantly. The surface of the crater is covered with a thin whitish film; wherever there was an extravasation of blood, the discoloration is light brown. The normal vagina is not appreciably irritated. On the vulvar mucosa and the outer skin an excess of acetone produces a faintly white discoloration which soon disappears. There is no pain from the cauterization, save a slight stinging sensation if the acetone has touched the skin. This, however, passes away rapidly if the affected parts be washed with cool water. In no instance have I been forced to employ any anodynes.

The more remote effect manifests itself in a marked reduction of the intense odor. The discharge, at first, becomes more watery and gradually disappears. With it disappears the former stench. At the same time, the hemorrhages fail to recur—at least in the cases thus far treated. After two or three weeks of this treatment I have noticed a considerable diminution in the extent of the wound cavity. The walls of the latter become smooth and firm. There were no more polypoid excrescences, nor could the finger remove any friable tissue.

Owing to the absence of weakening hemorrhages and discharges, the general somatic condition of the patients improved visibly. On the other hand, sensations of pain caused by the extension of the cancer to adjoining organs or nerve trunks beyond the reach of the acetone, were not relieved; these required now, as before, administration of anodynes. In order to determine if there was any absorption of acetone into the organism, frequent examinations of urine were made both before and during the course of treatment. These examinations have, so far, remained negative.

Of the limited number of cases thus treated, one or two may serve as illustrations.

Case 1.—Mrs. F. S., aged 42.

History.—Present illness began June 25, 1906, with profuse hemorrhages, for which she was frequently "cauterized" by a physician in Texas, yet oozing and watery discharge continued, and she grew rapidly weak and anemic. She came to St. Louis and was curetted in another hospital on Oct. 14 and

Nov. 30, 1906, without relief. She had persistent bloody discharge, severe pain in the lower abdomen which prevented sleep, and dysuria. On Jan. 20, 1907, the patient was admitted to St. Louis Skin and Cancer Hospital. She was greatly emaciated and unable to walk.

Examination.—Pulse was rapid and hardly perceptible. Anemia was excessive. Hemoglobin, 35 per cent.; erythrocytes, 2,907,000; leucocytes, 33,320.

Urine: Specific gravity was 1004, and the urine contained large quantities of albumin and blood corpuscles.

Abdomen: The lower abdomen was filled with a hard, immovable tumor which extended one inch below the umbilicus. Within the vagina, about one inch above the entrance there was an annular constriction, beyond which the examining finger entered a wide cavity, the sides of which apparently were formed by the pelvic walls. This cavity was filled with soft, friable masses which seemed to project from above downward. There was a profuse watery, foul discharge which soon took on the character of a hemorrhage. Excessive pain prevented further exploration.

Diagnosis.—Fibroid of uterus and carcinoma of cervix.

Operation.—On Jan. 24, 1907, under ether narcosis, a thorough excochleation of the extensive cavity was done. The soft masses within were largely necrotic and greenish in color. A large amount of tissue was removed by the curette. The cavity was packed with gauze saturated with acetone. The condition of patient was alarming and stimulants were necessary. A microscopic diagnosis of carcinoma was made.

Postoperative History.—Jan. 25, 1907, the dressing was removed. The patient was comfortable. By February 7, 1907, she had been receiving acetone treatment of one-half hour's duration three times a week. There was no odor in the room, there was no hemorrhage, and only very slight discharge. The patient had not had sufficient pain to require opiates except one night. In the place of the former soft, friable masses, the crater was found to have contracted a great deal and scarcely admitted a finger. The walls were irregular from projecting areas of firm tissue with smooth surfaces which did not bleed.

February 19: Treatments had been continued and patient was gaining in strength and was able to walk about.

February 23: The patient had been having some paroxysms of pain in the abdomen similar to those before entering, but she thought that the pain was not so constant; at times she had several days of freedom. This was not the case before entering hospital, when pain was rather continuous. There was absolutely no odor; at times there was a slight watery discharge. There had been no hemorrhage since the acetone treatment was instituted. The walls of the crater were contracting and were so firm that the examining finger or manipulations with sharp edge of glass speculum did not cause any bleeding. In part the walls were covered with a grayish membrane easily detached and leaving no bleeding site; in other places the walls were clean and bright red, and did not bleed on pressure.

Case 2.—Mrs. R. W., aged 33.

History.—She had been bleeding from the vagina almost continually for the previous three months and had had severe pain in the lower abdomen for about two months. There had also been rapid loss in weight.

Examination.—This revealed a large cauliflower excrescence of the cervix uteri with involvement of the anterior vaginal wall and left parametrium. Local application of lotio pancreatis (Fairchild) three times a week, for about two months, failed to give any relief. On Oct. 10, 1906, she was examined by Professor Wertheim of Vienna, during the latter's visit to St. Louis, and he pronounced her condition inoperable.

Operation.—On Oct. 13 and Dec. 3, 1906, a thorough excochleation and thermocauterization was done, followed by slight temporary improvement. A microscopic examination showed carcinoma.

Later History.—On Jan. 5, 1907, she was readmitted to hospital. She had recently had several profuse hemorrhages. There was a stinking discharge, and pronounced cachexia. The tumor at this time involved the entire upper half of the vagina and extended deeply into the left broad ligament. The tissues were friable and bled freely after examination.

January 11: Another thorough excochleation and thermocauterization was done under ether anesthesia.

January 17 to 28: Local application of acetone was made through a tubular speculum every other day. The odor was considerably lessened and there were no hemorrhages. At times there was a pinkish discharge.

January 31: Menses occurred, normal amount.

February 6 to 12: Acetone treatment was continued. There was slight discharge, with no odor and no hemorrhage.

February 21: The patient had been at work constantly prior to this date, reporting three times weekly for treatment. She had good color and there had been no loss of strength in the preceding six weeks. The crater walls had contracted so much that the narrowest speculum could not be inserted readily. The induration extended on the anterior vaginal wall to about 1½ inches from meatus, and on the posterior wall to about 2 inches from the mucocutaneous border. The crater was about 1¼ inches in depth. Its walls were firm and did not bleed on digital examination. The involvement of the left parametrium had not increased, rather the contrary. The entire mass (uterus plus periuterine involvement), seemed somewhat more movable. There was no odor or bleeding.

February 22: Under ether anesthesia the crater was freely curetted, but only a small amount of tissue could be scraped away. The scrapings were firm; bleeding was very slight. This excochleation was in marked contrast to former curettements on the same patient when large quantities of very friable tissues were removed with abundant hemorrhage. The operation was followed by application of acetone.

March 5: Undisturbed convalescence. The patient looked and felt very well. She had been menstruating normally for three days.

March 15: She had received treatment regularly three times a week and felt well. She stated that intercourse was indulged in without any bleeding. The vagina was very narrow. There was absolutely no odor nor discharge. The patient was kept under regular treatment.

EPICRISIS.

These two patients suffered with unmistakable carcinoma of the uterus; clinical manifestations and microscopic evidence tallied. In both patients the disease had long since passed beyond the reach of any radical operation and had even consumed the greater part of the vagina. The condition of both patients was very low, due to persistent hemorrhages, and particularly deplorable owing to the unbearable odor of the ulcerating necrotic surfaces. In both cases, the usual means of treatment had been conscientiously employed for several months, but had failed to bring the slightest relief. The acetone treatment, on the other hand, completely overcame both discharge and stench and reduced the hemorrhages to a minimum.

The enthusiasm with which original methods of treatment for cancer are usually published by their respective inventors stands in crying contrast to the late results as surveyed above, so that we have grown to look on new suggestions with a sort of suspicious reserve. I have, therefore, refrained from permitting the wish to be father to the thought and have, in this preliminary report, limited myself strictly to stating certain observations made with acetone in the treatment of the unbearable odor of inoperable carcinoma of the uterus. Incidentally, the effect of this treatment on the amount of discharge and hemorrhage has been noted. I have given the technic in detail so as to aid those who are willing to afford a fair trial to this new mode of treatment which seems to produce no untoward effect, but which has brought material relief to the patients treated.

I am greatly indebted to my associate, Dr. F. Hinchey, for his interest and assistance in carrying out these investigations.

MYXEDEMA.

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(Concluded from page 1333.)

THYROID GLAND.

The size of the gland may be difficult to determine owing to the associated fulness of the neck. In a very considerable number of cases, however, there is a distinct diminution in the size of the gland. In 61 patients of my series in whom the condition of the gland is noted it was atrophied or not palpable in 46 (75.4 per cent.), in 3 of whom it was previously hypertrophied. In the London series it was atrophied in 22 of 59 cases (37.3 per cent.); in 3 it was also previously enlarged. Hun and Prudden[10] found that the gland was diminished in size in 78 per cent. of their cases. In the London series there were 4 patients in whom there was definite hypertrophy at the time of the examination, which, with the 3 in each of the London and American series, in which there was a history of previous enlargement, make a total of 14 patients with hypertrophy of the thyroid gland. *Apropos* of this occurrence, Ord,[31] in 1898, wrote:

> It appears to me probable that we shall recognize in the near future more and more the occurrence of a stage of hypertrophy of the thyroid gland with or without signs of Graves' disease, as an antecedent of myxedema. . . . The enlargement of the thyroid in exophthalmic goiter is due partly to hyperemia and partly to change in the gland, which are apt in certain cases to determine proliferation of the epithelium surounding the cells, such proliferation ending in the replacement of the true glandular structure by fibrous material and consequent destruction of the functions of the gland.

NERVOUS SYSTEM.

The nervous system is next to the cutaneous system in degree of involvement. But it is rather a functional than an organic derangement, as only in a few cases are these symptoms due to organic changes in the brain and spinal cord. The chief characteristic is a slowness in the execution of all the nervous functions, due, according to Ord, to the condition of the skin which interferes with the natural exposure of the nerve terminals to stimuli from without, and hence a failure of the natural stimulation of the centers.

Cerebral Functions.—Though the intelligence of the patient may be perfectly normal there is a large proportion of cases (37 in my series) in which there is a slowing of cerebration as to apprehension and thought. A prolonged interval may elapse before the nature of a question or command is grasped by the patient. A mental lethargy or somnolence may be present, so that the patient sits for hours at a time in the same position, taking no interest in his surroundings and evidencing no sign of mental or bodily activity. Charcot has likened this condition of apathy to the hibernation of the lower animals. Abnormal persistence in thought may be present.

The memory, especially for recent events, becomes impaired during the early stages. Impairment of memory was noted in 38 per cent. of my series, in 33 per cent. of Hun and Prudden's series and in 65 per cent. of the London cases.

Sleep, as a rule, is good; there may be an excessive somnolence (32 cases), especially in the daytime. In some cases insomnia may occur (14 cases) or the sleep may be disturbed by bad dreams or even actual night terrors (7 cases). The disposition is usually placid, though irritability is not uncommon (13 cases). Periods of placidity may alternate with periods of irritability. There is often a morbid sensitiveness about the personal appearance with a strong desire for seclusion and a dislike for the presence of even the immediate members of the family. Various phobias may occur, especially agoraphobia or fear of open places (5 cases). There is a marked tendency to suspicion and self-accusation, the suspicion is not one of conspiracy or intent to harm, but the patient has a fixed idea that all the world is finding fault with him and regards him unfavorably. Some bemoan all their past sins, real or fancied. Morbid impulses were present in 3 patients of my series. Hallucinations and delusions of both sight and hearing, either alone or in combination, occur in many of the advanced cases (16 cases). Hallucinations of sight are most common. Exalted ideas may be present. Actual insanity occurs either in the form of acute or chronic mania, melancholia or dementia. Melancholia was present in 9 of my series, in 3 with a suicidal tendency. There was only 1 case of mania. The patients in 3 of 13 cases seen by Allen Starr[32] were brought to him on account of some mental aberration. Cases of myxedema are to be found in nearly every insane asylum; such cases of insanity usually terminate in convulsions, coma and death.

SENSORY SYMPTOMS.

Subjective.—Abnormal subjective sensations are common. Most frequently there is chilliness or a great susceptibility to cold, as was present in 59 of 61 patients in my series (96.7 per cent.). It is very frequently described as a sense of a trickling of cold water on the skin, more especially down the spine. Further, patients are usually brighter and more comfortable in warm weather. Very commonly there is a sense of intense fatigue and languor on the slightest exertion (42 cases), so that the most trivial action assumes gigantic proportions and is dreaded by the patient. Various neuralgia pains in the muscles and joints occur. These were present in 29 cases of my series, in 2 of which they were localized to the thyroid region. Headache, especially occipital, is common (25 cases). Various paresthesiæ, as numbness, tingling, fornication, itching, etc., are frequent and occurred in 30 cases. Other less usual symptoms are vertigo (14 cases), syncope (3 cases), dyspnea on exertion (20 cases), palpitation of the heart (9 cases) and dysphagia (11 cases).

Objective.—Cutaneous sensibility, as a rule, suffers no actual loss. Delayed sensation has been more commonly noted, and in a few cases to a remarkable degree; yet allowance must be made for the slowness of response to stimuli, owing to the mental hebetude present. In advanced cases actual anesthesia to touch and pain may occur, as was noted in 9 cases of my series. In another 3 cases there was merely hypesthesia. Hyperesthesia rarely occurs (2 cases). Hun and Prudden[10] found cutaneous sensibility diminished in 21, retarded in 10, increased in 4 and normal in 35 cases.

MOTOR SYMPTOMS.

Slowness of all the voluntary movements is very characteristic of the disease, and is rarely absent. There is often some clumsiness, especially in the performance of the finer movements, and there may be actual ataxia (12 cases). The gait is peculiar and almost characteristic, being of a waddling, shuffling, lumbering nature, well described by Bramwell in the term "hippopotamus-like" (32 cases). Occasionally there is also an unsteadiness and staggering with a great tendency to fall, resulting in fracture of a bone or dislocation of a joint, as occurred with one patient in my American series.

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[32] Med. News, 1894, lxv.

Though actual paralysis is an accident, paresis of the various muscles is relatively common (34 cases). Weakness of the neck with falling forward of the chin on the sternum is often seen in adult myxedema just as in cretinism. Again, the head may fall backward between the shoulders with terrifying suddenness. There is a marked tendency to exhaustion after any prolonged or concentrated effort, and some patients are practically bedridden in the later stages of the disease, and even in the early stages find it impossible to walk a hundred yards or dress themselves without aid. In walking a quivering of the muscles may be seen, and actual tremor (3 cases) or muscular twitching (1 case) are not unknown. A case reported by Stewart[33] presented the interesting complication of tetany, and, as far as I know, is unique in literature. The superficial reflexes are sometimes diminished and in rare instances absent. The deep reflexes are usually stated to be normal, though Hun and Prudden[10] found them abnormal in more than 50 per cent. In my series they were noted as normal in 11, exaggerated in 5 and diminished in 6 cases. The electrical excitability of the muscles was diminished in at least 60 per cent. of the cases of Hun and Prudden. In my series it was noted as normal in 4 and diminished in 3 cases.

SPEECH AND SPECIAL SENSES.

Speech.—Changes in the speech are very constant, and were present in 100 of 104 cases (96.1 per cent.) in the London series, in 104 of 107 cases (97.2 per cent.) in Hun and Prudden's and in 71 of 73 cases (97.2 per cent.) of my series. Slowness is the most marked feature, but inarticulation may be present to a slight degree. Actual aphasia is of rare occurrence. The speech is best described as deliberate, hesitating and monotonous. There is an apparent difficulty in getting words out of the mouth, as they stick at the lips and are only enunciated with a visible contortion of the mouth and lips. Yet, in spite of this difficulty, the patient is often garrulous and will talk for hours in the face of repeated interruptions. The quality or timbre of the voice is characteristically hoarse, thick, nasal or leathery as was noted in 39 of our patients. There is probably a nervous as well as a mechanical cause for this change in the voice and speech, the mechanical cause being the swollen condition of the mucous membrane of the larynx, soft palate, mouth and tongue; the nervous element being the slowness of cerebration and execution of voluntary effort.

Vision.—In a small proportion of the patients (16) dimness in the acuteness of vision was noted. Exophthalmos has been observed in the early stages, probably in association with a pre-existing Graves' disease. The examination of the fundi is usually negative, but there was optic atrophy in 3 of our series—neuroretinitis in 1 and sclerosis of the retinal vessels in 1. In a case of a young girl recently married, reported by Moffitt,[17] there was atrophy of the nasal side of both optic discs, with limitation of color vision in the temporal halves of both fields. Optic atrophy has been ascribed by Uhthoff and Moffitt to a possible association of an hypertrophy of the hypophysis cerebri.

Hearing.—Hearing was impaired in 25 of 32 cases (78 per cent.) in which this point was noted in my series. It may be unilateral or bilateral. In some it may be simply coincident, but in the majority it is due to the disease. Hammond[9] thought it might be caused by an actual diseased condition of the auditory nerves. Subjective auditory sensations, as tinnitus aurium, occurred in 6 of my patients and in the patient in Case 7 to a distressing extent.

Taste.—Taste is often impaired (9 cases). Perverted subjective sensations are also common (6 cases). A bitter, acid or metal-like taste may be constantly present. Taste was noted as normal in another 6 cases.

Smell.—Smell may also be impaired or perverted, as occurred in 7 out of 13 patients in whom this point was noted. Hun and Prudden[10] found that taste and smell were impaired in about 33 per cent. of their series.

CIRCULATORY SYSTEM.

Temperature.—The temperature is nearly always 1 to 3 degrees (Fahrenheit) below normal when the disease is well advanced. In the early stages it may be normal or even one to two degrees above. In a well-defined case a temperature of 98 to 99 F. is an indication of fever. In 75 cases in my American series it was normal in 15 patients, subnormal in 58, slightly febrile (99.4) in one in whom the symptoms of myxedema had followed those of Graves' disease, and decidely febrile (102.5) in the patient with acute myxedema reported by Osler.[30] Of the subnormal cases there were 6 patients in whom it ranged between 93 and 96 and 15 between 96 and 97. In the London series there were 10 patients in whom the temperature ranged between 93 and 95. Hun and Prudden[10] reported a subnormal temperature in 90 per cent. of the cases and one case in which the temperature fell to 66 before death.

Pulse.—The pulse can be said to have nothing very distinctive, though in the majority of the cases it is slow and small or weak. Thus it was found to be below 80 to the minute in 35 and between 80 and 100 in 18 cases. In 3 of my cases the pulse was rapid, in two of which there was an associated enlargement of the thyroid gland, and in the third the course was one of acute myxedema.

Blood Pressure and Blood Vessels.—The blood pressure was said to be below normal in 3, normal in 1 and above normal in 2 cases. The heart was found to be normal in 54 per cent. of the London series and in 40 per cent. of Hun and Prudden's cases. The latter found cardiac hypertrophy, aortic accentuation or a reduplication of the heart sounds in a considerable number of cases. In long-standing cases the heart is said to become weak from myocardial degeneration. It is important to remember that in these cases the cardiac degeneration does not improve as rapidly under thyroid treatment, as the general condition and an unusual effort may lead to sudden fatal syncope. Cases of this accident have been reported by John Thomson and Murray. The condition of the heart and vessels was not specially studied in my series. In 2 cases, however, cardiac hypertrophy was noted. There is no special tendency to arteriosclerosis; it was noted only once in my series. The capillaries on the face are usually dilated.

Blood.—The blood shows usually early in the disease a mild secondary anemia, with consequent slight pallor of the mucous membranes. This disappears as the general condition of the patient improves. Hun and Prudden[10] found that in about 70 per cent. of 17 cases there was a deficiency of erythrocytes or an excess of leucocytes. In an analysis of 23 cases by Murray[11] the blood count was normal in 7, there was a reduction of the erythrocytes in 10, an increase in both erythrocytes and leucocytes in 2, and an increase in leucocytes alone in 4 cases. The hemoglobin is found by most writers to be 10 to 15 per cent. below normal. In 12 cases in my series the hemoglobin was normal in 2, between 50 and 75 per cent. in 8, and below 50 per cent. in 2 cases. The erythrocytes, according to a recent article by Lindner,[34] have been found normal by Erb, Kraepelin and others. Ewald and Harris Wright, on the other hand, have reported cases in which the count was 5,600,000 and 5,970,000 for each cubic centimeter, respectively. Again, Lebreton reported a case with only 1,750,000 and Grunder 2,100,000 red cells for each cubic centimeter. In 19 cases in my series the red cells were estimated. In 15 cases the count was between 3,000,000 and 4,500,000, the minimum count being 3,104,000 for each cubic centimeter. In one case it was between 4,500,000 and 5,000,000. In 3 cases it was above 5,000,000, being 5,800,000 in one, 5,030,000 in another and 5,112,000 for each cubic centimeter in a third. In the first of these cases reported by Fritz,[35] the hemoglobin was only 35 per cent.

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[33] Am. Jour. Med. Sci., 1889, xcviii.

The leucocytes are usually normal in actual numbers as well as relatively, as shown by the differential count. They were estimated in 11 of my series and were normal (5,000 to 10,000) in 7, slightly above normal (11,600 for each cubic centimeter) in one, and below normal in 3 cases. In 4 cases the differential count revealed nothing abnormal.

Hemorrhage.—Hemorrhage from the various mucous surfaces is one of the most common antecedents as well as coincidents of the disease. It is usually from the uterus, nose, throat or gums. Hemorrhage into the skin or from the bowels is less common. Cerebral hemorrhage is the most serious form. Ord,[31] in 1898, had seen 3 cases of cerebral apoplexy. An unusual retardation in the process of healing in wounds of myxedematous subjects has also been noted.

In Hun and Prudden's series hemorrhage occurred from various regions in 83 per cent. of the cases. In my series hemorrhage occurred in some form in 23 of 27 cases (85 per cent.), from the nose in 2, mouth in 2, gums in 5, throat in 1, bowels in 3, bladder in 3, and from the uterus in 9 cases. In only 1 case were there cutaneous ecchymoses. In another case there was a definite retinal hemorrhage. There was a cerebral hemorrhage with hemiplegia in a case reported by Craig.[36] In another case a cerebellar hemorrhage was found at autopsy.

THE ALIMENTARY SYSTEM.

The condition of the teeth and tongue has been previously noted. The appetite is usually good (16 cases), but is often impaired (17 cases). It may be capricious and actual bulimia may occur (3 cases). In one case reported by Campbell[37] there were attacks of great hunger every hour, in association with profuse sweats. Excessive thirst was also noted in one case. Indigestion may occur (12 cases), though, as a rule, digestion is normal. Nausea (3 cases) or even actual vomiting (3 cases) may occur. In one of the latter there was vomiting of large quantities of mucus, on one occasion as much as nine pints in the 24 hours. As has been noted, slight dysphagia occurred in 11 cases.

The bowels may be regular (11 cases), though they are usually constipated (32 cases, or 58 per cent.). Diarrhea is not infrequent (8 cases) throughout the course of the disease, or, as sometimes happens (4 cases), constipation may alternate with or be followed by attacks of diarrhea. It is stated that crises of diarrhea may occur in association with profuse sweats and vertiginous attacks. In 2 cases there were attacks of incontinence of feces as well as of urine. Hemorrhoids, said to be not uncommon, were noted but once in our series.

RESPIRATORY SYSTEM.

Apart from dyspnea on exertion (20 cases), there are no respiratory symptoms of note, though death occasionally occurs from some pulmonary complication.

GENERATIVE SYSTEM.

The external genitalia in both sexes may be swollen and dry and the pubic hair scanty. There is no great tendency to loss of sexual power (1 case), though there is a greater tendency to loss of sexual desire (6 cases). Pregnancy may occur during the course of the disease, though this is not the rule. In my series pregnancy occurred shortly after the onset of the disease in one case and during the full height of the disease in another case, both of which went to term. In such cases severe postpartum hemorrhage is apt to occur. In a third case pregnancy was followed by abortion during the fifth month. Pseudocyesis, due to enlarged pendulous abdomen and amenorrhea, has been noted by Davis.[38]

The Catamenia.—The catamenia is sometimes stated to be regular. Such was not my experience. In only 9 cases was the menstrual function regular; in another 9 it was noted as irregular or scanty in amount; in another 22 cases there was loss of the flow, in 5 of which the flow returned with restoration to health; in 2 cases artificial menopause had been produced before the onset of the disease; in another 8 cases the menopause occurred shortly before or at the time of the onset of the myxedematous symptoms; lastly, in 7 cases the appearance of the disease was followed by the persistent absence of the menstrual function. The tendency of menorrhagia and metrorrhagia has been referred to under the section on hemorrhage.

URINARY SYSTEM.

Frequency, incontinence and dysuria do occur, but are rarities. In the early stages of the disease the urine itself is normal. Later the total daily output may be diminished (6 cases), increased (6 cases) or normal (3 cases). As the disease advances, the specific gravity is commonly below normal (i. e., below 1,015) as occurred in 15 of 38 cases (39.5 per cent.) of my series. Albuminuria may occur in the later stages of the disease as a direct result of myxedema itself or from an actual disease of the kidneys, when casts are usually present.

Albuminuria was present in 20 of Hun and Prudden's cases. In my series it was present in 26 of 72 cases (36 per cent.), though in only 7 cases did the albumin exceed a trace in amount. Casts were noted as present in 16 of 49 cases (32.9 per cent.), in three of which no albumin was present. The urea excretion is stated to be diminished.

My figures are too small to draw any conclusion, as the urea output was given in but 5 cases, in 3 of which it was diminished.

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[34] "Kasuit. Beit. z. Myxoldemfrage," Halle, 1904.
[35] Am. Jour. Med. Sci., 1898, cxvi.
[36] Ibid., 1894, cvii.
[37] Montreal Med. Jour., 1888-89, xvii.
[38] Phil. Med. Jour., 1901, vii.

Albumosuria.—This occurred in one of my series, a case reported by Fitz,[35] in which from .25 to .12 per cent. of albumin was demonstrated by the usual tests. von Jaksch has also reported a similar case.

Sugar.—Lorand, in his recent monograph on glycosuria, points out that in myxedema, unlike exophthalmic goiter, diabetes is a rarity. A few cases have been reported in which a true diabetes mellitus occurred in the course of the disease. In 1895 Ewald[39] reported the history of a woman, aged 55, in whom a cure of the myxedematous symptoms by thyroid extract was followed by a mild glycosuria. In my series in one case reported by Osler,[30] in 1899, and previously referred to, there was a glycosuria complicating acute Graves' disease associated with myxedematous symptoms.

In infantile myxedema, diabetes has also been reported. Gordon[40] has published the histories of two brothers who were congenital cretins, in whom glycosuria developed and was benefited by the administration of thyroid extract. Strasser,[41] also of America, has more recently reported a remarkable case of a congenital cretin who, after 4 weeks' intermission from thyroid treatment, developed a marked polyuria and glycosuria, with all the symptoms of diabetes mellitus.

It must also be recognized that glycosuria may in rare instances develop after the prolonged or excessive use of thyroid extract, when a condition of hyperthyroidea, analogous to that of exophthalmic goiter, may occur. Bottman found that 55 per cent. of 20 patients with maladies other than myxedema developed a temporary glycosuria under the experimental administration of thyroid extract. On the other hand, Scholz, among 100 cases of cretinism, was unable to produce by thyroid administration a single case of even alimentary glycosuria. What is the significance of diabetes occurring in the course of myxedema? Pineless and Strasser both point out that in the course of myxedema functional or even anatomic changes in glands other than the thyroid, as the pancreas, for example, may supervene.

DIAGNOSIS.

The diagnosis of myxedema can almost be made at a glance, the clinical picture being pathognomonic. The solid edema with the characteristic facies, the condition of the skin and the hair, the mental hebetude, the slowness of thought, speech and action, the subnormal temperature, all form a train of symptoms that can not be mistaken for anything else.

OBESITY.

If the condition be thought to be one of obesity, the therapeutic test of the exhibition of the thyroid extract can be resorted to.

BRIGHT'S DISEASE.

Three of the cases in my series were mistaken for this. In chronic nephritis the edema is in the dependent portions of the body and is determined by gravitation, or it appears where the tissues are loose; further, it pits markedly on pressure. The skin is thin and smooth and glossy. The complexion is pale, in striking contrast to the hectic flush of myxedema. Lastly, the urine always shows signs of more or less serious renal disorder.

TROPHEDEMA.

Trophedema or "dystrophie edémateuse" may offer more difficulty. This condition has been well described by Meige,[42] Rapi,[43] Hertoghe[43] and other French clinicians. It is characterized by the appearance of a white, firm, painless edema occupying one or more segments of one or both of the upper or lower limbs (preferably the latter), persisting throughout life without appreciable prejudice to health. It may be familiar, hereditary or even congenital. Sometimes it occurs sporadically. Occasionally there is disturbance of sensation. Trophedema is probably of nervous origin and is analogous to muscular dystrophy. In America, Ruhräh[44] reported the case of a girl with myxedematous-like swelling, which the author now believes can be best described as trophedema.

DERCUM'S DISEASE.

Dercum's disease,[45] adiposis dolorosa, can be distinguished, first, by the presence of large, irregularly distributed, fatty tumors which are painful and very tender; secondly, by the sensitiveness of the nerve trunks, and, thirdly, by the reaction of degeneration on electrical stimulation of the muscles. The absence of sweat, the headache and the mental changes simulate myxedema very closely.

PERNICIOUS ANEMIA.

Myxedema has been mistaken for pernicious anemia, owing to the prostration, diarrhea and mental lethargy. The absence of the characteristic blood picture and the chronicity of the course should clear up the diagnosis.

COURSE OF DISEASE.

The course is generally slow and progressive, often lasting for years. The average course for cases in my series was 5 years and 9 months. Twenty-five lasted 10 years or more, the longest case being 15 and 16 years, respectively. Murray found that the average duration in 248 women was 7 years and in 32 men nearly 6 years. Sometimes, even in the absence of thyroid treatment, periods of improvement occur, suggesting an arrest of the disease.

MODE OF DEATH.

In a certain number of cases death is the direct result of the myxedema either from general physical or nervous exhaustion, severe anemia, coma or mania. In a few cases cerebral or cerebellar hemorrhage has been the cause of death. The majority of patients however, die from some intercurrent affection as tuberculosis, pneumonia, nephritis or pericarditis. Hun and Prudden[10] found the cause of death to be exhaustion and pericarditis, each, in 1 case; coma in 6, and pneumonia in 4 cases. In my series there were 10 deaths, of which the mode was not stated in 2; coma in 2 cases, asthma, sudden syncope, pneumonia, purulent bronchitis, edema of the larynx, each, in 1 case, and glycosuria melena and mania in another case.

TREATMENT.

GENERAL HYGIENIC.

An important element in the treatment is the maintenance of body warmth, which is best secured by moving to a warm climate and by the wearing of warm clothes. The bowels must be regulated and a good, nutritious diet provided.

MEDICINAL.

Until 1893 a great many different drugs were advised, and, as is always true when such is the case, none of them were of especial value. Various tonics, as iron, quinin, hypophosphates, were tried. Diuretics and diaphoretics were also used. Jaborandi and pilocarpin given over a long period of time have in some cases proved of benefit, depending, according to Davies,[46] not on their action on the skin, but on their tending to increase the secretion of the thyroid gland. Nitroglycerin and a host of other remedies had their day.

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[39] Berl. klin. Wochschr., 1895, xxxii.
[40] American Medicine, 1904.
[41] THE JOURNAL A. M. A., 1905, xliv.
[42] Nov. Iconographie de la Salpêtrière, 1899, xii.
[43] Ibid., 1901, xiv.
[44] Maryland Med. Jour., 1897-98, xxxviii.
[45] Am. Jour. Med. Sci., 1892, civ.

THYROID THERAPY.

Byrom Bramwell[47] says it is no exaggeration to say that the cure of myxedema by thyroid treatment is one of the greatest therapeutic achievements of this or of any other age.

As early as 1883 thyroid grafting was performed by Kocher, and later by Bücher, by transplanting the gland of a sheep into the tissues or body cavities of the patient. But it was found that the gland was soon absorbed. In 1890 von Eiselsberg noted that the transplantation of the thyroid gland from an animal to a patient would prevent the development of cachexia strumipriva in cases in which a complete thyroidectomy had been performed. In the same year Victor Horsley independently of von Eiselsberg suggested the procedure for a patient suffering from myxedema. But all met with the same fate until MacPherson on one occasion succeeded in transplanting the gland of a sheep into the subcutaneous tissues beneath the breast, where it became vascularized and functionally active, so that the patient was free from all symptoms three years later. This method is unquestionably the ideal treatment, and Victor Horsley has recently advocated its trial in cases of postoperative myxedema, having previously instituted a course of thyroid therapy until all the symptoms have disappeared, when the transplantation can be attempted with more hope of success. In 1891 Murray[48] of Newcastle first used with great success hypodermic injections of the glycerin extract of the thyroid gland of the sheep. In the following year Howitz of Copenhagen, and Fox and Mackenzie of England found that the exhibition of the thyroid gland by the mouth was as efficacious. The gland may be given raw or lightly cooked in doses of one-eighth of a lobe to one lobe of the sheep's thyroid once a day. The liquid glycerin extract may also be used, of which 90 minims correspond to one gland; hence the dose varies from 3 to 20 minims. The next advance was the preparation of the dry or desiccated extract, which has been put up in powder, pill or tablet form. Of all the preparations the tablet is the most convenient and keeps better, hence is the most efficacious. Parke-Davis, Armour and other firms have their own tablets. The Burroughs and Welcome tablets from England are probably the most reliable.

Rules for Administration.—The first thing to determine is the most suitable constant daily dose of the drug: this can only be done by trial and must be determined for each case. It is best to begin with a small dose (one five-grain tablet, or two grains of the extract) once a day, and gradually increase in frequency and in amount until the symptoms begin to subside. This stage of the treatment has to be carried out with great care in all cases in which the disease has lasted for some years, in the aged and in those who show any indication of arterial or cardiac degeneration.

Murray[11] says: "The patient should be kept at rest in bed for a time so that as little strain as possible may be thrown on the heart and arteries." Sudden death has been reported in such cases following sudden overexertion (as occurred in Case 78 of my series). The duration of the first stage of the treatment should be from 6 to 12 weeks for the advanced cases. Any undue acceleration of the pulse, as an increase of from 10 to 20 beats a minute, indicates over-dosage. Further, a rise of temperature of one degree above normal, vomiting or purging are also danger signals of thyroid poisoning. Extreme prostration, headaches, sweating and irritability are some of the other indications of the toxic effect of the drug, which in many ways are remarkably similar to the toxic symptoms of exopthalmic goiter in which one also has a condition of hyperthyroidism.

In my series of 76 cases, over-dosage was noted 13 times. In one patient a very great intolerance to the drug was experienced; at first even one grain a day caused a marked systemic disturbance. After 6 to 12 weeks of this first stage the frequency of the dose may be reduced. The minimum dose has also to be determined by trial. Many find one tablet a day necessary, while others are free from symptoms with one tablet every two or three days. If the extract be discontinued for any time there is a return of the symptoms as occurred in 3 cases of my series.

Effects of Thyroid Treatment.—The first effect noticed is the rising of the body temperature to normal. Next there is a gradual or even sudden diminution in the subcutaneous edema with a consequent loss in the body weight. Loss of weight was noted in 24 of my cases, and varied greatly in different cases; in 12 patients it was 20 pounds or over, in 4 of whom there was a loss of from 35 to 60 pounds in from 3 to 16 weeks. Ord[25] belives that during the disappearance of the edema some important metabolism of a nitrogen-containing substance occurs. There is also a restoration of the secretion of the skin which becomes moist and soft and loses its harsh, dry, roughened character. Very frequently the old skin is desquamated in the form of large flakes until an entirely new epidermis is exposed. The hair begins to grow in the form of a fine thick crop over the scalp, pubes and axillæ. The menses return to their normal regularity and quantity. The urine is sometimes considerably increased in amount, as was noted in two of my patients, and the albuminuria and cylindruria disappear. The anemia, however, may not clear up, nay more may be increased and be accompanied by the appearance of a true edema of the feet. Both these, however, usually disappear in a few weeks when the patient gains his normal strength. With the physical improvement there is a corresponding improvement, *pari passu,* in the mental and nervous symptoms. In some cases actual insanity has been cured. The expression brightens, the mind becomes active and the patient begins to take an interest in his or her environment and will shortly return with zest to the daily routine of life. When such a change in the bodily and mental condition of the patient occurs in a few short weeks, one is almost forced to conclude that the day of miracles has not passed.

Parathyroid extract has been tried by Hutchinson,[49] of London, in myxedema without benefit, though in experimental work with dogs, no myxedematous symptoms occurred unless the parathyroids were removed along with the thyroid glands. Protonuclein and a preparation known as "thyroid-colloid" were tried in one case each, but without any apparent success.

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[46] Internat. Clinics, 1893, III.
[47] Clinical Studies, 1903, I.
[48] Brit. Med. Jour., 1891, II.
[49] Ibid., 1896, I.

PROGNOSIS.

The prognosis in the untreated cases is most unfavorable. Of 64 cases that were followed by the London committee, actual recovery occurred only once in a case of two and one-half years' duration. Hun and Prudden[10] found only 2 cases reported to have ended in complete recovery without treatment, and in both the diagnosis was questionable.

In 2 cases reported by Köhler due respectively to syphilis and actinomycosis of the thyroid gland the patients have recovered under potassium iodid. In but few diseases has the outlook been so materially altered by the discovery of a specific drug, as has myxedema by the introduction of the thyroid treatment. Formerly the course was progressively downward and the ultimate termination was invariably lethal. Since the introduction of thyroid therapy, however, if treatment be commenced early and if there be no complications, life should not be appreciably shortened. In severe cases of long duration in which the stage of shrinking in the gland has far advanced the outlook is not so good. Advanced cardiac or arterial degeneration is a source of great danger and thyroid treatment has in such cases been followed by death. If cylindruria or albuminuria or both persist in the urine after thyroid treatment, the prognosis depends on the extent of the kidney involvement.

In my series of 100 the result was given in 95 cases. It was thought better for the sake of comparison to divide the cases into two groups. The first group includes the cases treated by medical means before the introduction of the specific therapy; and the second the cases treated since the value of thyroid extract has been appreciated. In Group 1 there are 19 patients with 5 deaths, 10 unimproved and 4 said to be improved. The mortality was therefore 26.3 per cent. In Group 2 there were 76 patients with 5 deaths, 2 unimproved, 9 improved, and 60 cured. It is but fair to add that of the 5 patients who died, in one the diagnosis was made too late for treatment, a second had acute myxedema, a third showed tuberculosis of the adrenals at autopsy and a fourth died from a sudden syncopal attack during the thyroid administration. In only one case did the patient succumb after a prolonged treatment of four months. It would seem permissible, therefore, to omit the first two of these cases, making 3 deaths in 72 cases or a mortality of 4.1 per cent., a rather remarkable drop from 26 per cent. of the first group. Of the 2 unimproved cases, no data were given in one case and in the second the patient was treated for but six weeks with a preparation which was in all probability not the thyroid gland.

Of the 9 patients who were reported improved, one was treated by homeopathy; two were reported before any marked result could be expected; a fourth was well physically but not mentally. Of the remaining 5 either the data are scanty or the diagnosis seemed more or less questionable. Sixty patients out of 76 (79 per cent.) were completely cured.

Epileptic Colonies.—The epileptic colony is a success. It has been shown to be a great public economy, the fruit of good statesmanship.—H. T. Patrick, M.D., in *Charities and the Commons.*

SOME PERSONAL EXPERIENCES IN THE USE OF ELECTRICITY IN OPHTHALMIC PRACTICE.*

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This report will be limited by request to the use of the galvanic and the form of alternating current known as the sinusoidal. That the subject of electricity in ophthalmic practice has received scant attention appears from a statement by the secretary of this section, Dr. Bulson: "For several years the subject has received no consideration. In 1898 Dr. Starkey read a paper on 'The Use of Galvanism in Pterygium,' and Dr. LeMond on 'The Value of Faradism in Choroiditis.' Since then nothing has been presented except some papers on the galvanic cautery and the magnet."

It is probably safe to say that there is no remedy which causes so varied physiologic manifestations and therapeutic results as electricity. By proper selection of modality, current strength, tension, polarity, length and frequency of application, etc., stimulation or sedation of the nervous and vasomotor systems, muscular contraction, decomposition and destruction of tissue, changes in nutrition and so forth may be produced. This "proper selection" requires a fair working knowledge of the physics and electrotherapeutics of the agent. Ranged on the side of "working knowledge" will be found those (conspicuously neurologists) who are securing recoveries by electric agencies, and have an enlightened faith in still greater future conquests, while, on the side of those who lack this knowledge, are conspicuously ophthalmologists who frankly admit this lack, neglect almost completely the use of electricity, and look askance at electrotherapeutics as the real means of recovery from disease which may have previously resisted the classically authoritative drug habit, and prefer to attribute the result to suggestion, coincidence or the bogey man.

Of all the modalities, galvanism furnishes the greatest variety of useful application to the eye as well as the rest of the organism, while, with the possible exception of radiotherapy, it requires the most skill for its safe and successful administration.

For the most part I have used electricity in chronic cases which are very intractable or usually considered not amenable to medication. In order that results may be properly referred to the current, the diagnosis, when possible, has been confirmed by confrères, other treatment avoided, and in several instances patients had been treated without success by the usual approved methods for long periods.

The cases embraced in this paper are taken from my records, without selection, except to include those treated for a sufficient time to warrant a fair conclusion as to the possibilities of the remedy. For the sake of completeness brief mention will be made of cases previously reported.

A word in regard to the nature and selection of the current used, and the technic of its application:

Previous to 1890 the galvanic battery of zinc-carbon elements, excited by a solution of potassium bichromate, was used, and since then the Edison street current, controlled and measured by the rheostat and meter of the ordinary wall plate.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

The alternating or sinusoidal current has been taken from a No. 2 Victor transformer, using from 30 to 35 measured volts, and a quantity estimated at 5 milliamperes. As the heat meter is not applicable to so small a quantity, it was thus estimated: With a force of 30 volts taken from the direct current, and the electrodes placed on the lids and the nape of the neck, the meter registered 5 m. a., hence, with the same voltage from the alternating current and the same resistance the current is 5 m. a.

PHYSICAL CHARACTERISTICS OF THE GALVANIC AND SINUSOIDAL CURRENTS.

The maximum voltage of the No. 2 Victor transformer is 70, and the milliamperage probably 1,000. The maximum speed is 2,800 revolutions a minute, and the alternations 5,600. While the current alternates, the sinusoidal wave is unbroken or continuous. Figure 1 represents the wave; Figure A, the galvanic.

In the absence of any tracing of the wave from the dynamo, I am not convinced that it is perfectly sinusoidal. Still, it is probable that a similar therapeutic effect may result from a wave that lacks its perfect symmetry. The galvanic current is used when its electrolytic property is desired to separate chemically the elements of a pathologic body, and when its polarity may be utilized as a sedative or a stimulant to the muscular, vascular and nervous tissue. For example, in consecutive optic atrophy, galvanism is especially indicated, on account of the existing exudates, while in primary atrophy I much prefer the alternating current, as it appears to be more stimulating to the nerve, the greater reaction of which is evident by the more intense light flash produced.

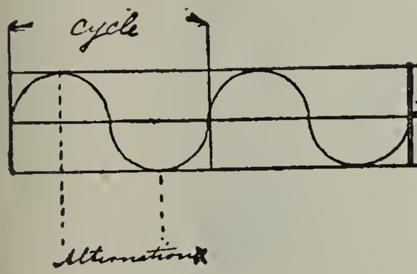

Fig. 1.

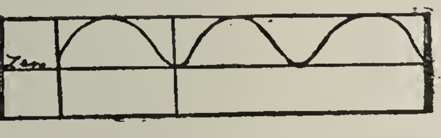

Fig. A.

This can be shown by comparing a thirty-volt current from the dynamo with a thirty-volt galvanic current. The former is not unpleasant and causes a brilliant mosaic of dark and light, while the latter causes no phosphenes unless the current is interrupted and the burning is so intense that it can not be endured for more than a half minute.

The almost universal opinion that the alternating current has no electrolytic effect seems at least doubtful. A current of thirty volts causes as much decomposition of water as one of 5 m.a. from the galvanic, and potassium iodid in solution is readily decomposed, although with an equal amount of discoloration at each pole.

Since the exposure of the eye to the static, high-frequency, *x*-ray or faradic current causes no phosphenes, such currents probably have very secondary if any value in optic atrophy. The technic is as follows except when otherwise stated: Galvanism is generally applied with a large positive pad, 3x4 inches (to prevent smarting) to the nape of the neck, and the negative pads to the closed lids for ten minutes daily, with a current of from 5 to 10 m. a., generally the latter. Since changing a Schulmeister (German) motor for a Victor (Chicago) only 3-5 m. a. have been used, as the limit of tolerance. The electrodes of the sinusoidal are similarly placed and from 30 to 35 volts, as can be tolerated, used for ten minutes daily.

Fourteen cases are fully reported in the *Annals of Ophthalmology,* July, 1898, and are omitted here.

Case 15.—Central retinitis, unimproved.

Case 16.—Paresis of r. inferior and internal recti, and of the sphincter pupillæ. Recovery.

Patient.—Feb. 11, 1902. W. F. S., aged 35, clerk. Seven weeks previously he lost consciousness for four days, during which time the right arm and leg were paralyzed. He then recovered consciousness and the use of the arm and leg. Three weeks later diplopia was noticed; this was increased by looking to the left and down. R. hypertropia, 5°; exotropia, 15°.

Treatment.—Interrupted galvanic current; 5 m. a., negative pole to lids, positive to neck, for ten minutes daily.

February 20, exota 8°, R. hyperta 3°. April 2, exota 1°, R. hyperta 2°. April 26, orthophoria. Binocular field of fixation normal.

Case 17.—Amblyopia exanopsia. R. E. V. improved from 6″ to 2′.

Patient.—April 12, 1902. J. P. S., aged 37, printer. The right eye has diverged since childhood. V. R. E. is now about the same as it has always been; he can see the tips of the fingers at 6″. Fundus appears normal.

Treatment.—The sinusoidal current to the eye ten minutes daily. Feb. 12, 1903, he can distinguish thumb from fingers at 6′. He is much pleased with the result as he can now see objects approaching from the right side, which enables him to get about the streets more safely.

Case 18.—Bluish-white atrophy of left optic nerve; slight improvement from light perception.

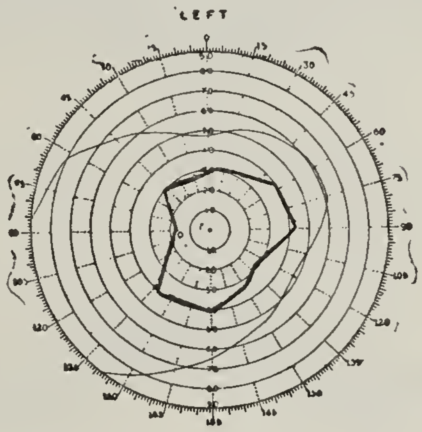

Fig. 2.—Case 19, Feb. 3, 1903.

Case 19.—Retinitis pigmentosa. R. E., — 1.00, 15° = 20/80; improved to 20/40. L. E., — 125, 165° = 20/80; not improved. (Fig. 2).

Patient.—Jan. 29, 1903. Dr. A. B., aged 48, had good sight until an attack of measles in childhood; since then night blindness has prevented him from going out in the evening, and vision has been steadily failing. During the past seventeen years reading or fatigue caused a pain from the frontal to the occipital region, which glasses have considerably relieved. Fundi: Bars and plaques of pigment infiltrated along the peripheral retinal vessels. Family history good. No history of consanguineous marriage.

Treatment.—Sinusoidal current to the eyes daily. On March 2, 1903, there has been no pain in the eyes since treatment.

Case 20.—Amblyopia exanopsia. R. E. improved from 20/120 to 20/80.

Case 21.—Sequelæ of specific relapsing iritis. V. R. E. improved from ability to count fingers at 10′ to 20/200. L. E. from light perception to 20/70.

Patient.—Feb. 2, 1904. A. N. N., aged 42.

History.—He had a chancre two years ago in May, 1902; five months later, the left eye was attacked with iritis, and seven months later the right. Vision had been good previous to these attacks. He was under the care of an oculist for five months, beginning a week after the attack in the left eye. Hydrarg. and potassium iodid were prescribed. He has taken iodid of potassium up to the present time. At the end of five months, with the right eye he could see to read a letter, but with the left he could not see a hand.

Second Attack.—This occurred August, 1903, in the right eye, and continued two months without treatment. Vision has remained as at present during the past three months. R. E. V. = counting fingers 10′; L. E. has light perception. Under atropin: Pupil of R. E. 3 mm.; pupil of L. E. 2 mm. Fleecy opacities in each vitreous. Retinal vessels and discs invisible. In fixation at 6″ the left eye diverges.

Treatment.—Galvanism ten minutes daily, the negative pole to the nape of the neck and the positive to the lids.

March 7, 1904: R. E. V. = 12/200; L. = 20/200.

April 4, 1904: R. E. V. = 15/200; L. = 15/120. The sinusoidal current to the eyes. Galvanism discontinued.

April 19: R. E. V. = 15/120. Discontinue sinusoidal current to the eyes and apply vibratory pneumatic massage with eye cups to eyes daily for five minutes.

May 2: Vision the same. Discontinue massage and apply the high frequency current from coil and Oudin resonator with vacuum electrodes to eyes daily for ten minutes.

May 13: Vision remains the same. Discontinue the high frequency current and apply galvanism. Dionin 5 per cent. daily for five days, then omit it for two days, and repeat.

Oct. 6, 1904: R. E. V. = 20/200; L. E. V. = 20/70.

Case 22.—Double optic atrophy, probably of cerebral origin. V. R. E. improved from light perception to 20/67. V. L. E. from 20/120 to 20/20.

Patient.—Oct. 3, 1903. L. W., aged 12, school boy, suffered from very severe headache, vomited about twice a week and was very delicate from the age of five to ten. He has been in good health during the past two years. On returning to school September 9 he noticed that he could not see figures well on the blackboard, and for a week past has had to read with his book very near his eyes.

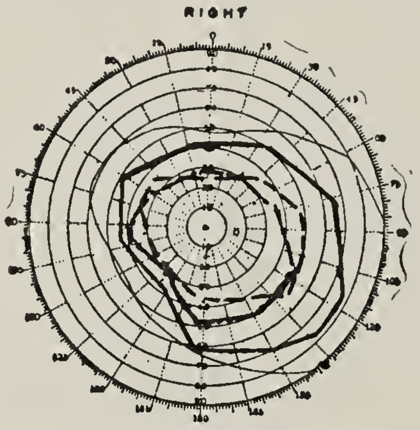

Fig. 3.—Case 22, April 25, 1904. White —; blue — —; red —·—··

Examination.—Skiascopy: R. E. + 1.00; L. E. — 0.50. Ophthalmoscopy: R. E. very white marginal band with gray center of disc; vessels normal. L. E. opaque white disc; white atrophic choroidal patch to the nasal side of disc and two-thirds its size; vessels normal. (Fig. 3).

Treatment.—Sinusoidal current.

October 23: R. E. V. = Light perception; L. = 20/80.

November 20: R. E. counts fingers excentrically at 6″; L. E. V. = 20/80.

Jan. 7, 1904: R. E. V. = 15/200; L. E. V. = 20/30.

February 4: R. E. V. = 20/120; L. E. V. = 20/20.

March 7: R. E. V. = 20/80; L. E. V. 20/20.

April 25: R. E. V. = 20/70; L. E. V. = 20/20. The papillæ appear as white as when first examined. Treatment discontinued.

Feb. 13, 1906: R. E. V. = 20/50; L. E. V. = 20/20.

Case 23.—Xanthelasma electrocuted.

Patient.—Jan. 18, 1904. Mrs. A. R. J., aged 37.

History.—Four years previously three yellow patches appeared on the lids, one below the right inner canthus, one below and one above the left. They are at present ⅛″ by ¼″ in size.

Treatment.—Hypodermic cocain. Negative galvanic needle beneath the left upper patch, 3 m. a., gradually increased to five for four minutes, and this repeated with the needle at right angle to first insertion. There was no pain.

January 30: Patch absent; a small crust present. Needle used as above on the remaining patches.

February 20 and April 21: Needle again used.

May 21: Patches absent.

Case 24.—Tobacco and alcohol amblyopia. Double optic atrophy. V. R. E. improved from 6/100 to 9/100. V. L. E. improved from 4/100 to 9/100.

Case 25.—Optic atrophy from wood alcohol. V. R. E. ½/100; L. E., 1/100, decreased to ability to count fingers.

Later this patient, supposed to suffer from inhalation only, says he drank wood alcohol, supposing it was ordinary alcohol.

Case 26.—Impaired vision and headache relieved.

Case 27.—Intraocular hemorrhage in right eye, with only light perception; unimproved by three months' previous treatment. Recovery, with normal vision.

History.—May 22, 1904. Dr. A. S., aged 39, was taken ill on March 4, 1904, losing consciousness, and on recovering it two days later found that he could only distinguish light. His memory, hearing, and sight remained bad for a week, and then he recovered. Ten days later he had pain in the left eye in the evening, and the next morning both eyes became again blind. Nine days after the first attack the three oculists consulted agreed in a diagnosis of hemorrhage in each vitreous. Later he consulted four oculists, three of whom agreed with the above diagnosis, while one considered the case choroiditis, with exudates. Under treatment the left eye recovered normal vision, while the right eye has only had light perception since the second hemorrhage.

Previous treatment consisted of pilocarpin injections, atropin and dionin, and subconjunctival injection of cyanid of mercury (once). Electricity had not been suggested. The consultants agreed that the vision of the right eye is hopelessly lost. Leucocythemia and acute toxemia had been diagnosed.

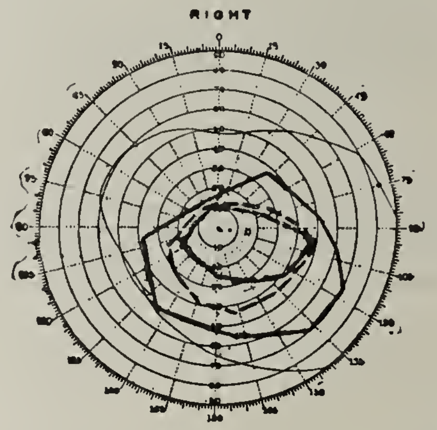

Fig. 4.—Case 28, Feb. 16, 1905. White —; blue — —; red —·—··

Examination.—R. E. has only perception of light; with dilated pupil the mirror gives no fundus reflex. L. E. V. = 20/20, notwithstanding a considerable amount of fluffy vitreous opacity.

The patient was advised to try galvanism and referred to his oculist, who handed him over to me.

Treatment.—Galvanism with cathode to right lids and current gradually increased from three to ten m. a., for ten minutes daily. After four days fingers could be counted to the right, and four days later in the whole field.

June 7: R. E. V. = 20/67.

June 25: R. E. V. = 20/40, temporarily. He now has annoying diplopia with divergent strabismus, but is assured that this will disappear if vision becomes normal. In April treatment was discontinued.

September 4: R. E. V. = 20/25.

May 11, 1905: R. E. V. 20/20; intermittently = 0.5 (S) at 12″. There is no diplopia. Binocular fixation in reading. Convergence = 10 m. a.

Feb. 14, 1906: R. E. V. = 20/20 fluently = 0.5 (S) at 14″. Vision somewhat clouded by a considerable amount of dust and string opacities in the vitreous. The details of the fundus are distinctly seen and appear normal except as above stated. Advised to renew galvanic treatment.

Case 28.—Amblyopia (hysterical?) R. E. V. = 20/200, improved to 20/25; L. 20/100 to 20/25.

Patient.—Feb. 15, 1905. Mrs. J. F., aged 44, has never had good eyes.

History.—Five years ago, glasses + 2.25 for distance and + 3.50 for reading were prescribed. Her sight has been failing for nine years. She does not remember the time when she could read without a very good light. (Fig. 4.)

General Health.—She has had more than a dozen voluntary abortions. In 1904 she had two miscarriages without severe hemorrhage, and without affecting vision. Three years ago her sight failed very much after the loss of her husband, by accident, and since then she has been subject to heat flashes and profuse sweating hourly in the day and often in the night, accompanied by palpitation.

R. E. V. = 20/200 + 1.75 + 0.50 180° = 20/200 better; L. E. V. = 20/100 + 1.75 = 20/100.

Treatment.—Sinusoidal current to eyes and general electrization with the auto-condensation couch ten minutes daily.

March 2: R. E. V. = 20/100, slowly; L. E. V. = 20/30. The eyes feel stronger. The flashes, sweating, palpitation and nervousness are very much less.

September 21: R. = 20/50; L. = 20/25. This morning she lost the sight of the right eye for an hour.

Feb. 10, 1906: R. E. V. = 20/25 — 2; L. = 20/25+. At times she can not see to read, and again sees only the left side of words.

Case 29.—Paresis left internal rectus; improvement.

Case 30.—Double specific choroiditis with vitreous opacities. R. E. V. 20/70, improved to 20/50, and asthenopia relieved. L. E. V. 20/20.

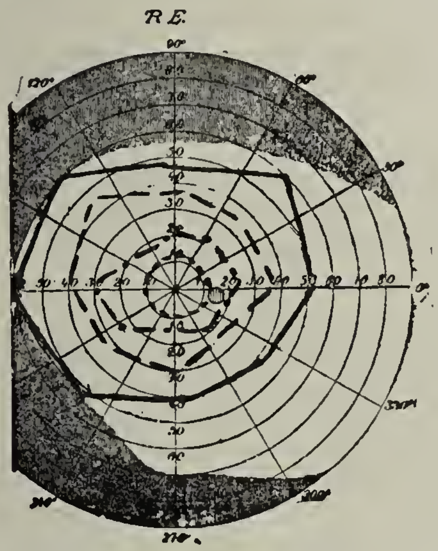

Fig. 5.—Case 39, Feb. 13, 1901. White——; blue — — — ; red — - — - ; green - - - - -

Case 31.—Right optic atrophy. No improvement. L. E. V. 20/33, improved to 20/20.

Case 32.—Xanthelasma. Removed by electrolysis and excision.

Patient.—Jan. 7, 1903. Mrs. C., aged 36, has four yellow patches, two above and two below each inner canthus.

Treatment.—The negative galvanic needle, 5 m. a., completely removed one patch 2 in. diameter in one sitting. The current was turned on rapidly (without previous anesthesia) and the pain was so severe the patient would not consent to have even a hypodermic needle puncture for further electrolysis, hence the three remaining patches were excised under chloroform.

Case 33.—Opacities in the vitreous. L. E. V. improved from 20/70 to 20/40 and epiphora relieved.

Case 34.—Sequelæ of iritis. V. R. E. counts fingers at 8′, improved to 6/50. V. L. E. fingers at 3′, improved to seeing fingers at 10′.

Patient.—June 5, 1900. Mrs. J. B., aged 55, has had repeated attacks of iritis during the past eighteen months.

Examination.—R. E.: Pupil semi-dilated and irregular; floating opacities in the vitreous and capsular opacity. L. E.: Vision failed years ago. There is a large capsular opacity. Pupil normal size.

Treatment.—Galvanism 5 m. a. ten to fifteen minutes daily.

June 22: Twelfth treatment, R. E. V. = 6/50. L. E. V. = fingers at 10″.

Case 35.—Alopecia of the lids. Improvement.

Case 36.—Amblyopia. Left eye. Vision improved from 20/120 and 3.00 (S) to 20/80 and 2.25 (S).

Case 37.—Asthenopia. Relieved by glasses and galvanism.

Case 38.—Pterygium tennis, right eye unimproved.

Patient.—April 25, 1901. P. V., aged 29.

Treatment.—Bipolar galvanic needles were used under the pterygium with 4 m. a. for two minutes.

July 18: The pterygium the same. The positive needle applied under the pterygium, 2‴ from the cornea, 2 m. a. for two minutes.

August 8: Positive needle twice inserted under the growth with 2 m. a. for two minutes. This procedure repeated August 15.

September 17: The pterygium appears the same as before the first needling.

Case 39.—Optic atrophy and retinitis circumscripta. Vision in each eye 15/200, improved to 20/50.

Patient.—Dec. 12, 1901. T. L. S., male, aged 54.

History.—His sight began to fail in February, 1900, when ill with fistula in ano, and it has gradually failed, so that for the last two months he can not read the paper.

Examination.—Fundi. R. E. The disc is bluish-white and blurred on the nasal edge. There is a wash-leather-colored stippling in the macular region.

L. E.: The disc is similar to the right. There are white and red dots in the macular region and also two diameters of disc up and in a similar infiltration. Color vision: He can only distinguish blue (Fig. 5). General health: The fistula was operated on and his health is now good. He is subject to chronic rheumatism.

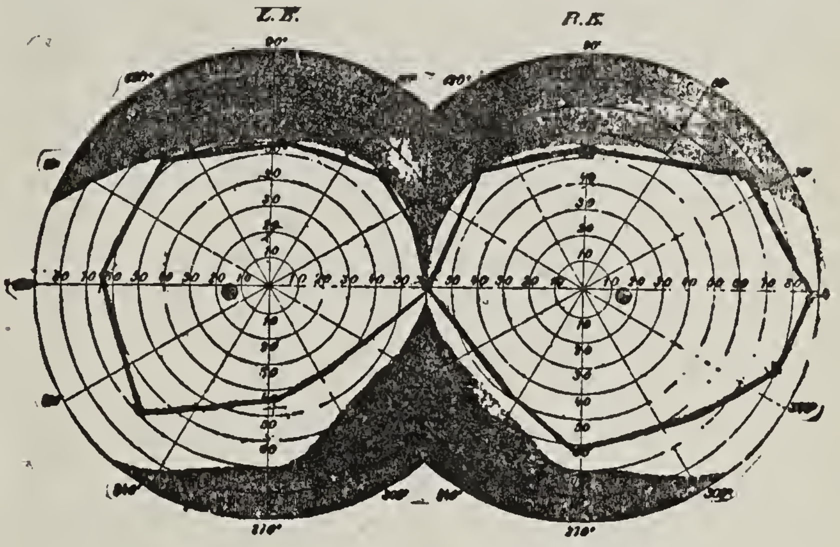

Fig. 6.—Case 41, Oct. 10, 1901.

Urine: Normal.

Since a year ago last October he has smoked one-half dozen cigars daily (more than usual) and chewed one ounce of tobacco daily up to July 1, and has not used it since. He does not take stimulants. One daughter died from tuberculosis and one from traumatic spinal meningitis. He lost two uncles from phthisis.

Treatment.—Sinusoidal current applied to the eyes daily.

Jan. 14, 1902: R. and L. V. = 20/200. Mercury and potassium iodid internally. Sinusoidal current continued.

January 23: R. E. V. = 20/200. L. V. = 20/120. He reads a letter now which he could not do when he began treatment.

February 18: R. and L. V. = 20/50 = 0.5″ with reading glasses.

Case 40.—Double amblyopia, ending in optic atrophy and blindness.

Case 41.—Double primary optic atrophy. Vision improved from uncertain counting of fingers at 6″ to ability to read and to write her letters.

Patient.—Sept. 3, 1901. Miss E. G., aged 36, school teacher.

History.—Six years previously she became very nervous on account of her inability to secure a certain position, and vision began to fail first in the left, then in the right eye. She noticed words run together and this was not relieved by glasses.

Examination.—Pupillary reaction to light and convergence normal. She confuses pink and gray with green, and blue with red.

R. E.: Gray-white opaque disc, reticulated at site of physiologic cup and sharply defined.

L. E.: Disc similar to right, but not reticulated. Retinal vesels normal (Fig. 6).

General Condition.—A few weeks before the sight failed she was thrown backward from a cart and hurt her back very much, but retained consciousness. Her memory is particularly good. She is subject to sick headache and is very nervous. Patellar reflex is normal.

Family History.—Her father died of nephritis at the age of 61. Her mother is 68 and healthy. She has two brothers and three sisters living. A brother, 33 years of age, commenced to lose sight at 30 and can not see to read. An oculist whom he consulted diagnosed optic atrophy and was unable to state the cause.

Previous Treatment.—Six years ago she was under the care of a prominent oculist for a year in his private hospital in Cincinnati. He diagnosed optic atrophy and prescribed strychnin hypodermically, baths, general massage, nitroglycerin and general faradism.

Vision did not improve and remained about the same as it is at present, that is, she can count fingers uncertainly with either eye at 6″.

Treatment.—Galvanism daily to eyes.

September 12: R. E. V. = fingers at 14″, L. E. V. = fingers at 12″. She read the headlines of a paper for the first time in six years.

September 30: R. and L. V. = fingers at 24″. Sinusoidal current substituted for the galvanic. The patient at this date was exhibited at the Chicago Ophthalmological Society. Dr. Snydacker, who had recently studied four years in European eye clinics, remarked he had not seen so advanced a case of optic atrophy during that time.

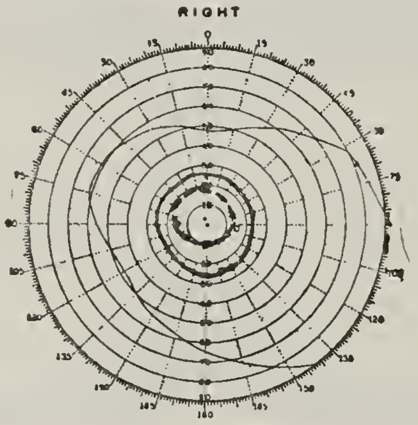

Fig. 7.—Case 41, April 8, 1906. White ——; red and blue — — —

October 29: R. E. V. = 1/80 = fingers 4′, L. E. = 1/120 = fingers at 3′.

November 12: In fixation at 12″ the left eye diverges.

Jan. 27, 1902: R. = 1/30, L. = 1/80.

February 10: Vision the same. For some time she has been able to select her own letters from the mail and to answer correspondents. At this date her newly found faith transferred her to the care of the so-called Christian scientists.

Case 42.—Amblyopia (hysterical). R. and L. V. = 20/80, improved to 20/25.

Patient.—Dec. 17, 1904. M. M., male, aged 10, was referred to me by an oculist.

History.—He was sent from school two years previously on account of failing sight. He had been treated for one year at an eye clinic, but without improvement.

Family History.—His father and paternal grandfather died of apoplexy. His mother died from exhaustion.

Examination.—R. Fundus: Physiologic cup is three times usual size and the vessels emerge very near the nasal side of the disc.

L. Fundus: Similar to right. The boy is exceedingly nervous. The case has been diagnosed as hemeralopia without pigmentation, but night blindness is not complained of and there is no degeneration of the retinal vessels. The small field of vision without optic atrophy is characteristic of hysterical amblyopia, as is also a frequent diplopia.

Treatment.—Sinusoidal current tri-weekly.

March 1: R. = 12/10, L. = 5/100.

April 20: R. = 8/100, L. = 6/100. The fields are concentrically contracted to 20°.

June 24: R. = 14/100, L. = 10/100.

November 28: R. = 14/100, L. = 14/100. Repeat.

December 16: R. = 20/50, L. = 20/67.

Feb. 15, 1906: R. E. = 20/30, L. E. = 20/30.

April 7: R. or L. V. = 20/25.

Case 43.—Traumatic optic atrophy. V. L. E. = light perception; not improved.

SUMMARY OF CASES TREATED ELECTRICALLY.

Optic Atrophy.—Fourteen patients, 23 eyes. In 5 eyes in which vision = light, 40 per cent. were improved. One to seeing hand movements and one to 20/67.

In 18 eyes in which vision = form. Sixty-four per cent. were improved. Four, 60 to 125 per cent.; two, 300 per cent.; three, 500 per cent.; one, 1,500 per cent.; two from seeing fingers to reading. In six there was no improvement.

Vitreous Opacities.—Seven patients, 12 eyes. In 5 eyes vision = light. One improved to counting fingers at 6 inches; one was unimproved. In 12 vision = form. Ninety per cent. were improved: Seven, 40 to 100 per cent.; one, 200 per cent.; one, 1,100 per cent. In one there was no improvement.

Amblyopia.—Seven patients, 10 eyes. All were improved: Four, 20 to 100 per cent.; six, 200 to 700 per cent.

Sequelæ of Iritis.—Two patients, 4 eyes. All were improved: One from light perception to 20/70; one, 100 per cent.; two, 200 per cent.

Intraocular Hemorrhage.—One eye. Vision improved from light perception to 20/20.

Retinitis Pigmentosa.—One patient, one eye. Improved 100 per cent. One eye was not improved.

Retinal Thrombosis.—One eye. Vision was improved from fingers at 14′ to 6/15 and 0.5 at 12 inches.

Sequelæ Central Retinitis.—One patient, two eyes. No improvement.

Asthenopia.—Three eyes. Recovered.

Xanthelasma.—Two patients. Recovered.

Paresis of Ocular Muscles.—Two patients. One recovered and one was much improved.

Alopecia of Lids.—One patient, improved.

Nictitation.—One patient. Recovered.

Pterygium.—One eye. No improvement.

The recovery of cases Nos. 1, 2, 21, 27, 41, 14 and 22 deserve to be emphasized as phenomenal, especially since in all, except the last two, the patients had been previously treated without improvement.

Thus, contrary to the contention of the erudite and lamented Noyes, and "most oculists" (Burnett), electricity does seem to justify its claim to usefulness in ophthalmic practice.

DISCUSSION.

Dr. Leartus Connor, Detroit, said that in general, as an experimental affair. the use of electricity in therapeutics has been disappointing. Most busy men dislike to take up so much of their time as is required for this treatment. When the first wave of electricity passed over the country Dr. Connor fitted himself out and began the use of electricity with the old apparatus. At present, with the use of the street currents and the improved apparatus for transforming them into any kind of current desired, it ought to be possible to get more definite results. He has had great satisfaction in using electricity, not for gross pathologic lesions, but in the treatment of the muscular and functional disturbances of the eyes. He explains the good results on the theory that obstruction to nutrition is removed and a more healthy activity promoted. He has been disinclined to use electricity generally. He has obtained good results from it in cases of glaucoma, before and after operation, in cases of iritis and in cases of discomfort that was not relieved by other means. Dr. Connor agreed with Dr. Coleman regarding the necessity of definite methods in the use of electricity and said that he wished some one would tell just what changes are produced in the eyes by its use. If we have to use this agent blindly, unsatisfactory results will be obtained. The matter of idiosyncrasy has to be considered too; one case will be benefited, and another not at all. There is a wide field here about which we know very little and he hopes that some one will be stimulated to investigate the problem further.

Dr. H. V. Würdemann, Milwaukee, declared that the high tension galvanic current is of great value in securing absorption of exudates within the eyeball in cases of choroiditis, and of mild uveitis, and in securing stimulation of nutrition in cases of partial optic nerve atrophy and retinal atrophy. In the first class of cases the positive pole is used to the eyeball; in the second of stimulation. Dr. Würdemann exhibited the visual fields of a case of rotary nystagmus with partial atrophy of the optic nerve and retina. The visual fields were greatly contracted and visual acuity was reduced to 6/60 and 6/36 respectively. After being treated by the interrupted galvanic current for three months they are nearly normal size, visual activity now is full 6/12 in each eye; nystagmus has disappeared.

Dr. Charles H. Williams, Boston, said that in order to have a current which is easily controlled and constant he had made a little apparatus which has given him a great deal of satisfaction. It consists of three parts: In the center is a small motor run by the street current. On one side this motor is geared to a generator producing a sinusoidal current, to the other side is geared a generator producing a constant current. By taking the alternating current through the core of an induction coil any strength of interrupted current can be obtained by the movement of the outer induction coil. By altering the strength of the field in the constant current generator, a constant current of any desired strength can be obtained. In this way, from the street current an easily controllable current of any form may be obtained.

Dr. E. J. Brown, Chicago, stated that he has used electricity in his practice and mentioned a case of monocular amblyopia in which he used it. Fixation was perfect, but there was a high degree of refractive error in one eye and a low degree in the other. The patient, a man, had worn correcting glasses for two years, and Dr. Brown found the correction proper. The man had tried it, however, for two years and the eye continued to be a disturbing factor. After three weeks of treatment, three treatments a week, with the sinusoidal current, the eye improved, vision came up from 20/100 to 20/40, and there was perfectly comfortable binocular vision.

Dr. S. Lewis Ziegler, Philadelphia, considered it very unfortunate that electricity, which is accomplishing so much in the field of general medicine, and particularly in neural therapeutics, is looked on with such skepticism by ophthalmologists. The few who employ it successfully are enthusiasts, while the many are ignorant, indifferent, or else are rank agnostics. He said that Dr. Coleman evidently belongs to the class of enthusiasts, and that he had submitted a liberal array of facts to substantiate his position. While endorsing most of the observations, Dr. Ziegler differed somewhat in method. The two-fold action of the galvanic current (1) physiologic, and (2) physicochemical, manifested as electrolysis and cataphoresis, should be borne in mind in any endeavor to explain the various electric phenomena observed, and the therapeutic effects obtained therefrom. The anode or positive pole is sedative, and should be applied to all inflammations, while the cathode or negative pole is stimulating, and should be used in atrophy. A notable exception to this rule is glaucoma, in which the negative pole should be employed. This rule may be modified as experience dictates. The constant current yields the best results when the electromotive force is high and the amperage low. Dr. Ziegler generally uses from 60 to 70 volts, and from ½ to 1 milliampere. The seance should last about ten minutes, daily or on alternate days. Occasionally he gives a ten-minute sitting of 1 m. a., followed by a second ten minutes of ½ m. a. Interruption of the galvanic current is useful in certain cases. At times it is of value to combine the faradic current with the galvanic. A higher amperage would require a lower voltage. A stronger current than this would be so painful as to be unbearable.

The eye is such a delicate organ that the apparatus used should be carefully adjusted for the most accurate measurement of these therapeutic currents, and the greatest precision should be employed in their application. The polarity should be easily discernible and kept clearly in mind, as in certain diseases reversal of the current may be painful or injurious, and might mean ultimate blindness for the patient. The milliamperemeter should have a secondary scale, graduated to read from zero up to 5 m. a. In addition to the volt controller placed on the main circuit there should be a small carbon rheostat to cut down the amperage. Dr. Ziegler employs the 90 volt shunt controller as arranged in the Keystone electric cabinet, with a secondary carbon rheostat, and a milliamperemeter in circuit with the patient. The active electrode is constructed with a gold-plated eye-piece, which has proved superior to platinum, a long thin arm and a hard rubber handle that can be comfortably grasped by the patient. The electrode must be well covered with a pad of moistened absorbent cotton, so that the positive current cannot drive the gold off by cataphoric action. The indifferent electrode should be somewhat larger (2 to 3 inches), and is preferably made as a neck pad, the sponge being stitched on thick sheet rubber. This should be moistened and placed inside the patient's collar, the rubber back having first been dried so as to avoid soiling the clothing. As previously mentioned, the positive pole is indicated in inflammatory processes. Thus, the protean forms of uveitis, whether acute or chronic, yield to the positive pole. In plastic iritis, spongy iritis, iridocyclitis, and choroiditis, a marked shortening of the course of the disease will occur. Serous iritis with keratitis punctata, often clears up in from 3 to 6 weeks, while under ordinary therapeutic measures from 3 to 6 months would have been required for convalescence. A case of sclerotitis was relieved from severe pain and photophobia after the first treatment. The positive pole in this case had a decided bleaching effect on the flannel-red eyes, and promptly dissipated the marked congestion. The positive pole is also useful in retinal hyperesthesia, and in retinitis pigmentosa, although in the latter disease a brief change to the negative pole, or to the sinusoidal current, often proves valuable. It is occasionally possible to abort a chalazion, by applying the positive pole.

Dr. Ziegler has always used the positive pole for old, stagnant, intraocular hemorrhages, while Dr. Coleman employs the negative. Doubtless the therapeutic effect, said he, is the same, whichever pole is used. He has seen hemorrhage in the vitreous, causing blindness for over a year, rapidly cleared up to useful vision. In a recent case of subretinal hemorrhage in the macular region three months of alterative treatment had made no apparent impression on the deposit which still remained a bright red spot. Vision, which was 20/200, under positive galvanism showed immediate improvement, and in four weeks he was discharged with a vision of 20/30 and Jaeger No. 2, all hemic pigment having been absorbed. Vitreous opacities are especially amenable to this form of galvanism. In a case in which, after about eighteen months of alterative treatment with the iodids, vision was reduced to 8/200 and Jaeger No. 20, the vision had increased in six weeks to 20/40 and Jaeger No. 2, under positive galvanism.

The negative pole has a smaller therapeutic field, but a no less valuable one. It is most efficient where stimulation is indicated. Its greatest field of usefulness is in optic atrophy. It should be used with great caution, overstimulation or exhaustion being carefully avoided. One of his earliest cases was referred to him with a vision of O. D. 8/200 and O. S. 20/200. The application of the negative current held the vision in the right eye and improved the left to 20/40 and Jaeger No. 4. His colleague, Dr. Radcliffe, reports a case of optic atrophy that has shown steady improvement from light perception to 20/70. A case of toxic amblyopia from inhalation of the fumes of wood alcohol was restored to almost normal vision and fields after a year's careful treatment. In glaucoma the negative pole will relieve pain and reduce the tension, while the positive will increase both. Dr. Ziegler was able thus to relieve a patient suffering from an attack of acute glaucoma and to prepare her for operation in about ten days. Galvanization of the cervical sympathetic has also proved successful in this disease.

He has tried the sinusoidal current in retinitis pigmentosa and in optic atrophy, but is not overenthusiastic as to the results obtained. He is sure, however, that it has a future, which only needs to be developed.

Electrolysis is, of course, a most valuable therapeutic measure. In trichiasis it is the only successful epilating agent. The needle is placed at the negative pole and the neck pad is made the positive. It is valuable to shrink up small tumors. In trachoma the bipolar needles will give the best results. In ectropion and angiomata Dr. Ziegler prefers galvano-caustic puncture. He has used corneal electrolysis for leucomata, for powder marks and for corneal ulcers with considerable success. He has modified Alleman's electrode by making the tip convex instead of concave and applying it directly to the surface without the intervention of a drop of mercury. Cataphoresis, or the driving of medicaments into the ocular tissues by the positive current, should prove to be a valuable measure. In a patient where a heart lesion contraindicated etherization Dr. Ziegler enucleated an eyeball under a cataphoric application of 20 per cent. cocain for twenty minutes without the patient suffering much discomfort.

Dr. Ziegler concluded by saying that the evidence should convince every careful and unbiased observer that electricity deserves a most honored position in ocular therapeutics.

Dr. George F. Keiper, Lafayette, Ind., stated that he has tried all kinds of eye electrodes and has found that the best electrode is the human finger. By passing the current through his own body and out through the finger to the patient's eye, the physician will not hurt himself or the patient and will avoid any prejudice the patient may have against the use of electricity.

Dr. W. F. Coleman, Chicago, said that his cases were chronic ones and he wished to get electrolysis, which is not in proportion to the voltage, but to the milliamperage. In opacities in the vitreous, for example, he uses all the milliamperage the patient will stand, usually ten. Dr. Coleman uses the negative pole in hemorrhage while Dr. Zeigler uses the positive, but stated that results may be obtained with either pole because the current is low so that it makes little difference. In principle, however, the negative pole is used to dissolve tissue and exudates. In optic atrophy stimulation is desired and the negative pole is used. Dr. Coleman agreed with Dr. Connor that the time required is a disadvantage and that it is often difficult to get patients to continue the treatment sufficiently long. He said that it is impossible to give a prognosis of recovery, but that this applies to other methods of treatment as well, though the day may come when we can. Dr. Coleman said that the most favorable cases of atrophy are traumatic, which have not such a serious basis pathologically as tabes, for instance. He said that he considers Dr. Keiper's suggestion as to the use of the finger a good one in many respects, but confessed that he does not wish to spend the time. He might have patients on three different currents at the same time and would not have fingers enough to go round. In regard to regulating the current, he said that the graphite rheostat is unreliable; one may turn on 5 milliamperes and return to the patient in 2 minutes and find that there are 10. He advised getting a metallic rheostat, not made of German wire, but of a combination metal which is much better. A correct meter is also indispensable.

Naming of Carbon Compounds.—Nitro is a prefix indicating the group—NO_2 derived from nitric acid by abstracting OH, thus nitroethane, $C_2H_5NO_2$; nitrobenzene, $C_6H_5NO_2$ Glycerin trinitrate, $(C_3H_5(NO_3)_3$, is often wrongly called nitroglycerin.—*Pharm. Rev.*, August, 1906.

TOXEMIA OF PREGNANCY.*

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The pernicious vomiting of pregnancy, acute yellow atrophy of the liver, and eclampsia, are generally grouped together as manifestations of the toxemia of pregnancy. While eclampsia is admittedly a toxemia, it seems unwise to class it with the other two conditions, from which it differs widely in symptoms, pathology, and prognosis, if not in other respects. For this reason it seems to me that eclampsia should be studied entirely apart from the other two types. I wish it to be understood, therefore, that wherever the term toxemia is used in the present article it refers only to the toxemia responsible for pernicious vomiting and acute yellow atrophy and not to eclampsia unless so stated.

The most pronounced lesion to be found postmortem in a case of toxemia of pregnancy is a degeneration and necrosis of the parenchyma of the liver. While this lesion is characteristic of the toxemia of pregnancy, it is not peculiar to it, since practically the same changes may occur in toxemias from other causes, the difference being in degree rather than in kind. For instance, an extreme degree of hepatic necrosis is brought about by phosphorus poisoning. Similar, though less pronounced changes may occur after chloroform anesthesia, as pointed out by Bevan and Favill[1] and demonstrated experimentally by Offergeld.[2] Müller's[2] experiments go to prove that similar effects may follow the administration of ether and other inhalation anesthetics, though the tendency is much less marked than with chloroform. Acute alcohol poisoning has been known to produce fatal necrosis of the liver, as noted by Quincke.[3] These are examples of hepatic necrosis caused by chemical substances. As an instance of a similar process due to a vegetable poison, Quincke mentions the occasional occurrence of liver necrosis as a result of mushroom poisoning. The liver changes in yellow fever consist of a degeneration and necrosis, not essentially different from that caused by the poisons mentioned above.

The experiments of Traube, quoted by Lusk,[4] would appear to prove that necrosis of the parenchyma of the liver may be brought about by an excess of bile acids in the blood. This information must be accepted second-hand, if at all, since the reference to Traube's article is not given by Lusk. Traube's experiments might well be repeated with a view to confirming his results. If his observation is correct it throws light on some of the obscure deaths in coma following operations for common duct obstruction. It would also appear to offer a possible explanation of the pathogenesis of acute yellow atrophy of the liver occurring in males and nonpregnant females. It would be reasonable to suppose, for instance, that ordinary catarrhal jaundice, when occurring in an individual whose liver is excessively intolerant of the presence of bile acids in the blood, may induce necrosis of such a liver in the same way as the various poisons already mentioned. This would be an example of hepatic necrosis due to the absorption and subsequent poisonous effect of a physiologic secretion. It will thus be seen that necrosis of the liver parenchyma may be caused by a variety of toxic substances, besides those peculiar to pregnancy.

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* Read before the Southern Surgical and Gynecological Association, Baltimore, Dec. 11-13, 1906.

[1] Acid Intoxication and Late Poisonous Effects of Anesthetics, The Journal A. M. A., Sept. 2-9, 1905.

[2] Archiv. f. klin. Chir., 1905, lxxv.

[3] Nothnagel's Ency. of Prac. Med., 1903.

[4] Science and Art of Midwifery, 1893.

PATHOGENESIS.

The source and nature of the toxins which give rise to the fatal liver changes in pregnancy have been the subject of much theorizing, but so far without definite results. The gastrointestinal tract, the liver, the kidney, the ovary, and the ovum,[5] has each been designated as the source of the toxins, but this entire aspect of the subject is still in so much doubt that it is hardly worth while to go into a discussion of the merits of any particular theory. It is sufficient to say that, whatever its source, it is generally conceded that there is a toxin in the blood which is responsible for the morbid process in the liver.

While little or nothing is known of the source or nature of the toxins which cause the hepatic lesions, something more definite is known of the nature of the lesions themselves. Salkowski's classic experiments on autolysis of the liver were followed by Liefmann's[6] observation of the similarity of the liver changes in fatal cases of toxemia to those of the autolyzed liver. Furthermore, some of the products arising during the self-digestion of the organ, such as leucin and tyrosin, are also present in the blood and urine in many of the fatal cases of toxemia. There is good reason to believe, therefore, that the liver changes in cases of toxemia are in reality due to a process of self-digestion. It is claimed by Wells[7] that when the upbuilding function of a living cell is abolished by loss of its nutritive supply or impaired by the action of poisons the last function to be destroyed is the property of self-digestion. In Salkowski's experiments anabolism was necessarily abolished owing to the absence of cell nutrition, leaving the catalytic process to go on unhindered. It follows that if the higher vital process of anabolism is impaired or abolished by a poison the cell may attack and destroy itself by autolytic action. The toxins of pregnancy probably induce the liver changes in this way, through the abolition or impairment of the upbuilding function of the liver cells.

Granted that the blood during pregnancy is increasedly toxic, as claimed by Bouchard,[8] we must then assume an insufficiency of the liver function as an essential factor in the production of the morbid symptoms and lesions of the toxemia of pregnancy. The formula for its production would be insufficient liver and toxemia on the one hand, resulting in failure of the anabolic function and autolysis on the other. The substances in the blood, noxious to the liver cells, would first merely impair the hepatic function, thereby leading to accumulation of the toxins peculiar to pregnancy, as well as those arising from ordinary metabolism, which the liver in its crippled condition is no longer able to neutralize. When the toxemia becomes so severe as to be intolerable, abortion or premature labor is apt to occur through the effort of nature to relieve the condition by removal of the cause, or perhaps as a direct effect of the toxins. This generally occurs before the development of actual necrosis in the liver. The wide-spread destruction of liver cells, as indicated by clinical symptoms, does not ordinarily occur until after the lapse of a period varying from a few hours to a few days after the uterus is emptied. In other words, the removal of the primary cause of the toxemia by terminating the pregnancy, appears to have the effect of aggravating the condition, paradoxical as this may seem. This was true in four of my own cases, and is a feature of many of the reported cases of others. This peculiar behavior of toxemia cases is especially noticeable in those which begin as catarrhal jaundice during local epidemics of this disease. These cases do not appear to be at all serious until after delivery, when the symptoms of acute yellow atrophy supervene and lead rapidly to a fatal issue.

This tendency of toxemia cases to become worse after removal of the primary cause is a matter of supreme clinical importance, and it is surprising that it has not attracted more notice from obstetricians. So far as I can learn from the current literature on the subject, there seems to have been no attempt to ascertain its cause or to forestall its effect. Recognition of this peculiarity of these cases forces the conclusion that a new supply of toxins must enter the circulation after the uterus has been emptied. It seems to me that the source of these new toxins is not far to seek. The postpartum uterus loses weight rapidly after being emptied of its contents, the loss during the first week approximating 50 per cent., according to Williams'[9] figures, the freshly delivered uterus weighing about 1,000 grams and only 500 grams one week later. This rapid atrophic process undoubtedly results in large quantities of waste products being thrown into the circulation. The burden of neutralizing these products, which must be toxic inasmuch as they are excrementitious, falls on the liver, which in its crippled condition is unequal to the task. The impending necrosis of liver cells then becomes actually established.

Of interest in this connection is the fact that there is reason to believe that the process of involution of the uterus is itself essentially a physiologic autolysis of the organ, rather than a simple atrophy or fatty degeneration, as heretofore taught. This idea is borne out by the occurrence of peptonuria during the puerperium. Levene[10] refers to it in his article on autolysis, and something like the same idea must have been in the mind of Fischel,[11] before the advent of the doctrine of autolysis, when he advanced the theory that involution is due to the conversion of the hypertrophied uterine muscle into peptone, and its excretion in the urine. Peptonuria presupposes peptonemia, and, as is well known, peptones and albumoses are toxic when present in the blood. It is not to be inferred, however, that these are the only toxic substances resulting from the retrograde process in the uterus. I presume it will be understood that by the terms peptonuria and peptonemia the presence of albumose in the urine and blood is meant, instead of true peptone, which is never present in either fluid unless artificially introduced.

Granted that the toxins resulting from the retrograde change in the postpartum uterus are apt to be the determining influence in the actual development of an impending necrosis in the liver, the importance of forestalling their effect is obvious. This can only be done by terminating the pregnancy at an earlier date than would otherwise seem necessary. In other words, it is not enough merely to determine whether the liver can withstand the pregnancy toxemia, but allowance must also be made for the additional postpartum dose. Another element which is no doubt sometimes the determining factor in an unfavorable case is the anesthetic. While this applies especially to chloroform, it must not be forgotten that in order to produce complete anesthesia a toxic dose of an anesthetic is necessary, and, as heretofore stated, all the inhalation anesthetics are to some extent liver poisons.

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[5] Edgar, J. Clifton: Clinical Manifestations of the Toxemia of Pregnancy, N. Y. Med. Jour., May 5-12, 1906.

[6] Centralb. f. All. Path., xvi, 12.

[7] Delayed Chloroform Poisoning and Allied Conditions, The Journal A. M. A., Feb. 3, 1906.

[8] Autointoxication in Disease, translation by Oliver, 1894.

[9] Obstetrics, 1903.

[10] Autolysis, The Journal A. M. A., March 17-24, 1906.

[11] Ueber puerperale Peptonurie, Archiv. f. Gyn., 1884, xxiv.

PATHOLOGY.

The liver is the principal seat of the pathologic changes induced by the toxemia of pregnancy. The process consists essentially of a degeneration and necrosis of the cells of the liver lobules. Any of the three zones of the lobule described by Virchow may be affected by the necrotic process, but a careful analysis of published reports would indicate that it attacks by preference the central and mid-zonal areas. Schmorl[12] believes that necrosis beginning in the peripheral zone is typical of eclampsia, and his views are confirmed by Williams.[13] Both observers, however, attribute the necrotic process in eclampsia to secondary changes dependent on thrombosis of the vessels in the interlobular spaces. This explanation of the hepatic necrosis in eclampsia serves to support the view advanced by Williams that eclampsia is due to a different kind of toxemia from that giving rise to pernicious vomiting and acute yellow atrophy. According to this explanation the variety of toxemia which gives rise to eclampsia produces thrombosis primarily, the necrotic changes being a secondary effect, while the toxemia which results in pernicious vomiting and acute yellow atrophy is the direct cause of necrosis of the liver cells. Ewing[14] considers that eclampsia, acute yellow atrophy and pernicious vomiting are simply different manifestations of the same toxemia. While this question remains to be definitely settled, it is my belief that the diversity of the two types of toxemia will ultimately be established. In addition to the well-recognized differences in symptoms and pathology, between acute yellow atrophy and pernicious vomiting on the one hand and eclampsia on the other, there is a striking difference in their behavior after the uterus is emptied. Barring exceptional cases, the tendency of eclampsia is to get better a few hours after delivery, while that of the other variety is unmistakably in the opposite direction. Furthermore, they differ in prognosis, uncomplicated eclampsia being a much less fatal disease than acute yellow atrophy or pernicious vomiting. It is not unlikely that mixed types of toxemia may occur, giving a clinical picture that may be interpreted as eclampsia or acute yellow atrophy, according to the bias of the individual observer. The existence of these mixed types may be the cause of much of the unfortunate confusion in the terminology of this subject.

In addition to the lesions in the liver, degenerative changes are present in the kidneys and heart, and in eclampsia, small thromboses in the brain and lungs.

SYMPTOMS.

Vomiting is a prominent symptom of toxemia. When occurring in the early months this symptom dominates the picture to such an extent that the condition is classed as a clinical type under the name of pernicious vomiting of pregnancy. This early vomiting is apt to be confused with the benign type due to reflex or neurotic influences, but in the later months its significance is not so apt to be overlooked.

Headache is a common symptom, as are also neuralgic pains in other parts of the body. Epigastric pain, probably due to the liver changes, is especially significant. Increased secretion of saliva is an important symptom present in many of the bad cases. It is most noticeable at night during sleep. The patient on waking finds a spot on the pillow, due to the dribbling of saliva from the mouth.

Air hunger, described by Kussmaul[15] is a fairly constant symptom. It was a prominent feature in three of my four fatal cases and in four out of five cases seen with others.

Extreme mental depression is present in many cases. The patient takes a most gloomy view of her condition and frequently expresses a conviction that she will not recover.

Edema of the extremities or face is frequently noted, although it is by no means a constant feature. Albumin may or may not be present in the urine. Evidences of disturbed metabolism, however, may be rather constantly found.

All these symptoms precede the development of the necrotic process in the liver and are due to the toxemia itself. Those which depend on the destruction of liver cells are coma and stupor, black vomit, bile in the urine, possibly icterus, rapid breathing, convulsions (always in eclampsia, occasionally in acute yellow atrophy), failure of renal function, failure of circulation. Death is the rule after the advent of these grave symptoms, though regeneration of the damaged liver cells and recovery is possible.

DIAGNOSIS.

Valuable work has been done by Williams, Ewing and others toward establishing laboratory aids to the diagnosis of toxemia of pregnancy. Ewing first called attention to the diagnostic significance of unoxidized proteid derivatives in urine, while Williams was the first to point out the special significance of an increased percentage of ammonia. The normal amount of ammonia in the urine is from 3 to 5 per cent., and Williams considers it a danger signal when the percentage reaches 10 or more. I am in no position to express an opinion as to the practical clinical value of this test, having had no experience with it. There can be no doubt, however, that the test is based on logical grounds. It is well known by physiologists that when in an animal a part of the portal blood is diverted from the liver and carried directly into the general circulation by means of an Eck fistula between the portal vein and vena cava a considerable part of the urea nitrogen appears in the urine as ammonia.[16] Almost all the urea is represented by ammonia if the liver is entirely shunted out of the circulation by ligature of the hepatic artery and of the portal vein on the liver side of the fistula. In the light of this experimental data it is to be expected that hepatic insufficiency in the human subject would result in a similar disturbance of the ratio between the urea and ammonia output. While there can be no doubt that the presence of an increased percentage of ammonia in the urine is an indication of a dangerous hepatic insufficiency, it is denied by Ewing[17] that its absence is necessarily of favorable significance. It is to be regretted that the estimation of unoxidized proteid derivatives, and especially the ammonia coefficient, is so complex a chemical procedure as to be available only to those who have access to the services of a skilled chemist. The diagnosis must, therefore, continue for the present to rest almost entirely on the clinical symptoms.

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[12] Untersuchungen über puerperal Eklampsie, Leipzig, 1893.

[13] Pernicious Vomiting of Pregnancy, Trans. Am. Gyn. Soc., 1905.

[14] Pathology and Pathogenesis of the Toxemia of Pregnancy, Amer. Jour. Obst., 1905, li, 2.

[15] Quoted by Bevan and Favill.

[16] Schafer, E. A.: Text-book of Physiology, 1898.

[17] Personal communication, Nov. 19, 1906.

TREATMENT.

Palliative measures, to be effective, must be directed not only against the toxemia but quite as much against the hepatic insufficiency. No method of treatment hitherto employed has appeared to influence favorably the impaired antitoxic function of the liver. Eliminative and dietetic treatment, intended to reduce the toxemia, while sometimes successful, too often merely postpone the crisis, the morbid condition reappearing at a later date in aggravated form. I have seen several cases behave in this way, and many other examples may be found in the literature. In view, therefore, of the impracticability of treating the hepatic insufficiency, and the unreliability of treatment of the toxic condition itself, it seems to me that palliative measures should have no place in the management of a recognized case of toxemia of pregnancy.

Radicalism is, then, the only alternative, and in the interest of the patient it should be resorted to early and without reference to the interest of the fetus. Assuming that the diagnosis is established, the indication to empty the uterus is just as urgent as the indication to operate in a case of recognized ectopic pregnancy before rupture. If the condition arises during the early months the question as to whether to empty the uterus at one sitting or to induce abortion by a slower method must be decided according to the urgency of the case. On account of the possible unfavorable influence of anesthesia, nonoperative induction of abortion should be given preference, other things being equal. This rule should also be followed in the later months for the same reason. A protracted labor should not be permitted, however, as the excessive muscular exertion would add its quota to the toxemia already existing. If the case is very urgent, rapid delivery may be accomplished by means of whatever obstetric operation seems to be best suited to the case. Cesarean section may be performed by either the vaginal or abdominal method, provided that the exigencies of the case appear to call for such an operation. If, however, for any reason it is seen fit to perform the abdominal operation, the question arises as to whether it would not be advisable to remove the uterus at the same time in order to avoid a probable increase in the toxemia as a result of the process of involution.

In any operative procedure on a patient with toxemia inhalation anesthesia should not be employed if it is possible to avoid it, for reasons already stated. Spinal anesthesia, free as it is from the disadvantages of general anesthesia in this condition, is worthy of favorable consideration. In any event, chloroform should never be used in a case of toxemia of pregnancy.

REPORT OF CASES.

Case 1.—Mrs. J. P. A., aged 19, primipara, was seen with Dr. Wyatt Heflin.

History.—Pregnancy was uneventful until the beginning of the eighth month, when she contracted what appeared to be an attack of catarrhal jaundice, a disease which was prevalent in the neighborhood at the time. The jaundice continued for two weeks, when labor came on, Jan. 14, 1903, about two weeks before full term. Spontaneous delivery occurred in four hours. The patient's condition was apparently normal except for jaundice, until forty-eight hours after delivery, when she gradually sank into a stupor and died January 17, about seventy-two hours after delivery. A few hours before death she vomited a quantity of coffee-ground material. A specimen of urine obtained just before death contain leucin crystals, and this finding, together with the clinical picture, led to a diagnosis of acute yellow atrophy of the liver. The case was reported as such before the Jefferson County Medical Society, Feb. 9, 1903. Postmortem was not allowed.

Case 2.—Mrs. A. E. S., primipara.

History.—Pregnancy presented no abnormal feature except edema of extremities and face. The urine was examined repeatedly for albumin and casts, but always with negative results. Labor, about full term, began Sept. 9, 1904. After twenty-four hours' useless labor delivery was accomplished by version. Chloroform anesthesia was used and was somewhat prolonged on account of repairing an extensive perineal laceration. The patient's condition was good until the morning of September 13, sixty hours after delivery, when she was found by the nurse in a partial stupor. This steadily deepened, and jaundice appeared a few hours later and rapidly increased. Death occurred September 14, eighty-four hours after delivery. Postmortem was not allowed. Neither leucin nor tyrosin crystals could be found in the urine. A diagnosis of acute yellow atrophy of the liver based upon clinical symptoms alone.

Case 3.—Mrs. C. H. C., primipara, aged 34.

History.—Nausea and vomiting, with albuminuria, appeared about the end of the third month. The condition improved remarkably on a milk diet and eliminatives. Under this treatment the woman's condition remained apparently normal until the end of the seventh month, when the symptoms returned rather suddenly. After a few days of palliative treatment labor was induced, and after a tedious labor delivery was accomplished by forceps under chloroform anesthesia. Black vomit appeared while she was still under the anesthetic, and consciousness never fully recovered. Urine was very scanty after delivery, and contained albumin, casts, and bile pigment. Death occurred thirty-six hours after delivery. No postmortem.

Case 4.—Mrs. I. L. A., second labor.

History of Previous Pregnancy.—She was attended by me in her first labor, May 16, 1901. She had suffered very much from nausea and vomiting during that pregnancy. Delivery was accomplished by forceps. Twenty-four hours after delivery a mild, acute mania developed, which lasted about one week. Convalescence was slow, but finally resulted in complete recovery. She was advised by me not to attempt to go through another pregnancy, but after two years of fairly good health, she again became pregnant in August or September, 1903.

Subsequent Pregnancy.—In this pregnancy she almost lost her life from pernicious vomiting. She steadfastly refused to consent to the induction of abortion until she was in a desperate condition. Abortion was finally induced, however, and she made a slow but satisfactory recovery. She became pregnant again five months later, and got through the early months very well compared to the previous pregnancies. At the beginning of the sixth month, however, persistent vomiting set in, accompanied by scanty urine and albuminuria. She again refused to consent to having the pregnancy terminated until she began to suffer from "air hunger." She then consented to have labor induced, but her symptoms rapidly grew worse, and she had already sunk into partial coma before the preparations for delivery had been completed. The delivery was accomplished by version, the necessary dilatation of the cervix being obtained by means of the Bossi dilator. The entire proceedings were completed in thirty-five minutes, and without damage to the maternal structures. A very small quantity of chloroform was given, very little being required, owing to the partial stupor. Her pulse was almost imperceptible at the time of operation, and failed to respond to stimulation during and after the delivery. Death occurred four hours after delivery. Postmortem was not allowed.

Case 5.—Mrs. W. G. O., third pregnancy.

History.—The patient suffered from headache, mental depression, edema of face and extremities, insomnia, increasing albuminuria, scanty urine and profuse salivation. No improvement occurred under palliative treatment. Labor was induced at the seventh month of pregnancy, and a living child was delivered. Recovery was uneventful.

Case 6.—Mrs. J. D. H., was seen with Dr. R. B. Harkness; third pregnancy.

History.—Eclamptic convulsion had occurred after the first labor. The second pregnancy and labor were uneventful. One convulsion occurred at the fourth month of the third pregnancy. Improvement took place under palliative treatment. The woman had an easy labor at full term. Rapid pulse and labored breathing with partial stupor developed a few hours after labor. The condition was exceedingly grave. Convalescence was slow and complicated by endocarditis and thrombosis of the veins of the left arm.

Case 7.—Mrs. W. H. T. was seen with Dr. D. F. Talley.

History.—The principal symptoms were "air hunger" and vomiting of coffee-ground material. Pulse was rapid and weak. Premature labor was induced by Dr. Talley and recovery was uneventful.

Case 8.—Mrs. J. O. T. was seen with Dr. D. F. Talley.

History.—This patient suffered from persistent vomiting of coffee-ground material, which gave the blood reaction with the guaiac test. There were also present mental torpor and profuse salivation. Premature labor was induced by Dr. Talley and recovery was uneventful.

Case 9.—Mrs. B. was seen with Dr. E. S. Casey.

History.—Spontaneous abortion occurred Sept. 27, 1906, in the third month of pregnancy. The uterus was curetted on account of retained secundines, Oct. 4, 1906, under ether anesthesia. Temperature remained high, and on the day following the curettage, coma and jaundice appeared. The jaundice deepened rapidly, coma became profound and death occurred Oct. 6, 1906, eight days after the abortion. Postmortem was not permitted.

INFLUENCE OF THE MOTHER'S HEALTH IN PREGNANCY ON HER UNBORN CHILD.*

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There are three epochs of a child's life during which the mother's influence is supreme: The middle period of the three is that of lactation, and it is followed by a time of varying extent, lasting usually till the child goes to school, while it is preceded by an antenatal epoch of at least nine months' duration. It is with the last named of the series only that I am here concerned; but it may make for lucidity if I indicate briefly the kind of influence which a mother exerts during the other two periods, both of which are distinguished from the third by the fact that they are postnatal. I will call the three epochs in their order: 1, Antenatal; 2, lactational, and, 3, postlactational.

The *postlactational period* of influence extends from the time of weaning, which may, perhaps, be stated roughly as occurring at the ninth month of the child's life, to the year when the child goes to school or in some other way passes from under the immediate supervision and control of the mother. During these years, which may be estimated at five or six, the mother's influence over her child is preëminent; it is not, however, exclusive of all others, for the father, or the nurse, or brothers and sisters, may all have a certain degree of control over the health destiny of the young child growing up among them. Nevertheless, the maternal influence far outweighs that of all the rest combined; and it may be stated generally that the mother determines what shall be the food of her child, what shall be his clothing, what the amount and kind of exercise shall be, what shall be the physical surroundings, and, vastly more subtle, what the moral and religious atmosphere. If she be a wise mother she will endeavor to supply him with food suited to his age and requirements; she will see to it that he is clothed in accordance with the needs of exercise, indoors or outdoors, and with the varying conditions of climate and season; and she will take care that his body hygiene, as well as that of his nursery and playroom, be the best that can be obtained. In all these matters she will ask for, and ought to receive, the best advice from her medical attendant; and, if she employ a trained nurse to look after her child's interests during a part of the day or night, she ought to choose one capable of understanding the reasons for the rules of health in childhood. She will endeavor also to shield her child from epidemic and exanthematous dangers, and from the more persistent and pernicious effects of bad habits acquired in early life. It is no exaggeration to say that, for the proper performance of a mother's functions, as they are mapped out above, a very large part of a mother's time must be set aside. That all women who have borne children are not willing to devote so much time to the business of influencing their offspring's future is a commonplace; but such women can hardly lay claim to the name of mother, for a mother's duties do not cease with the close of the third stage of labor.

In the *lactational period,* the first nine months of postnatal life, the infant's welfare is even more dependent on the mother's care and interest. Her influence is now more than preëminent; it is practically exclusive. The child is drawing his entire nourishment from the maternal tissues; he is watched over by his mother day and night; nothing, it may be said, can happen to him without her knowledge and consent. Her dietetic errors are reflected in his arrested nutrition; her emotional disturbances and social distractions are transmuted into his digestive disorders, and the diseases from which she may suffer may either be passed on to him or in less direct ways, by altering the composition of her milk, may affect the performance of his bodily functions. Should she become pregnant while nursing, both the infant at the breast and the fetus in the uterus will feel the strain that is thus put on her organism. I need not linger over this period of maternal influence, for I think every one admits that the state of an infant is a very fair test of the structural and functional integrity of his nursing mother. Neither, unfortunately, is there any need to inform the medical practitioner that mothers, some of them perhaps from inability, others more likely from disinclination, too often are not found standing in this close relationship to their young infants. There may be dangers to the infant from drawing his supply of milk from her breast, but the dangers are multiplied when he has to depend on the cow or the manufacturer of artificial food, although I freely admit that the cow has often proved a benefactor and that the manufacturer has sometimes shown ability and ingenuity.

THE ANTENATAL PERIOD.

But it is more with the influence of the mother on her child in the antenatal period of his existence that I have to do here. The extent and character of this influence are to a large degree unknown to or unconsidered by many medical men. Too often physicians allow notions of the potency or impotency of maternal mental and emotional impressions to prejudice their whole conception of the prenatal relationship existing between mother and fetus. While I do not affirm that a mother's mental and emotional state during pregnancy has no influence on her unborn child (indeed, I believe there is such an influence), yet I deplore the fact that scientific men have been led away from the plain facts and ascertainable phenomena of the transplacental transmission of maladies, predispositions and immunities to the consideration of such a will-o'-the-wisp as the effect of the mother's imagination.

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* This paper was prepared to be read in the Section on Diseases of Children, at the Fifty-seventh Annual Session held at Boston, June, 1906.

While, no doubt, mental depression and emotional disturbances take their place among other etiologic factors and have an effect on the mother's general health, and so on that of the fetus, just as on that of the suckling, yet the influence of such states is probably slight compared to that of, say, toxins in the mother's blood and diseases of the placenta. But that a maternal mental picture, pleasant or unpleasant, can impress itself on the body of the fetus as a photographic negative is reproduced on a print is, in my opinion, entirely without scientific basis. Such a belief has been the cause, direct and indirect, of a great deal of misdirection of inquiry, and the nature of the results obtained has been such as to bring to the whole subject a certain measure of disrepute.

The subject I shall endeavor to discuss is, then, how the state of the mother's health in pregnancy influences that of the child to whom she is to give birth, and, with what I have said above, I shall dismiss the ancient but discredited theory of maternal impressions and pass to views which can commend themselves to the scientific mind.

THE RELATIONSHIP OF FETUS TO MOTHER.

First, it is necessary that a clear conception exist as to the relationship of the offspring to the mother before birth. I do not intend to consider the manner in which the ovum in the Graafian follicle is influenced by the maternal metabolism, nor do I intend to deal with heredity at all; I shall limit the discussion entirely to the influence of the maternal on the embryonic and fetal organism, during the nine months of pregnancy, which is a completely different matter from heredity, as heredity is generally understood. It is true that heredity and the influence of the mother on her offspring in pregnancy are constantly being confused and even regarded as one and the same thing; but they are distinctly different, unless, indeed, we are prepared to call the influence a woman has on her child at the breast, through her milk, a hereditary one, and this assumption, I think, few will allow. I exclude heredity, therefore, not because I do not admit its action, although I believe we know extraordinarily little about it, but because I wish to focus attention on the much less hypothetical effect produced by the state of the mother's health on that of her infant *in utero.*

THE PHYSIOLOGIC RELATIONSHIP.

In the early weeks of pregnancy the impregnated ovum, embedded in a mass of cells which may be conveniently termed the trophoblast, is attached to the wall of the uterine interior; processes from the trophoblast push their way into the uterine blood sinuses in the mucous membrane at the site of attachment, and embryonic blood vessels invade the processes and so come to lie bathed in the maternal blood with only a layer or two of trophoblast cells intervening. As the weeks pass by, specialization takes place and there is formed a definite placenta in which villi, with contained fetal vessels, lie in pools of maternal blood; but the essential character of the relationship remains the same. The fetal and maternal bloods do not mix, unless, indeed, a hemorrhage into the placenta takes place, but they are sufficiently near each other, and the intervening tissues are sufficiently porous, to permit the passage of fluids, gases, and even of solids from the one blood to the other. This is what I mean when I speak of the transplacental interchanges. The laws of these exchanges are not yet fully known, but enough has been ascertained to lead us to believe that there is a constant flow from the maternal into the fetal blood of oxygen, water, chemical substances (such as lime, iron, potash, and soda) in solution, proteids, fats, and even of white blood corpuscles. From the fetal into the maternal blood there is a reverse current consisting mainly of effete materials to be ultimately got rid of by the mother's excretory organs. It also is known that under exceptional circumstances other things pass over from the one organism to the other, among which may be mentioned poisons, toxins, microbes, and agglutinins. Why in one case these exceptional substances pass over and in another case do not we are not in a position to state. The easiest explanation of their passage, as the occurrence of a hemorrhage or of disease in the placenta breaking down the tissues intervening between the two bloods apparently does not apply to all cases, although it may be accepted for some. We must, no doubt, look on the peculiar states of the fluids on the two sides of the placental barriers as the cause; and the discovery by physiologists of the regulating factors in the transmission of fluids through animal membranes in other parts of the body, will very likely aid us before long in the solution of this antenatal problem; unless, indeed, the solution of the antenatal problem antedates that of the postnatal one.

It is an interesting question whether or not there is any other route by which materials may pass from the mother to the fetus or in the reverse current from the fetus to the mother. I think there is some evidence to show that in some instances, at least, there may be a circulation of the liquid amnii and that in this way substances may so pass, thus escaping the placental barriers. In other words, it seems likely that some chemical substances in solution may transude into the amniotic fluid from the maternal tissues of the uterine wall and be swallowed by the fetus and so reach the fetal tissues.

COMMUNICATION BETWEEN MOTHER AND FETUS.

I am now in a position to refer to the influences which by one or the other or by both of these routes may pass from the maternal to the fetal organism. The most familiar instances are those in which the mother has an infectious disease, such as smallpox or measles, and gives birth to an infant with obvious signs of the disease in question on it. There are two possibilities in such an occurrence. Either the cause of the maternal disease has passed through the placental or amniotic barriers and affected the fetus also, or else the infecting substance, whatever be its nature, has affected both the maternal and fetal organisms at the same time. In other words, it is not certain whether the mother is first infected and then infects the fetus, or whether the latter is simultaneously infected with her. It may be said that the incubation period in the case of the fetus will show which is the correct view; but there is a difficulty, for the data are difficult of ascertainment and there is always a probability that the incubation period may be shortened in the case of two organisms so intimately in contact with each other as those of mother and fetus.

Other instances are those in which a disease, caused by a special microbe, is transmitted from mother to fetus, as is proved by the discovery of the microbe in the placenta and in the tissues of the fetus if it should be born dead. Such maladies are fetal sepsis and fetal tuberculosis. It is true that the latter is extremely rare, but it is also true that a few absolutely proven cases have been recorded. Further, when the tubercle bacillus surmounts the placental barriers, there is abundant evidence that it finds in the fetal tissues a suitable culture medium, for in the authenticated instances of fetal tuberculosis the disease has been of that virulent type which is usually seen only in birds (avian tuberculosis). We are forced, then, to conclude that the placenta plays a strongly protective rôle in connection with the unborn infant of a tuberculous mother. Perhaps other microbes attack the placenta itself, rather than other tissues, and so more readily overcome its opposition while the tubercle bacillus is held in check by some chemical substance in the placenta or by an essential weakness in itself. The vitality of the placenta is probably very high, on account of the large amount of epithelial tissue it contains, and so perhaps its resistance to bacilli is great. If this be so, it will account for the ready passage of microbes which thrive in strong tissues and for the difficulty of passage of such as breed best on devitalized structures.

Again, there is another group of diseases which are not transmitted to the fetus in the same form as that which they exhibit in the mother. Typhoid fever, for instance, is known to have an effect on the fetus, for the germs of it have been found in the fetal tissues in cases in which the mother has suffered the disease and given birth to a dead infant. But, probably on account of the inactive state of the fetal intestine, or by reason of the umbilical mode of entrance of the germs into the fetal body, the malady takes the form of a general blood poisoning rather than that which is associated with typhoid in the adult. Here, then, it may be that the mother's disease causes morbid changes in the unborn infant which are not those occurring in the maternal organs, but which are due to the same microbe. Possibly, also, diseases not yet shown to be due to a microbe, such as eclampsia, influence the fetus in this obscure manner; perhaps toxins pass the placental barriers and disturb the nutrition of the fetus. It may be difficult to find a name for these diseased states, they are semi-diseases, but I think that their existence is undoubted, and I have given a chapter to their consideration in my recent work, "Manual of Antenatal Pathology."[1] The occurrence of morbid states in the fetus due to the passage of toxins from the mother, due in their turn to diseases of the mother, leads me to refer to fetal maladies caused by the invasion of the body of the unborn infant with toxic materials, such as lead, alcohol and mercury. There is every reason to believe that the placenta acts as a barrier to the passage of these substances also; but it occasionally fails, either by reason of the great amount of the poison or on account of the presence of disease in the placenta. The placenta also seems to save the fetus by storing up the poison in itself, as does the liver in the adult; and this fact, I think, explains how it is that the usual result, when the placental safeguard is broken down, is the expulsion of a dead fetus and not a diseased one. The poison has spent its force on the placenta, and by destroying it has killed the fetus; there has been no time for the poison to produce its specific effects on the fetus.

It must never be forgotten in dealing with fetal pathology that the placenta is one of the fetal organs, and a very vital one, and that when it is attacked and injured the results to the unborn infant are very serious, much more immediately serious than if, for instance, the fetal lungs, stomach, brain or kidneys were grossly degenerated. This is probably one of the chief reasons why maternal syphilis has so terribly disastrous an effect on antenatal life, for it causes such marked lesions in the placenta.

I have here attempted the merest sketch of the influence which maternal maladies, alcoholism, drug habits and the like may have on the unborn infant; and I have not touched at all on the effects which these same morbid agents may have on the organism in the embryonic stage of its antenatal existence. I believe the latter changes to be teratologic, not pathologic; but into that very large question I do not propose to enter.

SUMMARY.

1. All diseased conditions of the mother in pregnancy, whether due to microbes, toxins, toxic agencies or diatheses, are, I believe, dangers to the fetus.

2. The fact that the fetus sometimes, perhaps often, escapes must be largely ascribed to the protective influence of the placenta.

3. The morbid influence may either force its way through the placental barrier and so reach the fetus and cause disease, etc., in it or, by destroying the integrity of the placenta itself, it may cause death of the fetus.

4. The laws that regulate the placental interchanges, normal as well as pathologic, have not yet been discovered.

5. The great safeguard of the fetus, if the mother be diseased, is a healthy placenta which opposes the passage of germs and toxins and which is not itself liable to the attacks of these morbific agencies.

6. We do not yet know if there are any medicines which act, as it were, as placental tonics; perhaps potassium chlorate and mercury are of this nature and possibly some of the organic extracts may be found to have this action.

SURGICAL ANESTHESIA,

WITH SPECIAL REFERENCE TO POSTANESTHETIC NAUSEA AND VOMITING.

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Much has been said and written on the important subject of anesthesia. Still there has been one particular point that has as yet never been satisfactorily settled, so far as I am able to learn. I refer to the distressing nausea and vomiting that so often follows the administration of ether and chloroform.

After having exhausted such methods as lavage, filling the stomach with water prior to the operation, pungent odors to nostrils, hypodermic medication, etc., without any apparent beneficial result, I began experimenting with a measure at once simple in use, logical, harmless and, to my mind, expedient.

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[1] Illustrative instances of the statements made in this article will be found in abundance in this work, especially in Chapters XI to XVI.

We know that vomiting may be caused by a drug irritating the vomiting center directly, by being conveyed to it by the circulation or irritating it reflexly from the stomach when conveyed there by the circulation. Also that substances may be ingested which are irritating to the mucous membrane of the stomach and cause vomiting (reflexly) independently of the circulation, but not independently of the vomiting center.

It is my opinion that postanesthetic nausea and vomiting are due to the irritation of the vomiting center in the medulla by either the unchanged ether, or the alcohol radical when oxidation is incomplete, which still remains in the circulation in concentrated form after the reflexes return.

Ether and chloroform act on the brain as an alcohol. The motor and sensory areas are paralyzed by an anesthetic dose. The products of oxidation of ether or alcohol are carbon dioxid and water. As neither of these substances cause nausea or vomiting when introduced in the organism, it is my aim to oxidize the ether as soon as the anesthetic effects are no longer required by the surgeon.

This is accomplished by oxygen inhalations, begun immediately on suspension of the anesthetic and continued until consciousness is regained, and in some cases even longer.[1] The changes which take place when we are dealing with ether might be stated thus:

$$C_4H_{10}O + 6O = C_2H_6O + 2CO_2 + 2H_2O.$$
$$(C_2H_6O + 6O = 2CO_2 + 3H_2O.) \text{ or,}$$
$$C_4H_{10}O + 12O = 4CO_2 + 5H_2O.$$

It will be seen that the irritating drugs are reduced to harmless products, and this before the reflexes are fully restored if we are to accomplish the desired end.

In the event of chloroform being used, I am not prepared to state what the result of oxidation is. Probably formic acid, carbon dioxid, water and chlorin, the latter immediately combining to form dilute HCl and other compounds

$$(4CHCl_3 + 7O = CH_2O_2 + 2CO_2 + H_2O + 4Cl_2).$$

In giving oxygen inhalations, I am in the habit of using the 40-gallon jar, which weighs only 10 pounds and is, therefore, easily handled. The apparatus which comes with it is so arranged as to first allow the oxygen to escape into an elastic bag, from which it passes to a ten- or twelve-ounce wash bottle containing water to about one-third of its capacity. It is then conveyed by suitable rubber tubing, having a glass tip, to the nostril. The anesthetizer holds the tip in place and regulates the amount of oxygen so that a slight pressure is maintained at all times.

The conditions under which I have so far used the method are as follows:

Preparation of Patient.—The preparation of all patients begins not later than the day preceding the operation and is carried out diligently by the nurses without variation. The same routine prevails as in the hospitals of the East and elsewhere. Suffice it to say the alimentary canal is practically empty when the patient enters the operating room.

Choice of Anesthetic.—Ether, exception, infants.

Administration.—The open method as carried out at the Mayo and Ochsner clinics. I take it that few are unacquainted with this method and, therefore, do not dwell on it except to express the belief that it is far superior to any method now or heretofore in use.

Surgical Procedures Attempted.—These have ranged through operations on the neck, face, brain, stomach, intestines, appendix, gall bladder, liver, kidneys, rectum, cystic bladder, prostate, urethra, tubes, ovaries, uterus, vagina, amputations and plastic work.

Time Consumed.—This has varied from fifteen minutes to two hours.

Thus it will be seen that the conditions vary little from those found in most hospitals. The choice of the anesthetic and method of giving it may differ, but, inasmuch as I have used the other methods and varied my anesthetic in the past with the same result, I see no reason why postanesthetic nausea and vomiting can not be done away with in a very large majority of instances.

In the past two years that I have been using this method at the Ozark Sanatorium as a routine practice I have not had one patient that has been disturbed by nausea or vomiting where the conditions have been properly met, and in some of the patients nausea and vomiting of a reflex character have been incessant prior to going on the table.[2] It is presumed that the surgical procedure removed the cause, but it is also presumed that such a patient would more often have vomiting following an anesthetic than one whose stomach was previously quiescent, yet such patients have not even had nausea.

Whenever there have been two patients bearing the same characteristics of temperament and having the same surgical lesion, to one I have administered oxygen and to the other nothing except air, after the anesthetic, and invariably has the one receiving the oxygen had no disturbance, while the one receiving only air has had both nausea and vomiting on regaining consciousness. Just so did vomiting occur in those patients who did not receive the oxygen until some time after the anesthetic had been withdrawn.

It may be that the method of arriving at this conclusion is faulty, but I do not think the conclusion itself, that oxygen eliminates post anesthetic nausea and vomiting, is.

Inasmuch as the method is at once simple to operator and patient alike, having practically no disagreeable features, and harmless to the last degree, I can fearlessly recommend it to any and all, and sincerely trust that some observer with unlimited clinical material for investigation will take up the subject and give it a convincing test.

THE FUNCTION OF THE PREFRONTAL LOBES.

APROPOS OF THE PATHOLOGIC FINDINGS IN A CASE.*

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Comparative anatomy teaches that the frontal lobes of ascending types of animals are found gradually increasing in size. In anthropoid apes, the brain, which is very similar to that of man, is distinguished from the latter by the development of the frontal convolutions; they are all short and the inferior one, particularly so. In the studies by morphologists and neurologists, considerable attention is given to the question of the localization of psychic functions. Researches in comparative and experimental physiology, clinical ob-

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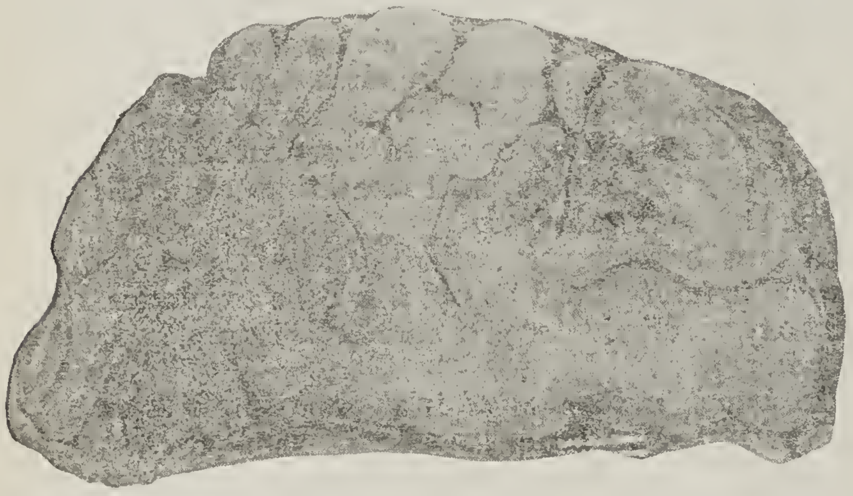
[1] The anesthetic is often discontinued before the subcutaneous sutures are in place and always before the dressings are adjusted.

[2] If any great amount of saliva and mucus has been swallowed, it will often be expelled, at one effort, as soon as the patient begins to wake up. No nausea accompanies or vomiting follows.

* Presented before the Philadelphia Pathological Society, Nov. 22, 1906.

servations, histologic studies, all lead to this view that a coöperation of all constituent portions of the brain is necessary for a normal function of intellect and that only a diffuse alteration of the brain is able to produce a modification in intelligence. Nevertheless, the anterior portion, the so-called prefrontal lobe, has been recognized since Gall, as the preponderantly better developed in highly intellectual individuals and that mental deficiency goes hand in hand with abnormal frontal lobes. According to Meynert, the weight of parietal and occipital lobes together, is to the frontal lobe as 3 to 6.

Pathologic studies of the brain have thrown considerable light on the question of localization of higher psychic function. Sifting all the accumulated data, especially those concerning cerebral tumors, the conclusion can be drawn that while a lesion of any portion of the brain is capable of giving place to mental disturbances, yet on the other hand most pronounced lesions are sometimes unaccompanied by disturbed psychic functions; nevertheless it is generally admitted by the majority of observers, that a tumor or any lesion of the prefrontal region, particularly of the left (Phelps) is more frequently attended by mental disturbances than a lesion of any other portion, except, perhaps, of the corpus callosum. Attempts have been made to determine whether or not, among all possible *normal* mental phenomena, there are some that are especially characteristic of the function of the prefrontal area; also whether in pathologic conditions of the same region *special abnormal* mental phenomena are present.



Apparently recent hemorrhagic area in the white substance of the left prefontal lobe.

Among all possible lesions of the prefrontal lobe, tumors are the best studied and indeed the majority of observations concern those of prefrontal neoplasms. Léonora Welt[1] made a careful study of eight cases of various lesions of the prefrontal lobe and noticed the following mental symptoms: The patient is morose, taciturn, suspicious, and at times violent. L. Steven[2] concludes from his studies that patients thus affected are very facile in temperament, unable to concentrate their attention and present loss of memory for recent events. Bianchi, who made exhaustive studies of the subject, points out the following mental symptoms: Restlessness, indifference, great irritability, want of criticism, automatism. Flechsig, who places in the frontal lobe one of his association centers, finds in diseases of this area a loss of sense of relation of personal consciousness to outside influences, inability to discriminate possibilities from impossibilities and, finally, loss of self-control.

Summing up the opinions of all observers, the following are the principal symptoms: Mental hebetude, automatism, excitement and irritability, or else depression, disorientation and loss of power to concentrate attention. The German writers long ago called attention to a special symptom, which they found in a large number of cases in diseases of the prefrontal lobe. Jastrowitch gave it the name *Moria;* Oppenheim calls it *Witzelsucht.* The characteristic feature of this symptom is the humoristic spirit which is seen in the patient's actions and words. Although it is not present in every case, and this symptom was observed in tumors of other areas of the brain, it is nevertheless admitted by many writers[3] to be present more frequently in affections of the prefrontal lobe than of any other region of the cerebrum.

The patient, whose history, I am about to relate, presented during life in addition to excitability, disorientation, motor restlessness, indifference to surroundings, inability to concentrate attention, all symptoms to some extent characteristic of prefrontal lesions (see above)—a state which can be called "euphoria." This term is a more general expression of the happy, contented state of mind. It is certainly allied to *Moria* and *Witzelsucht,* but it is broader in its conception. The case is highly interesting because of the appearance of mental phenomena shortly before death and at autopsy a recent hemorrhage was found in the left prefrontal lobe.

History.—J. M. R., aged 34, upholsterer, had a hemiplegic attack at the age of 25. He improved rapidly, so that at the end of six weeks he returned to work and remained at his place of business until about five days before death. The hemiplegia persisted to a mild degree, but his speech was somewhat impaired. The mental faculties were intact, as he was able to carry on his business; his transactions with his customers and his relations to his family being perfectly normal. About five days before death, while seated at the table, he suddenly became unconscious. A few minutes later, when his consciousness returned, he showed marked confusion. On the following day he became restless and violent. He would strike any one who approached him.

Examination.—When I saw him he presented no new localized symptoms in addition to the old mild hemiplegia on the left. The mental phenomena were very interesting. He was indifferent to surroundings. It was almost impossible to hold his attention for longer than one minute. Questioned about events or objects familiar to him, he would give one or two answers, but would immediately take up another subject. He was very restless, threw off the bedclothes; then sat up, lay down, and so one. He ignored the presence of females, as he frequently uncovered himself. Asked where he was, he replied, "in Paradise." The most striking symptom was the constant passing of his hands over his face and putting his hair and moustache in order. He insisted on having a mirror on his table, would incessantly look in the mirror, and express pleasure at seeing himself in good shape. He often repeated the word "pretty" or "handsome." When any one would enter the room he would sit up suddenly, grasp the stranger's hand, pull him and twist his fingers, repeating continuously the words "glad to be with you." Every act and word expressed enchantment. Whoever appeared at the door, he claimed to know well and asked to remain. At times he would attempt to joke with the stranger, saying he sent him flowers or a check the day before, and then would laugh aloud. Then again he would forget it and return to his mirror and to putting himself in good shape, totally ignoring every one around him. This was evidently done in an automatic manner. Any article of food tasted delicious; he expressed pleasure at anything offered him. He was unable to sleep. The condition lasted four days, when the patient gradually became comatose and expired at the end of the sixth day.

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[1] Thèse de Paris, 1888.

[2] Glasgow Med. Jour., lxv, 1906.

[3] Schuster: Psych. Störung. bei Hirntumor., and Gianelli: Il Policlin., 1897.

Autopsy.—At autopsy I found, besides an old softening in the right internal capsule, a recent hemorrhagic area in the white substance of the left prefrontal lobe (see illustration). Microscopic examination of the brain and the spinal cord shows the descending degeneration traced from the right internal capsule. It may be of some interest to know that the patient had a tendency to bleed easily and profusely on the slightest occasion. This factor probably was the immediate cause of the cerebral hemorrhage.

The present case is interesting therefore, because of the causal relations of a lesion in the left prefrontal region to the mental phenomena and because of the special character of the latter, similar to those observed by other authors. The euphoria of the patient was striking; he expressed a psychic childishness in his acts and words. Since an analogous symptom was observed by others, viz., *Witzelsucht, Moria,* and since in my case it was the most conspicuous phenomenon throughout the man's brief illness, perhaps it could be considered to some extent as pathognomonic of diseases of the frontal lobe. This contribution to the study of pathology of the prefrontal lobe adds a new, although not absolute, proof of the localization of the higher psychic functions in this region of the brain.

ACUTE OVERSTRAINING OF THE HEART.*

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It is now about thirty years since Peacock, as a result of observations made by him on Cornwall miners, acquainted us with a special form of heart disease, the etiology of which he tried to connect with previous muscular straining.

His observations were confirmed later on by the investigations of Myers, Clifford Albutt, Da Costa, Joh. Seitz, Munzinger, etc. Nevertheless, there were other authors that did not admit of a condition of excessive heart-straining, or at least were very doubtful about it, as, for instance, v. Schroetter, E. Seitz and Strümpell. It was the investigation of Leyden and Fraentzel which again gave new impulse in this domain, and in one of my publications I was enabled to mention these observations of cases which correspond with those of both last-named authors.

We naturally have to distinguish between a chronic and an acute overstraining of the heart, and it is hardly necessary to mention that the first can result only from an accumulation of repeated single overstrainings; the investigation of the latter is, therefore, of extraordinary interest. Many former doubts have been dispelled by a series of observations (Leyden, Fraentzel and myself), as well as by a better knowledge of the physiology of the heart. Nowadays we possess a better knowledge of the innervation of the heart and are also better acquainted with the functions of the pneumogastric and sympathetic and of the extra- and intracardiac nervous centers —I refer, among others, to the coordination center of Kronecker-Schmey, etc. All this may help to clear many misunderstandings which may be of consequence in the different manifestations of heart-overstraining. The numerous investigations on the intracardiac as well as on the intravascular pressure command attention, also the exact determination of the time-limits of the rhythmic cardiac movements, and above all the reflex actions which may influence the activity of the heart from the lungs, the blood vessels, the abdominal viscera and other organs. Such investigations have become so numerous and so many well-known names are connected with them that it is impossible to mention them in detail and superfluous to report on the conclusions which have already become the common property of medical science.

Let us now consider the question whether or not an acute overstraining of the heart ever actually occurs. According to Leyden, Fraentzel and myself, we must admit of such a possibility. Still, in spite of all the histories of cases published so far, the objection was raised that the heart itself had already undergone some previous change either in structure or in function and that the subsequent straining was only a determining cause for further aggravation. Although former investigations, as well as a number of old and recent cases, left me hardly a doubt that a pure acute overstraining of the heart actually does occur, I considered it advisable to investigate this important question more closely. For through the solution of this problem we obtain definite conclusions regarding not only acute and chronic overstraining of the heart but also many other obscure points concerning the pathology of chronic heart diseases. On these grounds I have instituted a number of experimental investigations.

When we look at the literature we find, apart from the psychical influences which later on we shall also consider more closely, that all those causes which lead to an injury of the heart through bodily overstraining were referable to muscular actions of different kinds, such as the lifting or carrying of heavy burdens, dancing, straining marches, etc. These always had in common the one fact that a dyspnea of longer or shorter duration had invariably been called forth by the most varied muscular movements.

In order to study the influence on the heart of such muscular actions as lead to dyspnea I selected wrestling, which I had performed by healthy, strong men in such a manner that they alternately inhibited their movements by forcibly resisting each other or by each lifting his antagonist. I might also remark that for my experiments only such persons were selected whose clinical histories as well as local examinations showed them to be possessed of absolutely normal organs.

Before the wrestling began the heart limits and the point of the apex-beat were correctly outlined, sphygmographic curves and blood pressure registered, the position of the diaphragm and the posterior pulmonary limits located, the frequency of the respiration and of the pulse, the quality of the pulse-waves and of the heart sounds accurately determined. As long as no dyspnea appeared only an increase in the frequency of respiration and pulse were noticeable; everything else remained as before. But even a very few minutes after actual dyspnea had manifested itself the picture was changed. The heart limits were removed outward for 1 cm. or more; the apex-beat was shifted visibly and perceptibly toward the axilla; the respiration was often more than doubled, the pulse pressure, which at first was increased was ultimately reduced to the amount of 10, 20 and more mm. Hg, according to the increasing severity of the dyspnea. Both tables A and B illustrate this as well as other observations made during the wrestling.

As shown (Figs. 1 to 8), the increased cardiac pressure manifests itself by arrhythmia, and we even notice a pause (Fig. 2), once after three, again after four pulsations; this has also been mentioned by Knoll in his investigations on the alterations of the heart-beats. In the experiments of which I speak the retardation could naturally not take place on account of the strong dyspnea, and it was obviously impossible to obtain curve-tracings of the pulse during the act of wrestling itself.

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* Read before Johns Hopkins Medical Society in Baltimore; Jefferson Medical College in Philadelphia; Medical College of Ohio and Medical Department of the University of Cincinnati.

TABLE A.**

H. B., masseur, aged 20; 196.5 cm. tall; muscles powerfully developed; little adipose tissue; all examinations show normal conditions.

Conditions.	Time.		Kind of Motion.	Position of Diaphragm.	Respiration.	Pulse.	Quality of Pulse.	Heart Sounds.	Blood Pressure by Basch's Sphygmomanometer.	Apex Beat Seen.	Remarks.
	Hr.	Min.									
Before wrestling.	4	33	....	Upper margin of sixth rib.	16	84	Full, soft, not easily compressible.	All clear.	115 mm. Hg..	0.5 cm. int. to nipple.	
After simple wrestling.	4	45	After three rounds of severe wrestling.	....	....	150–160	Irregular.	Clear, irregular.	130 mm. Hg..	0.5 cm. ext. to nipple.	Dr. L. and I both note dilatation of 2 cm. of right ventricle.
	4	55	Continued wrestling.	....	....	168	Here and there some irregularity	Clear, irregular.	105 mm. Hg..		
	4	56	Renewed wrestling.	....	....	156	Here and there some irregularity	Clear, irregular.	100 mm. Hg..		
Wrestling with belt tightened around the abdomen.	5	8	Before wrestling.	Lower margin of fourth rib.	21–22	108	....	....	....	....	Positi'n of diaphragm shifted upward 2 cm.
	5	20	....	....	40–42	140–150	Full, regular......	Clear....	....	5.5 cm. ext. to mammillary line is perceptible in fourth intercostal space.	Feeling of palpitation and shortness of breath duri'g wrestling; no painful sensations anywhere.
	5	21	1 min. pause.	....	40	140	Full, regular......	Clear....	....		
	5	22	1 min. wrestling.	Lower margin of fourth rib.	....	144	Irregular.........	....	....		
During test without belt.	5	24	After 20 min. pause.	Upper margin of sixth rib.	18–20	96–100	Still irregular, full.	Clear....	100 mm. Hg..	....	Feels well; no longer sensation of palpitation or shortness of breath.
	6	2	....	Upper margin of sixth rib.	18	90	Regular..........	Clear....	95 mm. Hg ..	0.5 cm. ext. to nipple.	

** The exact measures of the heart-limits are apparent in the appended special diagrams. The blank spaces under their headings are due to the impossibility of noticing every symptom simultaneously.

TABLE B.

F. S., masseur, aged 45; muscles powerfully developed; moderate adipose tissue; all examinations show normal conditions.

Conditions	Time.		Kind of Motion.	Position of Diaphragm.	Respiration.	Pulse.	Quality of Pulse.	Heart Sounds.	Blood Pressure by Basch's Sphygmomanometer.	Apex Beat Seen.	Remarks.
	Hr.	Min.									
Before wrestling.	1	35	....	Sixth rib......	12	90	Full, soft, easily compressible.	Clear....	135 mm. Hg..	1 cm. int. to nipplo.	
During and after simple wrestling.	1	38	Three min. wrestling.	Sixth rib......	....	126	....	....	140 mm. Hg..		
	1	44	After 4 min. severe wrestling and lifting.	Sixth rib......	....	135	....	....	115 mm. Hg..	3 cm. ext. to nipple.	Free perspiration; severe dyspnea.
	1	45	1 min. pause.	....	36	128					
Wrestling with tightened belt around the abdomen.	1	57	12 minutes' pause.	Upper margin of fourth rib.	21	116	....	Clear....	125 mm. Hg..	2.5 cm. ext. to nipple.	
	2	2	After 4 min. wrestling and lifting.	....	....	148	....	1st heart-sound little muffled at apex; not cl'r.	105 mm. Hg..	5.5 cm. ext. to nipple.	Severe dyspnea; deep respiration impossible; cyanosis of face.
During pause without tightened belt.	2	5	After 3 min. pause.	....	20	110	....	....	125 mm. Hg..	4 cm. ext. to nipple.	
	2	22	After 10 min. pause.	....	14	104	Full, soft.........	Clear....	135 mm. Hg..	1 cm. ext. to nipple.	

The relaxation of the vascular wall is very evident (Figs. 3, 4, 5 and 6), as this manifests itself by a greater ascension and stronger dicrotism (Sommerbrodt). Whether we have to deal here simply with an effect of a reflex action dependent on the magnitude of the intrabronchial pressure with conditions of irritation due to deficiency of oxygen or of accumulation of carbondioxid or with still other reflex relations, has not yet been determined.

We certainly possess in the vascular system itself a powerful factor which is able to interfere compensatorily; but this is possible only to a certain extent, beyond which it is no longer able to establish an equilibrium. Thus I have often seen that the strongly dilated heart is not longer able to send a sufficient quantity of blood into the arterial system even with accelerated and deeper respiration, the pulse becomes small (Fig. 8), even occasionally thready, the blood pressure falls excessively (as is also evident in the pulse-tracings), or the increased intracardiac pressure which is still present after a longer period of rest continues to manifest itself by arhythmia.

I should like to call special attention to the change in size which the heart undergoes, since this appears to me to be of great importance. I mean the dilatation of the heart which takes place to the right as well as to the left and which you may be able to recognize by the diagrams[1] (Figs. 14-19).

The following may be mentioned for clearer information: The heart limits in H. B. (which correspond also to Table A and the tracings in Figs. 1-6) were determined by a renowned colleague[2] well versed in the art of physical diagnosis by the ordinary percussion method, then also by myself according to my late brother's method of percussion with lateral limitations. These latter limits correspond to the total cardiac boundaries as has been fully demonstrated elsewhere. The cross near the nipple marks the place of the perceptible apex-beat in all cases. You will see by the diagrams how wrestling, when once it has called forth dyspnea, is able to dilate the heart, both to the right and to the left to the amount of 1 to 2 cm. and more. It is evident that this dilatation is produced only by the accumulation of blood in the cardiac cavities, a so-called congestive or passive dilatation having taken place. The ordinary method of percussion requires a cautionary measure. Then, when we percuss immediately after wrestling during the state of highest dyspnea, it may happen that we find not only no broadening of the originally determined heart limits, but even a transitory narrowing of these limits; in other words, the highly inflated lungs cover up the real heart limits. But after a short lapse of time (1 to 2 minutes) the real cardiac outlines appear; this proves that the extended dulness is not caused by a retrocession of the pulmonary margins, but that it corresponds to the real limits of the dilated heart-muscle itself. When the wrestling is allowed to be continued in such a manner that dyspnea is produced along with cyanosis a further lowering of the blood pressure may be observed besides the increasing dilatation as well as a still greater frequency of pulse, respiration, etc. The heart sounds, however, remained clear in both experiments, only in one instance was the first sound very dull at the apex.

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[1] These diagrams, as well as the above tables and series of curves, in all cases refer to the same two persons.

[2] This colleague partly made all the observations referred to in the foregoing tables or tested their accuracy.

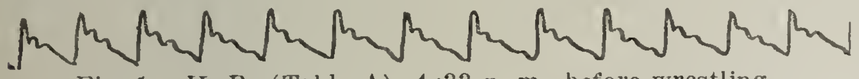
Fig. 1.—H. B. (Table A), 4:33 p. m., before wrestling.

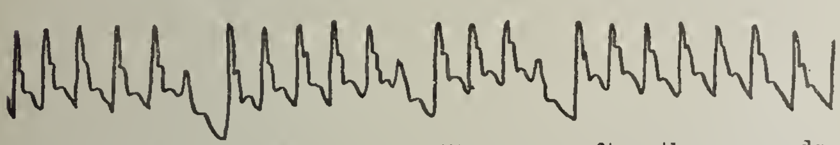
Fig. 2.—H. B. (Table A), 4:45 p. m., after three rounds of severe wrestling.

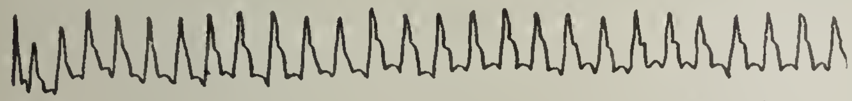
Fig. 3.—H. B., (Table A), 4:55 p. m., continued wrestling.

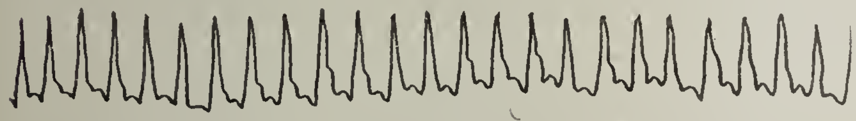
Fig. 4.—H. B. (Table A), 4:56 p. m., renewed wrestling.

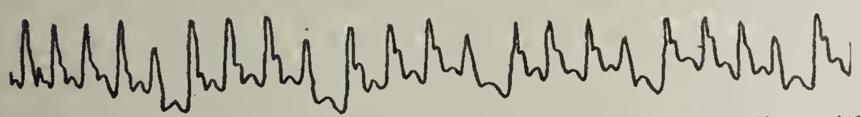
Fig. 5.—H. B. (Table A), 5:22 p. m., after severe wrestling with tightened belt.

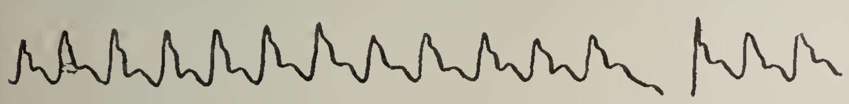
Fig. 6.—H. B. (Table A), 5:42 p. m., after 20 minutes' rest.

Since it has been proved by various authors, among these v. Frey and Krehl,[3] that compression of the abdominal viscera with upward displacement of the diaphragm is of great influence on the amount of blood contained within the cardiac cavities, on the intracardiac pressure and on the activity of the heart in its entirety. I have instituted a second series of experiments, during which a belt was fastened about the bodies of the wrestlers below the costal arch and then tightened until they experienced the sensation of great constriction. In the wrestler H. B. (Table A) the diaphragm was pushed upward in this way to the amount of 2 cm. and in the wrestler F. S. (Table B) to the amount of 4 cm. Even this simple lacing of the abdomen was sufficient to call forth dyspnea and tachycardia. Especially the outward displacement of the apex-beat and the heart limits, as they have been determined by my colleague and myself before the wrestling, show how great an increase there was in the amount of blood in the heart cavities and how thus the clinical picture of acute dilatation had developed itself.

When the further wrestling movements were carried out energetically enough to lead to dyspnea the apex-beat was displaced very materially outward, in one instance even to the extent of 5.5 cm. beyond the mammillary line. Then the ventricles, and especially the auricles (see heart tracings), expanded considerably, all this within a few minutes. In the first case we have again an arrhythmic pulse; in the second, where I had to forbid severer wrestling on account of the greater cyanosis, only the smaller amount of blood in the radial artery, along with regular rhythm, was observable. And here it was worthy of notice, that at the time of greatest heart dilatation and most marked dyspnea with cyanosis, the first sound at the apex was not accompanied with a murmur, yet it could not be called definite, being rather somewhat dull at a period when the left auricle had become extended to the amount of 3 cm. and the left ventricle to 2 cm., as compared to that which was already present during the pause, the wrestler still being laced.

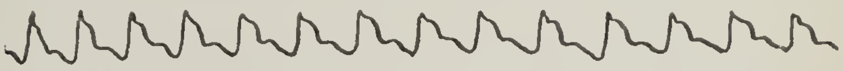
Fig. 7.—F. S. (Table B), 1:35 p. m.. before wrestling.

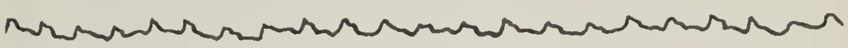
Fig. 8.—F. S. (Table B); 1:44 p. m., after 4 minutes' severe wrestling and lifting.

For more explicit data concerning the frequency of pulse and respiration, the blood pressure, the heart extension, etc., I must refer to the accompanying tables and diagrams.

All the symptoms gradually recede again in healthy and strong individuals. With greater tightening of the abdomen and more intense wrestling, also when the dyspnea, eventually with the cyanosis and concurrently with a strong dilated heart was very marked, it required considerable time for normal conditions to reappear; in some cases I was even able to note a few abnormalities of heart and pulse, etc., after the lapse of two hours. In other cases where the group of symptoms does not develop itself so forcibly, it often happens that even after a short rest, entirely normal conditions are re-established.

Nowadays, through sport carried on to excess, we often have occasion to observe the effect of such excessive strainings on the heart, and bicycling is here of great importance. It was, therefore, of special interest to me to study more closely the influence cycling had on the heart. To that effect I selected healthy, strong boys of the age of 13 to 15 years, who steadily bicycled, either on bad roads or on ascending grades or against strong winds. Pulse tracings showed the markedly increased frequency of the pulse, though all the boys felt well subjectively. In one case even we had arrhythmia, in another the pulse wave was very small or the elevation of elasticity scarcely recognizable. Here and there the systolic ascension amounted to only about one-third of that which the curves showed before the bicycling, the blood pressure being lowered; the heart expanded either in one or the other, or in both directions exactly in the same manner as shown in my investigations with wrestling. Here also all symptoms of heart insufficiency disappear in a short time after one single overstraining. In healthy persons this occurs sometimes after a few minutes, but when, by continued excessive sport, these symptoms frequently recur, they naturally increase in intensity and in duration, and then lead to the well-known chronic overstraining.

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[3] In their "Investigations on the Pulse" they describe this fact in the following words: "When in animals with opened thorax the abdominal viscera are being pressed against the diaphragm the heart may be seen to arch itself high up during its rhythmic pauses, the manometer in the artery showing a simultaneous increase of pressure. The pressure on the abdomen must be even and not too strong, otherwise the great afflux of blood to the heart brings about irregular beats. In the auricles especially a degree of repletion is easily attained which deprives them of the faculty of contracting, or at least allows only incomplete contractions. Ordinarily the rhythm of the ventricular beats is then also interfered with."

I also made such an investigation with a young bicyclist, 18 years old, who had a compensated mitral insufficiency. I had him run 10.6 kilometers in fifty-two minutes on a bad, muddy road; here a still greater dilatation was manifested both to the right and to the left; this even persisted after one-half hour's rest.

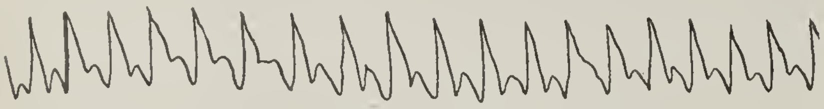

Fig. 9.—Cardiac neurosis; before bicycling.

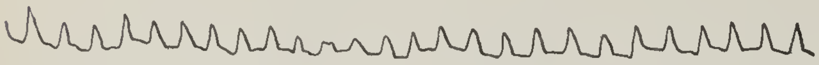

Fig. 10.—Cardiac neurosis; directly after bicycling.

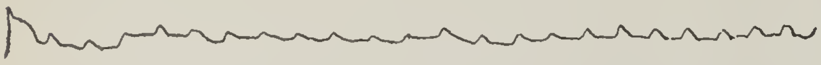

Fig. 11.—Cardiac neurosis; after 1 minute rest.

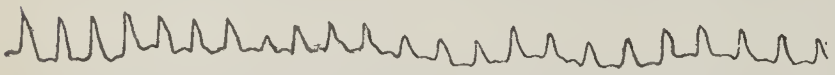

Fig. 12.—Cardiac neurosis; after 3 minutes' rest.

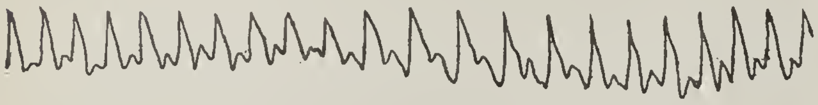

Fig. 13.—Cardiac neurosis; after 15 minutes' rest.

The tracings are shown (Figs. 9-13) pertaining to a case of motor neurosis in a young man of 18 in whom rapid bicycling also caused a strong cardiac dilatation, a small pulse and strong palpitation; and even after fifteen minutes the sensation of cardiac fatigue had not entirely vanished.

In recent years I have also tried to investigate acute heart straining by means of the Roentgen rays. I have also succeeded, with the ordinary precautions, in showing the changes of form already mentioned. This procedure is easily carried out by means of the fluorescent screen. These changes of form naturally disappear rapidly in healthy individuals.

On the ground of their orthodiagraphic investigations, Moritz and Hoffmann denied these cardiac changes due to acute overstraining. But the fact that for the purpose of carrying on their investigations they placed the subjects in a horizontal position and the uncertainty, whether this position was always exactly the same before and after the experiment, make the method unreliable. Then the fact that the overexcited heart is able to undergo strong lateral deflections in the supine position also gives the possibility of error. My experiments have been fully confirmed by the observations of Starck, Baldes, Heichelheim and Metzger regarding the influence of great bodily straining on the circulatory apparatus, the kidneys and the nervous system. The last-named authors found that in persons from 17 to 27 years old, who had previously been examined and found to be healthy, the former normal heart limits had undergone a considerable expansion after a march of 100 kilometers, within one day and with hardly a rest; a few of them had not even resorted to the use of alcohol in any form. The frequency of the pulse was markedly increased, and the blood pressure considerably lowered in all the subjects of experiment, in some cases even to the amount of 25 per cent.

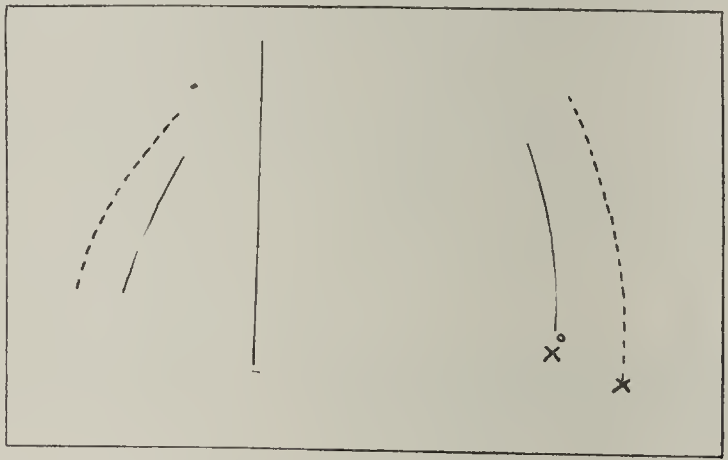

Fig. 14.—Heart-outline tracing of wrestler H. B. (Table A). Simple wrestling; percussion with lateral limitation. Solid curved line; heart-outline before wrestling; broken line, heart-outline after wrestling; the x represents the perceptible apex-beat.

I trust I have proved by the above described experiments that acute overstraining of the heart really does occur, even in healthy individuals; in the latter this naturally disappears readily. In what manner and how rapidly normal conditions may again be re-established is a matter which depends essentially on the elasticity of the tissues, on the compensatory arrangements governing the vascular system, etc. Further experiments will have to determine what are the extreme limits of overexpansion of the heart, where the cardiac muscle has lost its normal capability of contraction. According to my experience, these limits seem to lie far apart in the living muscle in healthy, and especially in young, individuals. The same applies to the vasomotor compensatory appliances. With older persons when the tissues, especially the muscles, have lost a considerable part of their elasticity and the vascular walls have acquired a certain degree of rigidity another condition prevails. Here one single and rather trifling overstraining may

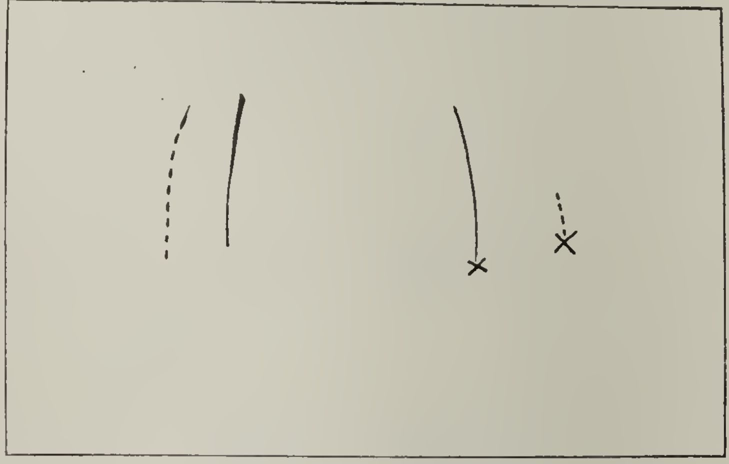

Fig. 15.—Same as Fig. 14 only ordinary percussion.

call forth permanent deteriorations, as clinical histories illustrate. And when further pathologic changes of the tissues, and especially of the heart itself, have taken place this organ becomes exposed to the dangers of overstraining to a still higher degree.

When even a healthy heart may be injured by an acute overstraining, how much easier must this be the case in a heart-muscle which is already diseased or whose nutrition or innervation has already been interfered with by disturbances of all sorts.

I was interested in knowing whether an acute overstraining of the heart was also possible in animals. Professor Schütz, pathologic anatomist of the Veterinary College at Berlin, has made inquiries for me of several pathologic anatomists and veterinary surgeons. From the answers received and collated by me it is apparent that an overstraining of the heart does occur in animals, especially in horses and hunting dogs. But the physical examinations of the heart in animals meet with so many obstacles and the clinical observations are so difficult that it is easily understood why conclusions in this matter differ so much. Nevertheless so much may be gathered from all reports in question that overstraining in animals may also lead to dilatation of the heart and to valvular insufficiency (mostly of the tricuspid, less frequently of the mitral valve) which later on may disappear entirely. Irregular and unequal pulse and similar disturbances appeared in the same manner as in man.

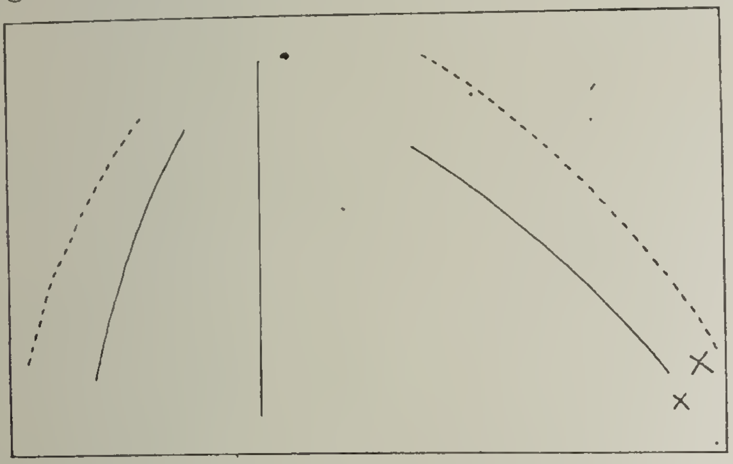

Fig. 16.—Heart-outline tracing of wrestler H. B. (Table A). Wrestling with tightened belt around abdomen; percussion with lateral limitation. Solid curved line, heart-outline before wrestling; broken line, heart-outline after wrestling; the x represents the perceptible apex-beat.

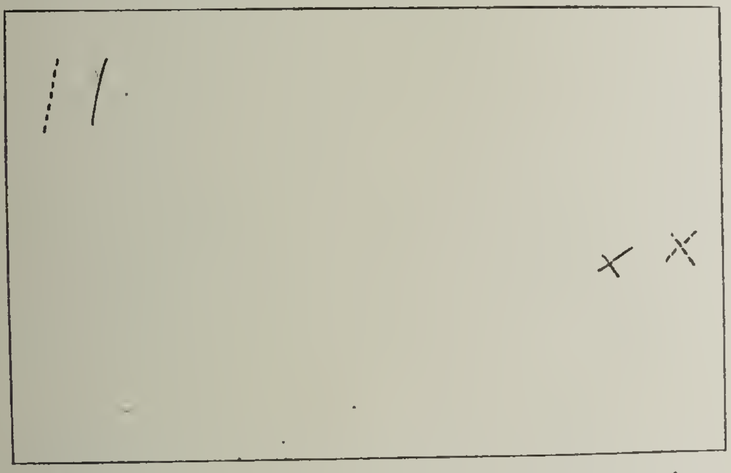

Fig. 17.—Same as Fig. 16, only ordinary percussion.

So far as exact investigations have revealed, rupture of the aorta was always the cause of sudden death in horses during racing, whereas an overdilatation of the heart-muscle never could be noted postmortem. The latter instance seems to find an explanation in the fact that in race horses the heart-muscle shows an extraordinary degree of development, and it is certainly of interest to learn that the heart of an English full-blooded race horse weighed 13½ pounds, whereas the normal heart of a common horse nearly twice as heavy only shows a maximal weight of from 8 to 10 pounds. Such a hypertrophied heart-muscle might easily be able to overcome even severe overstraining without being subjected to the dangers of overexpansion.

The prognosis depends above all on the age, the degree of overstraining, the nutrition and the occupation of the patients as well as on pre-existing complications. The more elastic the tissues, the better the nutrition and the care of the patients, the quicker will the disturbances disappear and normal conditions re-establish themselves. Patients that are run down or are compelled to continually expose themselves to noxious influences, those also in whom valvular lesions, alterations of the heart-muscle, arteriosclerosis or other deteriorations are present, not only need a longer time for recuperation, but are also exposed to the danger that irreparable damage may be done.

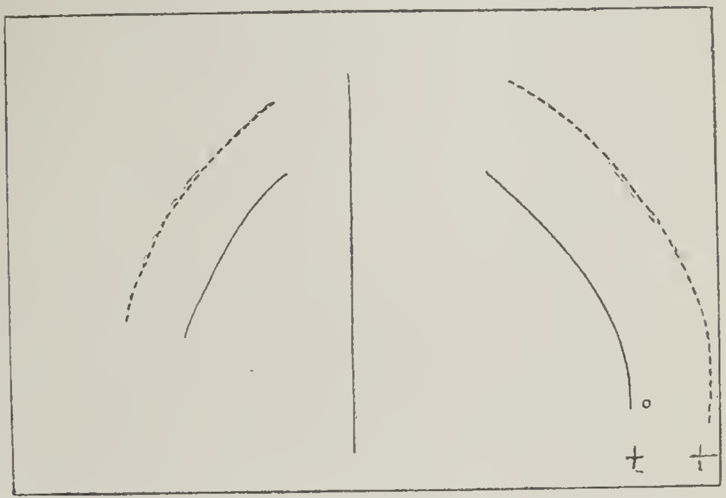

Fig. 18.—Heart-outline tracing of wrestler F. S. (Table B). Simple wrestling; percussion with lateral limitation. Solid curved line, heart-outline before wrestling; broken line, heart outline after wrestling; the x represents the perceptible apex-beat.

As far as therapeutics are concerned it is hardly necessary to dwell on the fact that after an acute overstraining of the heart absolute rest is the first indication. Even the simple raising of the body in bed may call forth an aggravation. When an examination of the posterior parts of the lungs is required this should be made in the lateral position. Strong nutrition is always of importance.

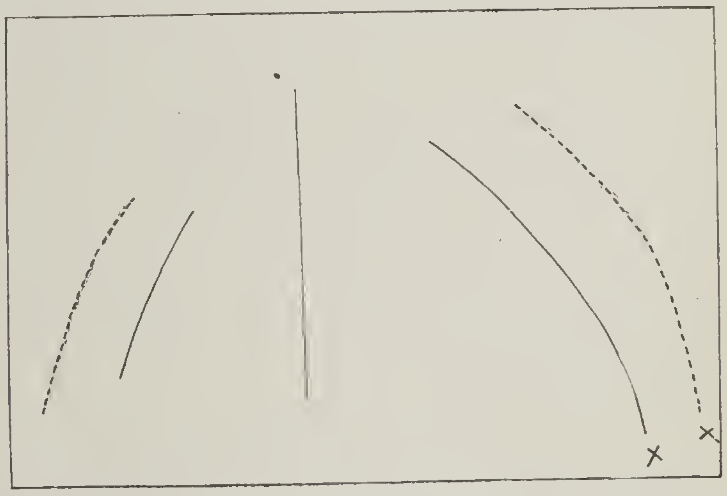

Fig. 19.—Same as Fig. 18, only wrestling with a tightened belt around abdomen.

Among medicines digitalis takes the lead; no substitute of any kind can approach it. For quieting the action of the heart the application of ice or of sinapisms on the anterior pectoral surface is indicated. It will hardly be possible to dispense with the use of morphin in order to alleviate the severe pains in the cardiac region, nevertheless it is advisable to be cautious in the long continued use of large doses of this drug. I have had many cases where I was able to dispense with morphin and to replace it with the application of heat. All data concerning the above I have repeatedly given in some of my writings. The use of stimulants is indicated in excessive cardiac weakness and in threatened heart failure.

When by such therapeutic means we have succeeded in saving the patient from the threatening condition and when recovery from the injuries already present has taken place, it might be advisable to resort to tonics to counteract the heart weakness, this being liable to persist for a considerable time. Here also a generous nourishing of the patient is one of the most important tasks of the physician. A rational balneologic treatment, the careful use of gymnastics, suitable exercise in the fresh air, with the avoidance of any kind of straining, all come into consideration.

I shall now give the clinical histories of a few cases bearing on the subject.

Case 1.—Farm laborer, 24 years old, came to me in August, 1879. Excepting the measles, the patient claimed never to have had any illness; he disclaimed using spirituous liquors to excess. He was of short, compact figure and gave the impression of being a strong man with well-developed muscles and but little adipose tissue. About four hours before he came to me he had been busy lifting several heavy sheaves of wheat at a time with a pitchfork instead of only a lesser quantity, as he had been used to do. These sheaves were heavy, even to raise from the ground, and when he came to lift them higher he had to drop them on account of sudden pains in the chest, dizziness, etc. The man rested for a short time and tried to raise a smaller load, but this also was impossible, for not alone pain but palpitation of the heart and dyspnea interfered. It even forced the patient to lie down. Since the symptoms did not cease he came to me four hours later, led by a friend. It took him about two hours for a walk of about twenty to twenty-five minutes on a completely even road. Walking caused great disturbance, and only with difficulty did he succeed in mounting the stairs to my apartment. The status was as follows: Facial cyanosis, marked dyspnea, small pulse; on investigation of the thorax the strong ictus cordis was very striking, apex beat could be felt outside of the mammillary line. The heart was dilated both to the right and to the left, heart-sounds clear. Patient was taken home in a carriage, was given digitalis, absolute rest being enjoined and strengthening nourishment being prescribed. The following day he only complained of palpitation and the second following evening he felt perfectly well, resting quietly in bed. Objectively I found the heart action still somewhat increased, though two days later an examination again revealed normal conditions. Nevertheless, the patient was not yet able to work because any kind of straining immediately called forth palpitation and shortness of breath, so that he left for home. I never learned anything further about him.

Case 2.—B. F., aged 15¼, had always enjoyed good health and was said to have grown very rapidly of late. It was claimed that he was insufficiently nourished, even while undergoing considerable mental straining, still he never complained of being weak or not being well. For several years the patient rode a bicycle without noticing anything; in the beginning of the present year he began tricycling, which strained him considerably more. Once in the beginning of this year, having ridden more than two hours on his tricycle, he complained of an attack of dizziness and claimed to have perceived a purring noise in the region of the heart. This, however, was said to have disappeared spontaneously in a short time. A few days later he strained himself considerably by a long ride uphill on a steep and very bad road. In consequence of this not only did that purring noise in the cardiac region recur during the ride, but he experienced attacks of dizziness and fainting spells and had to dismount and lean against a tree. In this condition he was found and it was only with assistance that he could find his way home. The examining physician found a cardiac dilatation along with a systolic murmur at the apex, which, however, is said not to have been heard any more after a few days. The patient is said to have been very pale in the early stages. A few days later, when I first saw the young man, he complained only of dizziness. In the examination the cardiac hyperkinesis was very evident, the heart being still dilated to the left to the extent of 1 to 1.5 cm. With absolute rest and a strengthening diet, combined with slight resistance-exercises, complete normal conditions set in within a few weeks, and with proper care he remained in good health, as was reported to me some months later.

When we consider both of these cases we find that we have to deal with persons that had always enjoyed good health. In the first of these cases one single stronger bodily straining sufficed to call forth dilatation, tachycardia, dyspnea, etc.; in the second case these effects were produced by a preliminary smaller, followed soon after by a much greater strain, this being excessive for the youthful, mentally overworked and badly nourished organism. Acute overstraining of the heart takes place much more easily when the heart, through preliminary or existing alteration of the total organism, has already been disturbed in its nutrition or innervation.

Case 3.—F. H., aged 18, was under my treatment from May 15 until June 27. Apart from measles at 8 years of age, she was always well until the previous year, when she complained of great fatigue, her physician diagnosing chlorosis. This chlorosis improved, but did not disappear entirely. She could climb hills without disturbances of any kind. Four months ago the young lady danced all night, and she admits having been tightly laced and the hall having been oppressively hot. Sometimes during dancing she had a sensation of darkness before the eyes, she experienced palpitation and shortness of breath. Nevertheless, and in spite of this group of symptoms constantly increasing in intensity, she only desisted from further dancing when she found herself compelled to drive home. The disturbances persisting, the following day the patient had to keep in bed. Her physician then noted the existence of a dilatation of the heart, and gave digitalis, also iron. The condition improved, yet walking sufficed to again bring on palpitation and shortness of breath. When I saw the patient there was still a dilatation of the left ventricle, amounting to 1.5 to 2 cm.; some chlorosis was still present. With suitable baths and gymnastic treatment, a diet rich in albumin and fat, seven more weeks elapsed before normal conditions could be ascertained. Since then the patient's health remained undisturbed. She married and went through four confinements without the occurrence of any further heart trouble.

Here also we find the one solitary severe straining calls forth the same group of symptoms, the essential difference being that this one single injury of the heart —and I have seen several such cases in chlorotic girls resulting from dancing—caused disturbances that lasted several months. It certainly must be considered here that the long duration of those symptoms is to be ascribed in a great measure to the anomalous composition of the blood and, as evidenced by my experiments, to tight lacing. It is not impossible that the narrowness of the aorta so often found in chlorotic patients and which by itself increases the labors of the heart may also be considered as a factor in the quicker production of cardiac overstraining.

Of course, cases of overstraining of the heart are apt to be followed by much more serious consequences where a severe cardiac or valvular lesion already exists. Such lesions often lead to long invalidism, sometimes even to rapid dissolution.

Similarly to bodily straining strong emotional disturbances, especially fright, may also act suddenly on the heart. Although I have at my disposal many clinical histories of cases bearing on the subject, I must refrain from considering this matter any further at present, it being somewhat too far removed from my present theme. I hope, however, to be able to report on this very interesting chapter in cardiac pathology.

Clinical Notes

EXTENSIVE AVULSION OF SCALP.

REPORT OF A CASE TREATED BY PLASTIC REPAIR AND FOLLOWED BY TETANUS WITH RECOVERY.

H. A. HAUBOLD, M.D.
Professor in Clinical Surgery, New York University and Bellevue Hospital Medical College, Surgeon to Harlem Hospital.
NEW YORK CITY.

The case forming the text of the following communication illustrates certain points in the treatment of conditions which, while not frequently met, may and do occur in the practice of most surgeons, and, although no new principle is submitted here, the application of accepted ones deserves mention. Following so closely on the excellent summary[1] of the treatment of tetanus with serum by Jacobson of Syracuse and Pease of Albany, a discussion of greater length in this connection would burden unnecessarily the literature and serve no useful purpose. In looking over the cases forming the basis of Jacobson's and Pease's work, it would appear that they, like all of us who compile and deduce from the publications of others, were confronted with the fact that most important details are lacking in the reports of cases submitted by the various authors, and if this contribution seems somewhat protracted it must be ascribed to my desire to escape the fault of inaccuracy which may be the outcome of an effort to be brief.

Patient.—B. S., aged 7, was admitted to Harlem Hospital July 16, 1906.

History.—On the day of admission the patient had been knocked down by a trolley car, the fender of which pushed the lad along for a considerable distance, his head was ground along the rail and the scalp torn off from the left side of the skull.

Examination.—This disclosed a denuded area measuring about four by five inches. The wound was symmetrically egg-shaped and the periosteum corresponding to the surface indicated was also avulsed. The edges of the wound were deeply stained with the mixture of mud and grease which covered the street in the vicinity of the car rails. There were many contusions over the entire body, but at no place, other than the scalp, was the skin broken. There was considerable shock, but no evidence of cerebral involvement and no bones were broken. Reaction from shock was rapid and complete in a few hours.

Operation.—The wound was cleansed and dressed in the usual manner, and eight days after admission a plastic operation for repair of the scalp was made. The entire wound, fortunately, was within the hair area of the scalp, and permitted of the application of a flap-sliding method practiced by Volkmann and Messner. A study of the accompanying illustration will make the method employed sufficiently clear to render unnecessary further attempt at elucidation in the text. Mention may be properly made here, however, that early plastic operative effort, in injuries with considerable loss of substance, is a wise measure and should perhaps be more frequently performed than is usually done. More especially is this the case when ultimate cosmetic effect plays an important part in the problem presented. In this instance the flaps were all taken from portions of the hairy scalp, so that, when healing had taken place, there was no visible evidence of the injury. In this case delay may have seemed permissible on the ground that necrosis of bone would be the result of the loss of periosteum. It is, however, to be remembered that the external table of the calvarium is supplied with nutrition by the diploë, and that extensive necrosis rarely follows even severe and extensive injuries to the scalp and periosteum. Indeed, this is what happened in our case, if the rapid repair of the injury is to be regarded as an indication of the absence of this complication. There were no disturbances of importance following the operation, and repair seemed to progress satisfactorily.

Postoperative History.—On August 3, nineteen days after receipt of the injury, the patient complained of pain in the throat and inability to open the mouth fully. Up to this time the rectal temperature had been about 99.5 F., and indeed showed no increase at this time, but the pulse rate, which had up to this been about 80 per minute, rose to 98. The latter symptom we regarded as indicative of the first expression of toxemia.

The following day the mouth was firmly closed, but could be opened sufficiently for the purpose of taking food. While protruding the tongue for inspection a spasm of the muscles of mastication caused the tongue to be bitten. The pulse rate remained near 100, but there was still no rise of temperature beyond that mentioned.

August 5, about forty-eight hours after the first manifestations, the temperature rose to 103 F., and several convulsions of moderate severity occurred in rather rapid succession; the rigidity extended to the entire body and the pulse rate rose to 128 per minute. There was no disturbance of cerebration. The wound, which up to this time had been healthy, lost its bright red color; the granulations looked flabby and there was some secretion, but no pus, discharged from the raw surfaces. The line of union of the flaps remained firm, however, and did not at any subsequent period break down. I concluded that this was a clear case of tetanus, which, because of the long period of incubation (nineteen days), its gradual development and rather moderate expression, would probably run a rather favorable course. On this day the house surgeon administered antitoxin in two injections of 7 c.c. each into the buttock and one injection of 10 c.c. into the spinal canal. In the latter instance about an equal amount of spinal fluid was previously withdrawn. During the night an injection of 20 c.c. into the spinal canal was made.

August 6 the rectal temperature was about 103 F., and the other symptoms about the same. There was rigidity and occasionally a slight general muscular spasm, but the mouth could be opened for nourishment. Twenty c.c. of the antitoxin were injected into the spinal canal.

August 7 Dr. S. J. Meltzer saw the case with me. The temperature was still about 103 F., and the pulse rate 138 per minute. There was rigidity of all the muscles, but no distinct opisthotonos. The mind was clear; there were some sordes on the lips and the cornea was dull. The patient at this time had received 14 c.c. of the antitoxin injected into the buttock and 50 c.c. injected into the spinal canal, in four days. I had Dr. Meltzer see the case with the view of determining the advisability of making injections of magnesium sulphate solution into the spinal canal.

Following the publication of Meltzer's experimentation with magnesium sulphate injections into the spinal canal for the purpose of producing anesthesia and my own observations on human beings, Blake of New York City had used the salt in tetanus and found that spasm was controlled as the result for from twenty-nine to thirty-seven hours.

After examining our case, it was concluded that there was no special indication for the use of the magnesium sulphate, as spasm was not a marked symptom, and that if any unfavorable outcome was to be anticipated, it was probably more as a result of a general enfeebling toxemia, which seriously interfered with metabolism, and not as the outcome of a specific effect on the central nervous system. It is this conclusion which perhaps makes the report of this case valuable. All of us are inclined to look at our cases from the standpoint of what generally happens, and may thus be led to employ a measure which has a distinctly important office in most cases of a certain kind, when in a particular instance the special indication lies in another direction.

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[1] Ann. of Surg., September, 1908.

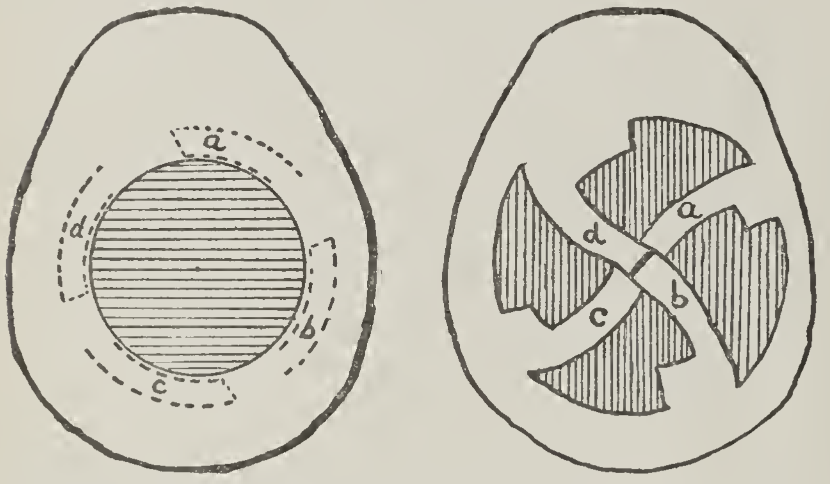
Dr. Meltzer suggested giving one intravenous injection of 200 c.c. of antitoxin on the theory that it was through the circulation that we should attack the disease. At the same time it was borne in mind that the blood already contained an antitoxin of its own creation, and that this rather heroic dose should not be repeated hastily, for fear of poisoning the patient with antitoxin. Accordingly, the patient was placed under chloroform narcosis; the median cephalic vein was exposed and 200 c.c. of the antitoxin slowly and carefully injected into the circulating fluid. That evening the rectal temperature had fallen to 99 F. and the pulse was 96 per minute. The next day the patient had no spasm and the muscular system was less rigid.

August 9, forty-eight hours after the intravenous injection, a slight convulsion occurred and the jaw became very rigid again. The symptoms, however, were not alarming.

August 10, three days after the intravenous injection, there was considerable rigidity and a more severe spasm. Twenty c.c. of antitoxin were injected into the spinal canal; the general condition was about the same.

August 11 the wound was dressed and appeared healthy. The patient had been very quiet, but when disturbed had a distinct opisthotonos. Twenty c.c. of antitoxin were injected into the spinal canal.

By August 14 there was still some rigidity, but no spasm for forty-eight hours. Trismus still persisted, but the general condition was favorable; the pulse was between 90 and 100 per minute and the patient took nourishment by mouth.



Volkmann's Plastic Repair of Scalp. (From Tillmann's Surgery.)

August 15 (the twelfth day of the disease) the patient had a convulsion and his temperature rose to 104 F., with the pulse 124. An intraspinal injection of 20 c.c. of antitoxin was given, and during the night the temperature dropped to normal.

From that time on the patient's condition gradually improved, although there was some trismus which persisted for several weeks after he was up and about. No more antitoxin was given.

Throughout the treatment the patient received 14 c.c. of antitoxin into the muscles; 100 c.c. into the spinal canal and 200 c.c. into the venous circulation.

The wound of the scalp healed completely, without untoward symptoms, beyond the unhealthy appearance alluded to, which occurred when the toxemia was perhaps at its height. This is probably ascribable to the modification of nutritive processes which occur during a toxemia.

The case may be regarded as teaching us that early plastic repair in extensive loss of substance is a wise measure; that, when muscular spasm is not a marked symptom, magnesium sulphate need not be administered and that in a certain class of cases, such as is represented in this instance, the toxin of the disease may be counteracted by the introduction of a considerable quantity of antitoxin directly into the blood current.

616 Madison Avenue.

MODIFIED CRILE ARTERY CLAMP,

PERMITTING BOTH SCREW AND DIRECT PRESSURE ADJUSTMENT.

FREDERIC WADE HITCHINGS, S.B., M.D.
CLEVELAND.

The fact that the temporary closure of blood vessels by means of instrumental compression requires careful regulation of the pressure employed is fully recognized in the idea embodied in the Crile artery clamp. In this instrument the pressure brought to bear on the vessel is regulated by means of a small thumb-screw acting against a spring resistance. In order either to apply or to remove this clamp the thumb-screw must be turned several times, the number depending on the size of the vessel and the thickness of its wall. This is the antithesis of the non-adjustable spring clamp commonly used in experimental work which may be instantly applied or removed by compressing it with the thumb and forefinger, but which always has the same pressure whether too strong or too weak, and which is, therefore, entirely unsuited to clinical work.

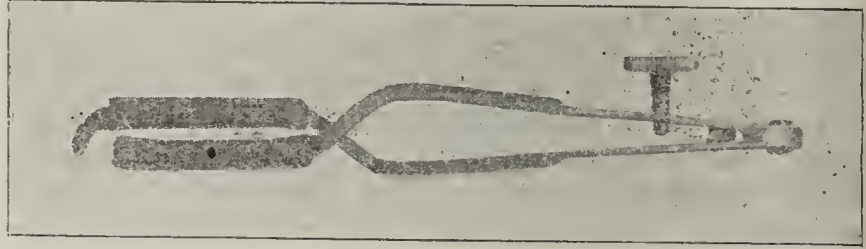


Fig. 1.—Showing position of the jaws with the thumb-screw loosened.

As a result of clinical observation and of work on transfusion of blood done in Dr. Crile's laboratory, it occurred to me that it might be possible to construct a clamp which would combine the screw adjustment of the Crile clamp with the more rapid adjustment of the laboratory clamp. The illustrations show such a clamp as made from my model by the J. C. Ulmer Company of this city.

When the thumb-screw is loose there is lack of approximation of the jaws and hence no pressure is exerted (Fig. 1). Then if the thumb-screw be tightened pressure will be exerted by the jaws on a vessel lying between them which will vary with the extent to which the screw is made to impinge on the opposite jaw (Fig. 2). Finally, when this degree of pressure is obtained, the clamp can be instantly released and removed, *without loosening the screw,* by pressing the jaws together with the thumb and forefinger at a point between the screw and the blood vessel.

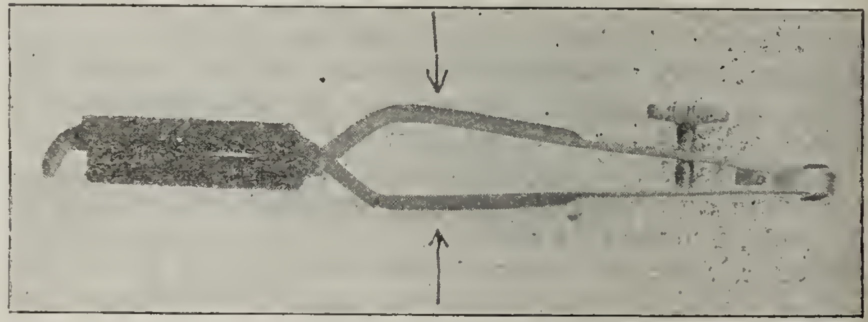


Fig. 2.—Showing the thumb-screw tightened and the jaws pressed together. The arrows indicate where the pressure is applied by thumb and forefinger to release the jaws.

When the clamp is once adjusted to a given vessel so as to exert force enough to prevent the flow of blood through it without injuring the vessel wall, it is permanently adjusted to that vessel, and may be removed and replaced with no fear of injury or of insufficient force being exerted. This will be appreciated when, for example, an anastomosis by Carrel's method has been completed and it is desired to test the connection before finally allowing the blood to pass from vessel to vessel. It is very true that it does not take long to do this with the Crile clamp, but the shortening of an operation even by seconds is to be desired, and, whereas in replacing the Crile clamp in a hurry an inexperienced operator may apply too much pressure, this can not be done with the modified clamp if properly adjusted in the first place.

Euclid Avenue and East One Hundred and Fifth Street.

A CASE OF BILATERAL BEZOLD MASTOIDITIS FOLLOWING ANGINOUS SCARLET FEVERS.*

ADOLPH O. PFINGST, M.D.
LOUISVILLE, KY.

The following case presents so many clinical features of interest that a full report seems justifiable:

History.—When I first saw this child the following history was obtained from the family physician: A girl, aged 11, previously healthy, began, on the third or fourth day, after the onset of a well-developed scarlatinal eruption, to show signs of involvement of the nasal, pharyngeal and faucial mucous membranes. Several days later the patient began to complain of pain in her left ear and on the following day both ears were discharging pus.

Examination.—There was marked involvement of the mucous membrane of the upper respiratory tract, especially of the nose. The turbinates were swollen, blocking the nares. They were bathed in a yellowish pus, which had caused an excoriation of the nostrils and skin beneath. A stringy muco-pus could also be seen on the posterior pharyngeal wall. Both faucial tonsils were enlarged and partially covered with a thin grayish-yellow deposit. A peculiar disagreeable odor was noticeable, emanating from the mouth and nose of the child. There was no glandular enlargement at the time. A rather thick pus was discharging from both ears through large openings in the posterio-inferior quadrant of the drums. There was no swelling of the ear canal nor over the mastoid and no tenderness over the bone. Temperature 99.5 to 100.5 F. The urine was normal. Owing to the obstruction, nasal respiration was interfered with. The enforced mouth breathing added to the discomfort of the child by causing a dryness of the buccal mucous membrane. There was some pain and considerable difficulty in deglutition.

Treatment.—The mucous membranes of the nose and throat were treated by spraying with a warm carbolic solution, the nasal passages being previously opened by the use of cocain. The tonsils were swabbed with a solution of potassium permangante and potassium chlorate, and the ears were irrigated every two hours with a warm saline solution under low pressure. The child continued to have from one to one and a half degrees of fever. She grew weaker and more emaciated daily, but showed no other symptoms, except the enlargement of the lymphatic glands of the neck. In two weeks the swelling had reached considerable proportions. Three weeks after the beginning of the otorrhea, the patient complained for the first time of pain in and behind the right ear, the left one being unchanged. She had been growing more irritable and resented any effort to manipulate the glandular mass. Pressure over either bone did not seem to elicit pain. There was slight swelling just at the tip of the mastoid which was apparently part of the general swelling of the neck. There was no swelling over the region of the mastoid antrum, and no sagging of the superior posterior wall of the external auditory canal. On the following day, however, there was decided swelling over the lower end of the bone, so that an operation on the right side was decided on.

Operation.—The conditions found were interesting. No pus was present external to the bone. The antrum was rather large and was filled with foul pus. After cleansing this and removing the neighboring diseased cells and curetting the aditus, I was about to dress the wound when, with the searcher, a small rough area was detected low down on the median side of the bone cavity. The removal of this area led to several apparently healthy cells and their removal uncovered another pus cavity. When this was thoroughly exposed by the removal of overhanging ledges of bone, a small opening was found leading into the digastric fossa, from which a small quantity of pus exuded when pressure was made below the tip. The entire tip was removed and the case dressed in the usual manner. Although the only symptoms of mastoid involvement noted on the left side were slight swelling and questionable tenderness, An exploratory operation was decided on. Conditions prevailed almost identical with those on the other side. Pus had not perforated the outer table of the bone. The rather large and superficial antrum was full of pus and communicated through several smaller diseased cells with a smaller pus cavity. This in turn was found to communicate by a small opening with the digastric fossa. The mastoid tip was removed entirely on this side also and the wound treated as it was on the right side. Both wounds closed in seven and one-half weeks and the drums were restored. The hearing, two months later, had, returned to almost normal and the child is the picture of health, the glands in the neck having almost disappeared.

This case exemplifies the destructive nature of middle-ear abscesses complicating scarlet fever of the anginous variety. The other feature of interest was the development of the mastoid abscess with few or no symptoms. It would be impossible to determine how long the perforation into the digastric fossa had existed before the operation. The swelling and tenderness along the sternomastoid muscle characteristic of Bezold mastoiditis were entirely obscured by the marked glandular swelling in the neck. It is rather infrequent that the mastoid operation is demanded on both sides at once and a unique condition that both had perforated into the digastric fossa, especially in childhood when the antrum is superficial and situated high up.

A HOSPITAL SIGNAL SYSTEM.

P. C. H. PAHL, B.S., M.D.
LOS ANGELES, CAL.

In October, 1904, I devised, for the Hospital of the Good Samaritan, a signal system for calling nurses to patients, which has the following advantages:

1. Noiseless. There being no bells, the call is absolutely silent.

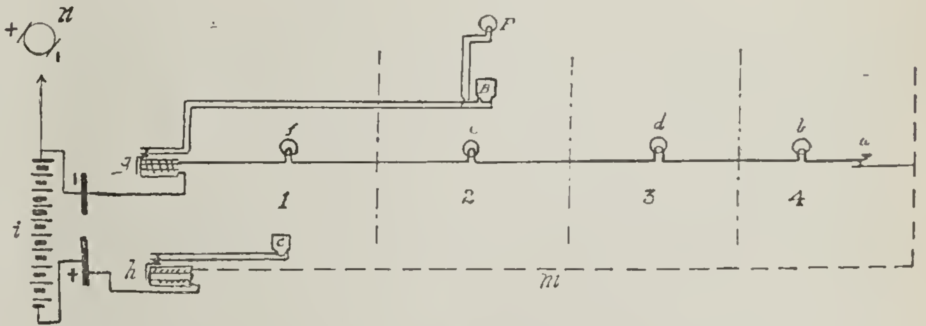


Fig. 1.—Diagram of wiring, signal system, Good Samaritan Hospital, Los Angeles.

2. Monitor board. This is in the office of the superintendent of nurses and enables this officer or her representatives to observe each call for the entire institution, thus making it possible to see at a glance the number of patients desiring the services of a nurse and the length of time elapsing before such call is answered.

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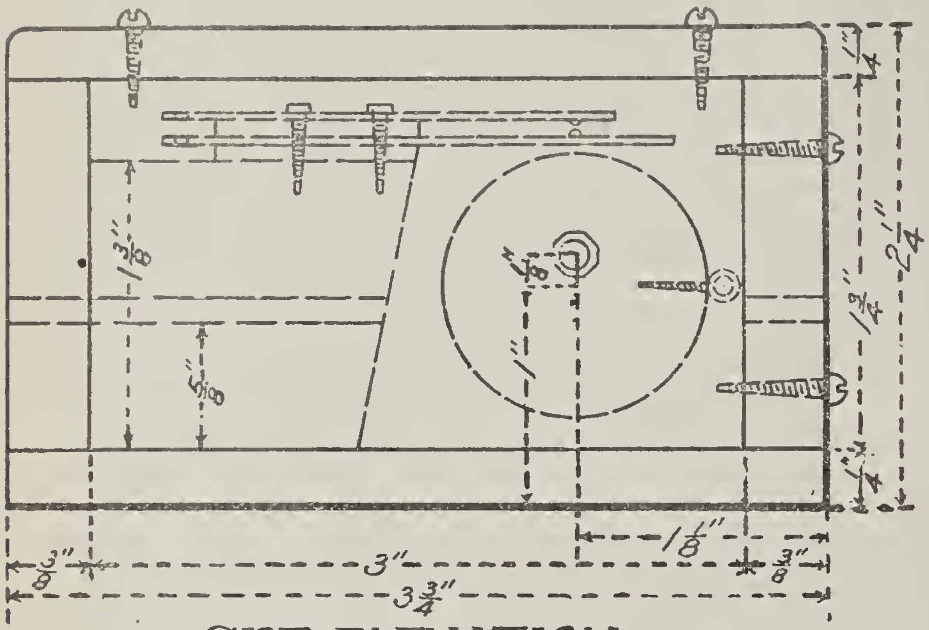
* Read before the Jefferson County Medical Society, Feb. 15, 1907.

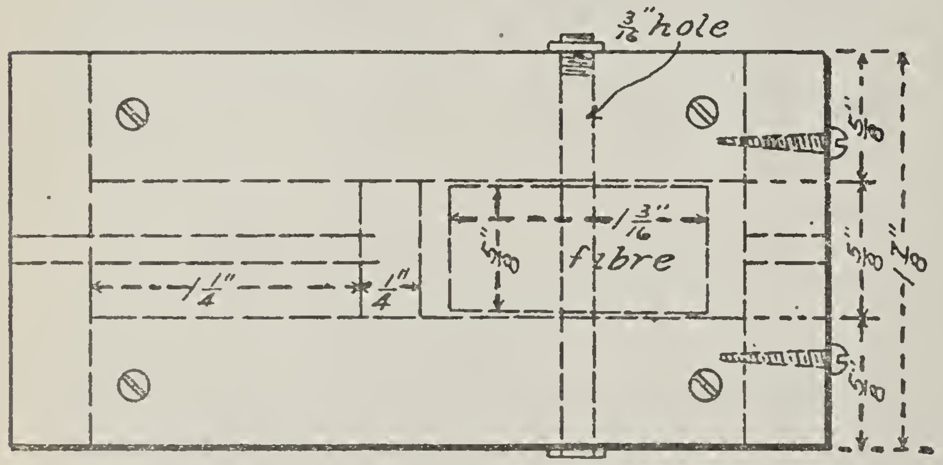
3. Lights in the corridors. These are placed above the door of each patient's room, making it possible for the nurse, if she happens to be in the vicinity, to observe and answer the call without having to go to the indicator in the nurse's room.

4. Lights in the rooms. These are placed in such a manner that they may be readily observed by the patients, who may thus know, when attempting to signal for a nurse, whether they have been successful or not.

5. Specially constructed switches. These are placed in the rooms in connection with the lights and are operated by means of two cords. One of these cords passes through hollow moulding substituted for ordinary picture moulding, and leaves the moulding at the side of the bed, being so arranged as to be readily grasped by the patient who pulls it, thus closing the switch and putting on the signals. The other cord is placed in such a position that, while it is impossible for the patient to reach it from the bed, it is easily accessible to the nurse as she enters the room. Pulling this cord restores the switch and indicates that the call has been answered.



SIDE ELEVATION



PLAN

Fig. 2.—Switch for signal system.

6. Signal boards. The hospital is divided into five distinct departments, each under the charge of a head nurse who has her headquarters in a nurse's room. In each of these rooms is placed a signal board which contains the number of each patient's room in that department, so that only those calls are registered.

7. Pilot lights. Each department has its subkitchen in which is placed a pilot light which lights with every call in that department, thus enabling the night nurse, who spends considerable time in the subkitchen preparing diets, to observe when some one is signaling. On the ceiling at the intersection of the cross hall is placed another pilot light which lights simultaneously with the one in the subkitchen; this light is visible from any point in the halls of an entire department.

Figure 1 is a diagram of the wiring; *a* represents the switch (Fig. 2) located in the patient's room; *b* the light in the patient's room; *d*, the light in the corridor; *e*, the light on the signal board in the nurse's room; *f*, the light on the monitor board in the office of the superintendent; *g* is a relay in the common return to the signal board in the nurse rooms. Each time a call is made in that department this works buzzer *B* and pilot light *P* in multiple with it. *h*, located on the monitor board, is a relay in the common return of the entire system and causes buzzer *c* to operate when a call is made from any room in the entire hospital. The buzzers *B* and *c* are ordinarily not used, the pilot lights and the lights on the monitor board being sufficient. *m* is the common return and *n* the source of energy, which may be anything over fifty volts and which charges the storage battery *i*.

Figure 2 represents a specially constructed switch, the body of which is made of wood in which the two terminals are platinum points mounted on two German silver springs. The contact is made by causing a fiber cylinder to revolve on an eccentric of one-eighth of an inch.

This system has been in operation over two years and has proved to be a great help in giving prompt, efficient and noiseless service. Concerning the source of energy, if direct current exists in a hospital, the storage battery may be charged through a bank of incandescent lights; if only alternating current is available, however, it is necessary to install a small motor generating set with which to charge the batteries.

934 West Seventh Street.

THE INFLUENCE OF ALCOHOL AND CHLOROFORM ON PHAGOCYTOSIS *IN VITRO*.*

GEORGE RUBIN, M.D.
CHICAGO.

In a previous communication[1] I have shown how the natural defenses of the animals employed in the experiments were lowered or suspended when subjected to thorough narcotization. In the several series of experiments it was noted that the narcotized animals reacted poorly to various infections artificially produced. It was also shown that the recovery or death of the rabbits depended apparently on the condition of the leucocytes. Narcotized rabbits when infected showed a hypoleucocytosis of various degrees, whereas the controls usually showed a pronounced leucocytosis which was followed by complete recovery or at least survival of their narcotized fellows by a considerable space of time.

These phenomena suggested the possibility that the narcotics had a detrimental influence on the phagocytic function of the leucocytes. It was also shown that there is a more active intraperitoneal phagocytosis of carmine granules in normal than in narcotized animals.

It was now thought advisable to study the effect of narcotics on phagocytes *in vitro*. The technic employed is as follows:

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* From the Pathological Laboratory of Rush Medical College, University of Chicago.

* Read before the Chicago Medical Society, March 27, 1907.

[1] Influence of Alcohol, Ether and Chloroform on Natural Immunity in Its Relation to Leucocytosis and Phagocytosis, Jour. Infect. Dis., May 30, 1904.

Suspensions of various bacteria, especially staphylococci, pneumococci and streptococci, are added to defribinated dog blood containing alcohol or chloroform in varying proportions (table); the tubes are then carefully corked and placed in the incubator at 37 C. for 30 to 40 minutes. Then smears are made and the bacteria in leucocytes counted and averaged. In every case control experiments were made with mixtures of normal blood and bacteria.

Effect of Alcohol and Chloroform on Phagocytosis in Vitro.

No. of Experiments.	Degree of dilution of Alcohol or Chloroform.	Bacterium.	Phagocytosis Average number per Leucocyte.	
		Series I.—Alcohol.		
No. 1.	1 to 1000	Staphylococcus.	5.5	4.5
No. 2.	1 to 500	Staphylococcus.	14	25
No. 3.	1 to 400	Streptococcus.	2	4
No. 4.	1 to 300	Pneumococcus.	3	11
No. 5.	1 to 200	Pneumococcus.	1	7
No. 6.	1 to 100	Pneumococcus.	4	26
No. 7.	1 to 50	Pneumococcus.	0	5
		Series II.—Chloroform.		
No. 1.	1 to 2000	Streptococcus.	12.5	14
No. 2.	1 to 2000	Staphylococcus.	9	15.5
No. 3.	1 to 500	Pneumococcus.	4	10.5
No. 4.	1 to 400	Pneumococcus.	2.5	6.5
No. 5.	1 to 300	Pneumococcus.	2	8
No. 6.	1 to 200	Pneumococcus.	0	20

We see that 1 to 50 of alcohol and 1 to 200 dilutions of chloroform suspend phagocytosis *in vitro* completely. With the necessary dilutions there is an increase of phagocytosis, which, however, does not always appear to be proportional and the effect of the alcohol is practically lost at a dilution of 1 to 1000 and chloroform at 1 to 2000.

I will quote the work of Moore and Roaf[2] on the mode of action of the narcotics on the cells, which seems to agree with the results obtained in these as well as in my previous experiments.

From their numerous and ingenious experiments, these authors conclude that chloroform forms an unstable chemical aggregation with the proteids experimented with, and that it is carried on in the blood in such a state of combination.

Since proteids build up the protoplasm of the living cells, it appears to be probable that chloroform and other anesthetics must form similar combinations with protoplasm, and that anesthesia is due to the formation of such compounds which limit the chemical activities of the protoplasm. The compounds are unstable and remain formed only so long as the pressure of the anesthetic in the solution is maintained.

The action of the various anesthetics occurs not only with nerve cells, but with ciliated and other epithelial cells, with muscle cells of all types, with bacteria, with ameba and with unicellular organisms.

In all these varied types of living cells, activity decreases alike with increasing dose of the anesthetic, and with sufficient concentration all signs of life become obliterated.

Hence the action of the anesthetic must be due to some change brought about in the only material which is uniformly present in all these types of cells, that is the cell protoplasm.

We can easily see from the foregoing explanations how the phagocytic function of the leucocytes may be suspended or entirely destroyed by the toxic agents in question.

It was shown in the previous communication how alcohol, ether and chloroform alike affected the natural defenses of rabbits to various infections. The prominent rôle the leucocytes appeared to play in connection with their immunity was also pointed out.

With the experiments *in vitro* recorded in this paper, together with the excellent work of Moore and Roaf, we can conceive more clearly the influence of anesthetics on cell life in general and particularly on those cells which interest us most at this time—the phagocytes—both the fixed and circulating. The influence of the agents in question on the opsonins has not been studied so far. The behavior of the phagocytes in my experiments with inert substances (carmin granules) proves that so far as the above experiments are concerned the opsonins seem to play no rôle at all.

In conclusion, I desire to thank Professor Hektoen for his invaluable suggestions and courtesies.

DEATH FROM ACETANILID POISONING.

A. L. SMEDLEY, M.D.
HAMILTON, OHIO.

Patient.—E. H. H., male, aged about 29, height 5 feet 11 in., weight about 190 pounds.

History.—When I returned to my house at 12:30 p. m., I found that the patient had been waiting for me about thirty minutes. During that time he had vomited twice and had asked for smelling salts, as he felt very ill. I found him very weak and cyanotic, with a slow pulse, and slow and shallow respiration. He stated that he had an intense headache and asked for something to relieve it. From the symptoms and general appearance of the patient I suspected acetanilid poisoning and asked him how many headache powders he had taken. He stated that he had taken three between 9 and 12 o'clock and that his headache became worse after each dose.

Treatment and Result.—I administered 1/20 gr. strychnin nitrate with 1/60 gr. atropin sulphate and told the patient to let me know how he felt in thirty minutes. The man left my house and walked home—about two blocks. As I did not hear from him in thirty minutes I left for my office and as soon as I got there I received a telephone message asking me to go to him at once as he seemed worse. I found him weaker and more cyanotic, with cold extremities and a pinched look. The respirations were almost imperceptible, the man scarcely breathed unless roused and told to breathe deep. At 2 p. m. I gave 1/20 gr. strychnin nitrate, 1/50 gr. digitalin, and 1/100 gr. nitroglycerin, hypodermatically. The man was given a hot pack, the feet elevated, and cold applied to the head. He was also given 20 drops of spirits of camphor in a teaspoonful of whisky, every half hour.

I called Dr. F. M. Barden in consultation about 4 p. m. At that time the man was in a severe convulsion and very cyanotic; the pulse was very weak. The convulsion lasted about ten minutes, when edema of the lungs developed and death ensued at once.

Postmortem.—Autopsy the following day showed edema of the lungs, dilatation of the heart, and congestion of the kidneys —a condition of acute cloudy swelling. All other organs were normal. There were about twelve ounces of urine in the bladder and examination showed marked traces of albumin.

The man's wife stated that he had not been feeling well for three or four days, and it is possible, I think, that he had suffered from grip which left an acute nephritis.

The powders in question were put up by a local druggist, who informed me that each powder contained acetanilid, 2½ grains; citrate of caffein, ½ grain, and sodium bicarbonate, 3 grains. The amount of acetanilid taken by the patient, therefore, was only 7½ grains, but the powders caused nausea and vomiting within an hour after he had taken them and his headache grew rapidly worse.

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[2] Proc. Royal Soc., vol. lxxiii.

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SATURDAY, APRIL 27, 1907.

EFFICIENCY IN HEALTH ADMINISTRATION.

It is a significant sign of the times that the New York Academy of Medicine has established a section on Public Health. In an address[1] delivered at the opening of this section Dr. George A. Soper discusses the sanitary engineering problems of water supply and sewage disposal for New York City and certain other matters of general interest. He points out that authentic sanitary information is now desired by the public, but that it is difficult to obtain it, in the first place, because great universities have neglected to teach in an adequate manner sanitary science or preventive medicine, and, secondly, because physicians do not fully recognize their importance as sanitary teachers. For these reasons, a vast amount of technical knowledge has not been popularized sufficiently and public opinion has not been directed to the proper consideration of many topics relating to public health. One of the functions of the new section, therefore, must be to assimilate data and to help in the more rapid diffusion of knowledge in sanitary matters.

Unquestionably there is much of truth in what Dr. Soper says concerning the failure of universities and physicians to teach sanitary knowledge. It should be remembered, however, that a great deal, indeed a remarkably great deal, of efficient work in this very line has been done and is being done by institutions of various kinds as well as by physicians individually. The reason, or, rather, one highly important reason, why the public has not profited to the fullest extent from the available sanitary knowledge seems to lie in the general failure under our political system to secure as public officials men with the necessary special training and expert knowledge. This, of course, is true not only with respect to health officers of various kinds, but to an equal degree with respect to many other departments of public service.

In our political life it is unfortunately the usual thing that men are installed for a brief period in important positions for the efficient exercise of the duties of which they are fitted neither by experience and training nor special natural gifts. One consequence is that while the established routine work of various offices may be carried on in a fairly satisfactory yet often crude way, new and progressive policies in harmony with changing conditions and increasing knowledge are not introduced so promptly as they should be and the necessities of the future and of more or less unexpected emergencies are left without adequate provision. It is only too true, as Soper says, that "thus far, in the history of sanitation, the great strides of progress have usually resulted from emergencies. . . . Unfortunately this method of progress still prevails to a large extent through the country." In evidence of the truth of this statement it is necessary to mention only the sudden changes in water supplies so often precipitated by avoidable and predictable epidemics of typhoid fever.

Progress in other branches of public service also commonly seems to proceed from analogous causes. The better way, and the way more likely to be followed when departments of public service are managed by men with special training and expert knowledge, is to make the schemes necessary for improvement while there is ample time for careful investigation and preparation. Hence, public opinion and the attention of those with appointive powers should be continuously directed toward the vital importance of special, technical qualifications in our public services. This applies with especial emphasis to the departments charged with public sanitation, because in their particular case prevention is the peculiar function, and the conditions to be prevented must be foreseen and removed so far as possible before they result in disease. "The highest skill and wisdom are none too great to enlist" in the practical application of technical knowledge derived from diverse sources in order to prevent disease and to render human life pleasant and healthful. The city of New York is able to furnish us a fortunate example in the way of efficiency in health administration.

TYPHOID FEVER IN THE DISTRICT OF COLUMBIA.

There have been few greater surprises to sanitarians than the singular prevalence of typhoid fever during the past year in the District of Columbia. In the autumn of 1905 a modern sand filter, designed by and constructed under the supervision of some of the most eminent sanitary engineers in this country, was put in operation in the city of Washington. The particular mode of treatment adapted for the water of the Potomac River, the character of the plant and the details of operation had been long and thoroughly discussed and studied by qualified experts. It was confidently expected, therefore, that the operation of this filter would be followed by the same results that have been observed in Lawrence, Mass., Albany, N. Y., and other places in this country where a filtration plant of similar character has been installed. Surprise and consternation resulted when, in July, 1906, the number of cases of typhoid fever in Washington suddenly increased so that the disease was regarded as prevailing in epidemic form. Since the Potomac River water had long been known to be polluted, and since sand filtration elsewhere had been shown to purify effectively waters of a similar character, the recurrence of the disease under the greatly improved conditions was a matter of keen disappointment to both the medical profession and the public at large.

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[1] Science, April 19, 1907, p. 601.

In view of these rather extraordinary conditions, a commission was appointed by the Surgeon-General of the Public Health and Marine-Hospital Service, comprising a number of capable officers of the Hygienic Laboratory and the Public Health and Marine-Hospital Service. In fact, during the summer of 1906 almost the entire force of the Hygienic Laboratory concentrated its energies on this problem.

The investigation included: A sanitary survey of the Potomac watershed; a searching epidemiologic study of the 866 cases of the disease occurring in the District of Columbia between June 1 and October 31, 1906; daily chemical and bacteriologic examinations of the public water supply; a special study of the pumps, wells and springs in the District and also of the bottled waters on sale in Washington; inspection of dairies and laboratory examinations of the milk supply; inspection of ice factories and analyses of the water from which the ice was made as well as of the ice itself. Special attention was directed to the communicability of the disease from person to person by direct or indirect contact. The agency of flies and other insects as carriers of infection was a subject of special investigation.

As a result of this comprehensive study certain conclusions and recommendations were arrived at by the board of commissioners, which will soon be printed in a bulletin of the Hygienic Laboratory, an advance copy of which has been sent to us through the courtesy of Surgeon-General Wyman. Only a few of the findings of the commission can be mentioned here. The commission notes in the first place that the prevalence of typhoid fever in the District of Columbia during the period covered by their investigation was due to several causes, about 15 per cent. of the cases being imported, 10 per cent. being attributed to infected milk and 6 per cent. to contact, leaving 69 per cent. unaccounted for. Particularly interesting, in connection with the contact cases, are the observations on the inefficiency of measures for the disinfection of the discharges from the bodies of typhoid fever patients. The report of the commission is definite and emphatic on this point: "The destruction of the infection as it leaves the body is the most important measure to prevent the spread of typhoid fever. In our opinion, it is the duty of the attendant physician to see that these measures are effectively carried out. It is evident from the above figures that this important prophylactic measure is not carried out as it should be in the District of Columbia. If this condition of affairs can not be corrected then we should recommend its enforcement by legislative enactments."

We have more than once had occasion to call attention to this important subject. There is no reason to think that in this respect physicians of the District of Columbia are less insistent than physicians of other cities in having the details of prophylactic disinfection carried out. The warnings of the commission can not be too often repeated and insisted on. There can be no doubt that rigorous disinfection would diminish enormously the transmission of typhoid fever, although in view of the recent developments regarding bacilli carriers it is certainly not fair to assume that the disease would completely disappear if known cases are properly disinfected and cared for.

Another thoroughly investigated question was the milk problem, and the report of the commission on this subject is explicit and well considered. Although the evidence that was secured indicated that not more than 10 per cent. of the cases studied were due to infected milk, the commission does not hesitate to state that: "While the present outbreak of typhoid fever is by no means wholly attributable to milk, the wonder is, judging from our observations of the milk business in the District of Columbia, that more illness and disease is not spread through this medium."

One of the most interesting sections of the report discusses the probable relation of the public water supply to the recent epidemic, and a number of arguments in favor of the view that the filtered Potomac water played an important part in the dissemination of typhoid fever are marshaled in an impressive manner. On the other hand, reasons in favor of the view that the Potomac water had little, if any, share in the dissemination of typhoid fever in Washington are likewise considered. This perplexing matter is summed up finally as follows: "In view of the foregoing, it is evident that at present it is not possible to present satisfactory proof of the part played by the Potomac River water in the spread of typhoid fever in the District of Columbia; therefore, the commission reserves final decision on this subject until investigations, now in progress at the Hygienic Laboratory, have been completed."

While this verdict leaves the country in suspense as to the actual situation in Washington, it seems to venture about as far as is warranted by the evidence presented in this report, and it certainly has not been proved that the filtered water supply was responsible for the recent epidemic. The weight of evidence that has been accumulated in connection with the installation of successful filtration plants in other cities would seem rather to throw the burden of proof on the other side. Some stress has been laid in the report on the seasonal incidence of typhoid fever in Washington, the disease being here, as in many other places, peculiarly a summer infection. The coincidence of the maximum amount of typhoid fever with the prevalence of the house fly has not been overlooked, but we believe that even more significance might be attributed to this point. On the other hand, the hypothesis of an increased susceptibility to typhoid fever in warm weather has something to recommend it, especially in view of the seasonal incidence of infantile diarrhea, a disease in which increased susceptibility doubtless plays a rôle. Inconclusive as the report is, it must certainly take rank as one of the most thorough and extensive studies of an outbreak of typhoid fever, not due to water pollution, that has ever been made. That the Washington situation is still a puzzling one is in no wise the fault of the authors of this important document, but is rather due to our incomplete epidemiologic knowledge.

CATERPILLAR RASHES.

The introduction of the brown-tail moth, *Porthesia chrysorrhœa,* into Massachusetts and New Hampshire, and its almost certain spread into neighboring states, needs comment at this particular time, as summer is approaching, and the peculiar skin eruption resulting from contact with the insect has not yet become widely known in the United States. The results of the action of certain poisonous plants of the *Rhus* family are widely known both by the laity and the profession, but even physicians have not yet become acquainted with the irritant effects produced by these moths and their caterpillars.

The knowledge of skin rashes due to caterpillars dates back to the time of the ancients; in modern times the matter has been commented on mainly by the entomologists, who, in making their collections, have occasionally been poisoned. In recent years the attention given to nature study, even in the primary schools, has rendered the collection of caterpillars and moths by children common, and the bright colors of some of the poisonous varieties have added to the collector's zest. In places, too, as recently in the states named, the brown-tail moth, one of the poisonous species, has flourished exceedingly, and opportunities for poisoning have consequently increased. This will be better understood when it is explained that actual contact with the caterpillar or moth is not necessary, and that underclothes dried in the open in the neighborhood of infected trees may become the receptacles of the poison.

Clinically, the poisoning appears in two forms, as Tyzzer[1] has pointed out in his interesting study. If the poisoning results from direct contact, as when a caterpillar falls on the neck and is brushed off, a marked local dermatitis appears, confluent in character, and characterized by reddening and thickening of the skin with the formation of papules and vesicles. Children who handle caterpillars and then, as often happens, rub the eyes and face with the infected hands, develop more discrete lesions often associated with conjunctivitis. When underclothes become infected, too, the lesions are more discrete, and in the form of papules which change to vesicles.

That the hairs of the caterpillar, or to be more exact, the barbed or "nettling" hairs, are the poisoning agent has been known for some time. The transmission of the irritant by these hairs, even when dried and detached from the insect, explains the occurrence of the rash after wearing underclothes dried in the open, and the occasional occurrence of the dermatitis after merely walking in the neighborhood of thickly infested trees. The older writers were of the opinion that the irritant quality of the hairs was purely mechanical and due to their barbed shape, but the careful studies of Tyzzer have shown that this is an erroneous view. A definite toxic substance of an irritating character is contained within the nettling hairs; it can be destroyed by heat, is soluble in water at certain temperatures, and produces peculiar and characteristic changes in red blood corpuscles brought into contact with hairs which contain it. The intensity of the lesions produced by the introduction of the barbed hairs into the skin depends to a certain extent on the number of hairs introduced; the character of the lesion is always the same, consisting in a necrosis of the epidermal cells about the hairs, the formation of microscopic vesicles about the site of injury, and the production of inflammatory changes around the vessels of the corium. As in most toxic diseases there are marked individual variations in susceptibility, and in caterpillar dermatitis, just as in rhus poisoning, some are very susceptible, and others apparently immune.

JUDICIOUS LUNG GYMNASTICS.

Some pertinent criticisms of the chest-swelling drill so dear to English army traditions have recently been expressed by Lieut. Col. F. A. Davy, M.D.,[1] who finds the "setting-up" drill, by which the military bearing is attained, to be wrong in theory and injurious in practice. This army surgeon asserts that rigid shoulders and protruding chests interfere with the normal course of the circulation. The exercises which bring about these results really invalid many men; they do not benefit the defective, but, on the contrary, often harm even the strongest. "Holding the breath" is condemned as disturbing the balance between the respiratory and circulatory systems and as being directly in contravention of physical laws. Dr. Davy declares that soldiers would be stronger and healthier if they were permitted to abandon the attitude they have worked so hard to attain, and to carry themselves much as the man on the street does. He finds that increased chest measure is often gained at the cost of motility and vital capacity; the young recruit much too often presents on examination a rapidly beating heart, a shortness of breath and a very decided discomfort.

It is common to find men who have been athletes during their college days to be suffering from hypertrophied and even chronically dilated hearts, with blowing murmurs, especially pronounced at the carotids. These men pant easily and tire in a most distressing way on slight exertion. They are not nearly so "fit" as men who have lived normally, without attempting to "build muscle" by means of inordinately severe exercises. Woods Hutchinson tells us that, according to statistics, athletes are two and one-half times as liable to cardiac diseases, 60 per cent. more liable to kidney diseases, and 25 per cent. more liable to die of the three main infectious diseases of adult life than the average man. No doubt the same will be found true of those workingmen who most frequently subject their bodies to heavy and exhausting strain.

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[1] Jour. of Med. Research, March, 1907, abstracted in this issue of The Journal, p. 1460.

[1] Davy (F. A.): Army Medical Dept. Report for 1905, Lancet, Feb. 16, 1907.

For phthisical individuals lung gymnastics should certainly be interdicted in the presence of a decidedly subnormal temperature; or when there is fever (certainly when 100 degrees is reached), in cavity formation, in all acute processes, in evidently advanced disease, in tuberculous laryngitis, in rapid pulse and tumultuous heart, in fatigue or dyspnea on exertion, in hemoptysis or blood-streaked sputum, in pathologic blood conditions, in recent pleuritis, in other intercurrent or complicating diseases, when the weight is much below the normal for the patient's height, when strength and vitality are much reduced. It must be always remembered that in phthisis the organism is on the verge of bankruptcy, and may easily collapse with immediately fatal issue when the imposed exercises are excessive or beyond its strength. Of course, before prescribing "deep breathing, with the lips closed," the upper air passages should be examined for hypertrophies, exostoses or other obstructions to respiration.

THE DIAGNOSTIC DOSE OF TUBERCULIN.

It is an unfortunate fact that the manner in which tuberculin first came into use led to a revulsion of feeling against it on the part of many physicians. Once introduced, and if it had not been that Koch's hand was forced its introduction doubtless would have been delayed, it was hailed with acclamation and used without discrimination, with the natural result that its good features were overshadowed by the resulting catastrophes. Notwithstanding the manner in which the majority of physicians have since held aloof from it, many of the lung specialists have used it continuously for both diagnostic and therapeutic purposes. Its value in diagnosis can be readily understood when it is stated that from 50 to 80 per cent. of the patients who enter the German sanatoria for pulmonary tuberculosis have no tubercle bacilli in their sputum. Many of them have very slight physical signs of tuberculosis, and in many of these cases it is doubtful whether the signs represent an active process or are the result of healed tuberculosis or a pneumonokoniotic process. The necessity of a correct diagnosis in these and other doubtful cases is especially great from the patient's standpoint, for it may mean the difference between freedom and a long sojourn in an institution.

One of the most serious errors which attended the administration of tuberculin in the early days after its introduction related to dosage. There can be little doubt that too large amounts were given, with resulting severe local and general reactions and positive harm to the patient. Wright's work on the opsonic index has exposed the fallacy, so far as the therapeutic use of tuberculin is concerned. Whether or not we have been giving too large doses for diagnostic purposes is still under discussion. At the Tuberculosis Congress in Paris in 1905 Löwenstein and Kauffmann claimed that the dosage used to-day was much too large, and that 2/10 milligram repeated three or four times at intervals of a few days was sufficient. The old Koch method was to begin with one milligram and gradually increase to ten.

The relative value of the different doses has been tested by Roepke[1] on over 700 patients. He soon came to the conclusion that the dose advocated by Löwenstein was much too small, as it entirely failed to produce reactions in most of the patients with early lung signs on whom it was tested. Roepke also concluded that the doses used in the old Koch method were unnecessarily large, and that it was not entirely the question of dose, but also the matter of sudden increase in dose which decided the reaction. He found 2/10 milligram was enough for an initial dose, and recommends giving five times this dose in a few days, i. e., one milligram, and a few days later, if no reaction has occurred, five times the second dose. This gives results equally as good as the old Koch method and with only half the maximum dose. The tuberculin reaction is unquestionably of great value in diagnosis, and it is to be hoped that the profession at large will recognize that the procedure is not dangerous if properly carried out.

GRADUATE MEDICAL STUDY.

The need of graduate technical instruction has been apparent for some years. The introduction of new methods of diagnosis and treatment requiring the use of new instruments and apparatus has rendered the education of the physicians, as given at the medical schools of ten to twenty years ago, entirely inadequate for the needs of the present day. This need has been but imperfectly supplied by the graduate school and to meet it more perfectly there has been developed in Prussia and extended over the German Empire a system which is in striking contrast with those formerly in vogue. In the first place it is designed to furnish what is essentially free instruction to all physicians. A small registration fee is charged for some courses amounting only to two or three dollars. Secondly, instead of concentrating the instruction in large cities it is aimed to carry it to the less populous centers where the physicians from the smaller towns and villages can attend without having to travel far. The course usually is about two weeks long and the distance being small, the doctor can go home once during the course and could be called in case of emergency without great loss of time. Thirdly, the courses are for the most part didactic and technical but not clinical. The reason for this is that while the necessary apparatus for demonstrations and practical laboratory instruction can be found in the smaller places, or can be easily transported, and the specialist may go without inconvenience to the smaller town to deliver a lecture, clinical material can be obtained in sufficient abundance only in the large city. The system is managed by a central committee located in Berlin and is brought to public notice by a special journal[1] which appears twice a month. In addition a center for the direction of the movement has been provided in a building, known as the Kaiserin Friedrich House, devoted to the purposes of such technical instruction. This central building serves as a central office for information and direction of the movement and as a storehouse for collections of specimens, etc., to be loaned gratis to the various local centers where courses are to be given. It also provides laboratories for technical instruction, lecture rooms for didactic but not clinical lectures, and it contains, besides, a permanent exhibition of instruments and apparatus for the use of physicians where the visitor may see and examine the newest and best devices and determine what he needs. The plan has been successful from the first so that about one-third of the physicians of the empire have taken part in the courses. The subjects include in some cases a review of the entire medical curriculum, while in others special work is done in medical chemistry, bacteriology, electricity, Roentgenology, physical therapeutics, etc. There appear to be many features of this scheme for post-graduate professional education that are applicable to American conditions. The busy physician who can not get away to take a course in some large city is usually within easy reach of some college town where laboratory facilities could be provided and where he could go and return to his home at night. Specialists who could expect to receive patronage from a group of village or country physicians would doubtless give demonstrations of methods of instrumentation with which the practitioner should be familiar. County societies could easily arrange short courses with the help of a central organization which could take advantage of the resources of the universities whose aid in carrying out such a plan could confidently be relied on.

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[1] Ztschr. f. Tuberculose, March, 1907.

HOSPITAL MANAGEMENT IN ST. LOUIS.

St. Louis is presenting a gratifying spectacle of a united profession attacking one of the important medicopolitical problems, that of hospital management, and endeavoring to free the municipal hospitals from the interference and domination of practical politicians. In 1905, according to the *St. Louis Medical Review,* the eleven medical societies of St. Louis, embracing all branches of medicine and all therapeutic creeds, formed a joint medical council for the purpose of effecting reforms in public medical matters. The first subject chosen was hospital management, and the council found certain defects which it traces to the fact that under the present system all appointees, from the hospital superintendent down to the most humble employé, are subjects of political patronage. The results, which are unsatisfactory under a good administration, become chaos when the administration is a bad one. To remedy these conditions the council proposes: 1, separation of the health department from the hospital department; 2, vesting of control over the hospitals in a board of trustees, similar to the present school board, and elected by the people; 3, provision for an executive superintendent or steward; 4, provision for a medical staff of experienced physicians appointed by the board of trustees for a term of years; 5, provision for an interne body of physicians, to be chosen on the basis of competitive examination conducted by the staff, such internes to be responsible to and under guidance of the medical staff. These proposals have been modified in a bill to be presented to the municipal assembly providing for submission to the people of the necessary amendments to the city charter. The council has received assurances of support from over a dozen of the most intelligent representative bodies of citizens, and apparently the only evidence of lack of unanimity in the good work is the attitude of the politically constituted health board. This body, although it has formerly busied itself in legislative matters for the good of the public, suddenly discovered that "its functions are purely administrative, it had no jurisdiction whatever over matters of this kind, and that, under the circumstances, nothing could be gained by a further discussion of the subject." That hospitals should be taken out of politics needs no argument. They are semi-educational institutions which have important functions in the way of clinical teaching and research work in addition to the care of the sick, and they need the peace and permanence of administration essential to the carrying out of definite policies. It is to be hoped that the efforts of the St. Louis physicians will be successful and will serve as an example and encouragement to other communities, showing what physicians can accomplish for the public welfare by united effort, and pointing to the ideals of management of medical institutions, toward which all ought to strive.

THE PRESERVATION OF MOSQUITOES DURING WINTER.

It has long been known that mosquitoes hibernate during winter, and are thus preserved from season to season. In view of recent experiments conducted by Passed Assistant Surgeon Francis[1] of the Public Health and Marine-Hospital Service, it appears very probable that the *Stegomyia calopus* is also preserved in another way, thus in two ways being able to survive a southern winter. Francis collected eggs of this genus of mosquito in Mobile, Ala., Aug. 16, 1906, and preserved them in the dry state at practically outdoor temperatures until Feb. 27, 1907, a period of six and one-half months. Water was then added, and the eggs developed into adult mosquitoes; these in turn laid eggs which hatched into larvæ, thus completing the life cycle. The length of time stegomyia eggs can withstand desiccation has been variously stated. Theobald mentions two months.[2] Reed and Carroll[3] kept them for ninety days without destroying their fertility. The latter observers also noted that freezing did not destroy their viability. Observations regarding the habits of this mosquito are of much importance, since it is responsible for the transmission of yellow fever, and Francis' studies are of value to sanitarians, as they readily account for the propagation of this species in our southern latitudes. Francis also reports having found this species during every month of the year—an important point which indicates the necessity of continued efforts looking to their destruction. In view of our present knowledge it is fortunate that the statements of Marchoux and Simond[4] regarding the hereditary transmission of the virus of yellow fever have yielded only negative results in the hands of other workers.

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[1] Ztschr. f. aerztl., Fortbildung.

[1] Public Health Reports, xxii, No. 14.

DEATH OF THE EDITOR OF THE LANCET.

We are called on this week to chronicle the death of Thomas H. Wakley, F.R.C.S., Eng., senior editor of the London *Lancet*. His death removes from the journalistic field one of its great men; one who has helped to build up a great paper, and one whose personality had its influence on every department of the business under his direction. The *Lancet's* work in the analysis of foods and medicines has been a most valuable contribution to progress. We can speak no better eulogy of Mr. Wakley than to quote from the "In Memoriam" of the *Lancet*, April 13: "He was bold in exposing evils of a general or public character; hearty in helping forward every public advancement; zealous to make the *Lancet* the first chronicler of any new and promising progress in the science and art of medicine; and especially anxious to make it useful in works which were of a sound philanthropical and beneficent nature."

PURE MILK OR BLENDED WHISKY.

As we go to press we learn that the substitute pure food bill now pending before the Illinois Legislature has been amended so as partially to restore its usefulness. This bill is a makeshift substitute for a carefully drawn and thoughtfully considered bill formulated by the state Pure Food Commission. The original bill contained practically the same provisions as the national Food and Drugs Act, modified for state purposes. It also contained special provisions for a pure milk supply and regulated conditions in the dairy farms as well as methods of transportation and delivery. The substitute bill contained none of these provisions. It is stated in the daily press that the chairman of the committee on manufactures induced the speaker of the House to omit these provisions on the ground that they would interfere with the butter, milk and cheese business. It has also been stated that the Elgin Board of Trade, which practically controls the butter market, was influential in bringing about this change. The position of the business men seems to be that cleanliness is expensive and will lay too heavy a tax on the business and that the people of the state, in order to protect the profits of the business, should take the consequences in the shape of dirty milk. It has been charged that a lobbyist, interested in blended whisky, was allowed to deliver the bill to the printer (!) and took advantage of the opportunity to "improve" the bill in its portions referring to whisky. It might be well for the medical profession in Illinois to ascertain whether the pure food bill now pending is for the benefit of the people or was drawn in the interests of dirty milk and blended whisky.

Medical News

ILLINOIS.

Epidemic Diseases.—Three new cases of scarlet fever were discovered in Rockford, April 15, all on the West Side. The center of infection from which the cases originated has not yet been discovered.——An epidemic of measles is reported at the Soldiers Orphans' Home, Bloomington, where 45 cases and 4 deaths have occurred.

Personal.—Dr. David C. Kretzer, after three years' duty with the Philippine constabulary, has resigned and returned to his home in Decatur.——Dr. Frank H. Gardner has been elected president; Dr. Henry S. Bennett, vice-president, and Thomas J. Lamping, secretary-treasurer, of the Moline City Hospital.——Dr. John W. Dryer, Aurora, while bicycling, was thrown to the pavement by a runaway horse and suffered severe cuts and contusions of the face and body.——Dr. Charles C. Rayburn, Kewanee, has decided to go to the West for the benefit of his health.——Dr. John J. Rigg, Mount Pulaski, will leave in a short time for Europe.

Chicago.

Personal.—Dr. Frank Billings and daughter returned from Europe April 18.——Dr. L. Harrison Mettler has resigned from the faculty of the Chicago Clinical School.

City Physician Reports.—Dr. Joseph F. Todd, city physician, has submitted a report of the work of his department for the fiscal year. There were 2,705 visits and inspections made, 87 of which were for alcoholism. Aid was rendered to 104 injured persons.

Visiting Nurses.—The annual report of the secretary of the Visiting Nurses' Association of Chicago shows that the year has been successful. A number of bequests have been received and the association aided in the establishment of the Edwards Tuberculosis Fresh Air Sanatorium at Naperville. A central home for the nurses is now being considered.

Iroquois Memorial Hospital Plans.—The committee of the Iroquois Memorial Hospital Association has outlined to the president of the Cook County board the plan of the association for a memorial emergency hospital in the downtown district. The committee proposes to lease the ground at 43 and 45 La Salle Street at an annual rental of $5,000 and to erect thereon a three-story building to cost about $30,000. The county is asked to pay for the lease of the land and the hospital association will pay for the building.

Reduced Death Rate.—During the week ended April 20, 100 fewer deaths were reported than during the preceding week. The deaths for the week numbered 617, equivalent to an annual death rate of 15.26 per 1,000. Pneumonia still headed the death list with 103, followed by consumption with 81, heart diseases with 50, Bright's disease with 47, acute intestinal diseases with 42, violence (including suicide) with 28, and cancer with 27. Of the communicable diseases diphtheria caused 12 deaths; scarle fever and whooping-cough, each 11; measles, 7; typhoid fever, 4, and influenza, 3.

INDIANA.

Gives Hospital Site.—Dr. George W. Bence, Greencastle, has offered to the Putnam County Hospital Association a building site for a hospital on the condition that the hospital shall bear his name; that it shall be used for hospital purposes only; that it shall be used only by regular practitioners, and that the association shall raise a fund sufficient for its erection and maintenance.

Personal.—Dr. Nelson D. Brayton, Indianapolis, one of the physicians in the employ of the Isthmian Canal Commission, has returned to his duty in Panama, after a vacation in Ecuador and the Columbian republic.——Dr. Lyman T. Rawles, Huntertown, was shot and seriously injured in the doorway of his home by a man believed to be insane.——Dr. T. Henry

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[2] Monograph of the Culicidæ, 1903, iii, p. 6.
[3] Medical Record, lx, p. 645.
[4] Ann. de l'Institut Pasteur, xx, p. 16.

Davis, Richmond, has resigned as a member of the State Board of Health, to take effect May 1.

March Mortality and Morbidity.—The deaths for March amounted to 3,502, or 272 more than were reported in March, 1906. During the month measles was prevalent in 82 of the 92 counties of the state, and 15 deaths were reported. Influenza was still more prevalent, 204 deaths being reported, while only 46 deaths were reported in the corresponding week of 1906. The order of prevalence of diseases was as follows: Influenza, tonsillitis, rheumatism, measles, pneumonia, bronchitis, diphtheria, scarlet fever, pleuritis, intermittent and remittent fever, typhoid fever, diarrhea, smallpox, whooping-cough, inflammation of the bowels, erysipelas, dysentery, typho-malarial fever, cerebrospinal meningitis, puerperal fever, cholera morbus and cholera infantum. The deaths from pneumonia numbered 575, or 106 more than for the corresponding month of last year. There was an increase also of 6 deaths from cancer and 54 from violence. Tuberculosis caused 431 deaths. Smallpox was reported from 20 counties with no deaths; in the corresponding month of last year 97 cases were reported from 11 counties, with no deaths. There were 210 cases of typhoid fever reported, with 40 deaths, from 33 counties; in the corresponding month of last year there were 211 cases, with 34 deaths, from 62 counties.

KANSAS.

Addition to Medical College.—An addition is proposed to the medical building of Kansas University at Rosedale, to cost $45,000.

State Society Meeting.—The annual meeting of the Kansas Medical Society will be held on the third floor of the Banking Trust building, Seventh Street and Minnesota Avenue, Kansas City, Kan., March 7 to 9.

Personal.—Dr. John C. Rudolph, Lawrence, has been appointed health officer of Douglas County, vice Dr. Hiram T. Jones, resigned.——The following health officers of Salina County have been appointed: Drs. Howard N. Moses, Salina; Louis O. Nordstrom, Assaria; Enos R. Cheney, Gypsum, and Wilber E. Fowler, Brookville.——Dr. Josiah P. Lewis, Topeka, is seriously ill at his home.

College Graduation.—The class of 1907, numbering 15, was graduated April 11 from the Kansas Medical College. Dr. H. B. Ward, Lincoln, Neb., dean of the College of Medicine of the University of Nebraska, delivered the general address, and Theodore W. Peers the faculty address. Dr. William L. Lindsay, dean of the college, was master of ceremonies, and the diplomas were presented by the president of the institution.

KENTUCKY.

Epidemic of Meningitis.—It is reported that 20 more deaths from cerebrospinal meningitis have occurred in Harlan County during the last month.

Library Donated.—Dr Joseph M. Mathews, Louisville, has donated his personal medical library, consisting of 800 volumes, to the local public library.

Personal.—It is announced that the resignation of Dr. James W. Hill, superintendent of the Institution for the Education of Feeble-Minded Children, Frankfort, has been received and accepted by the state board of control. Dr. Louis H. Mulligan, assistant superintendent of the Eastern Kentucky Asylum for the Insane, has been called to Frankfort by the state board of control to take charge of the institution until a superintendent can be elected.——Dr. David T. Stuart, Paducah, has arrived in Shanghai.——Dr. William A. Keller, Louisville, city physician for the West End, is reported to be critically ill at his home with typhoid fever.

LOUISIANA.

War on Mosquitoes.—The New Orleans city board of health has begun an investigation of mosquitoes, not the *Stegomyia calopus*, but the ordinary mosquitoes, which are a source of discomfort during the entire year, and their extermination has been systematically planned.

Medical Department of State University.—At a meeting of the executive committee of the board of supervisors of the Louisiana State University it was announced that progress had been made and that the medical department would be inaugurated in New Orleans this fall under most favorable circumstances.

Havoc Wrought by Cyclone.—The cyclone which swept over the Gulf states April 6 wrecked several buildings of the Louisiana Insane Asylum, Jackson. The damage to the institution was about $100,000 and four female patients were killed. The governor of the state immediately sent tents and cots for the temporary housing of the inmates of the asylum, and measures have been taken for rebuilding.

Personal.—The office of Dr. Mark L. Johnson, Hackley, was burned to the ground, with a loss of $1,100 and no insurance. ——Dr. James M. Batchelor, house surgeon at Charity Hospital, and Dr. Waldemar T. Richards, New Orleans, were severely injured in an automobile accident, March 30.——Drs. C. Milo Brady, New Orleans, medical inspector for the State Board of Health, and Henry A. Veazie, shipping inspector for New Orleans, have concluded their service for the state. Dr. Brady will enter on private practice and Dr. Veazie has been appointed to the U. S. P. H. and M.-H. Service.

Sanitary Conference.—A conference of the parish and municipal health officers has been called for May 2, 3 and 4 at Opelousas, under the auspices of the Louisiana State Board of Health, to consider important questions of public health and hygiene. One of the most important matters to come before the conference is the outlining of a bill to be presented before the next legislature, giving parish health officers reasonable authority and fair compensation. In addition to health officers the commercial bodies of the state and women's clubs have been invited to send delegates to the conference.

MAINE.

Grenfell in Portland.—Dr. Wilfred Grenfell spoke on his mission to the deep sea fishermen of Labrador, at St. Luke's Cathedral, Portland, April 14.

Personal.—Dr. G. Gilmore Weld was inaugurated as mayor of Old Town, March 25.——Dr. Walter L. Hunt, Bangor, has succeeded to the practice of Dr. Frederick W. Mitchell, Island Falls. Dr. Mitchell, after pursuing postgraduate work in Baltimore, will locate in Houlton.

Contagious Diseases.—It is reported that diphtheria is prevalent in the Capsuptic and Rangeley Lake regions. Many lumber camps are in quarantine. The Franklin County Board of Health is cooperating with the State Board of Health to check the spread of the disease.——At Westbrook 25 cases of scarlet fever have been reported to the board of health, and on this account the public schools have been closed.

MASSACHUSETTS.

Feeble-Minded Institution Site Bought.—Valuable properties in the town of Wrenham have been purchased by the state for the establishment of an institution for the feeble-minded. About 500 acres have been secured.

Bill to Lower Milk Standard Defeated.—A bill introduced into the senate to lower the standard of the milk supply in the state was defeated. Dr. Charles Harrington, Boston, secretary of the State Board of Health, opposed the bill.

Personal.—Dr. Henry William Miller, Taunton, has been made psychopathologist in the Cook County Institutions, Dunning, Ill.——Dr. S. Alphonse Daudelin, who sailed for Europe on *La Savoie*, April 18, was given a dinner at Worcester, April 16, in honor of his appointment as high commissioner to the Maratime Exposition, Bordeaux, France.

Management Approved.—The investigation of the State Hospital for Dipsomaniacs, Foxboro, has resulted in a report by the governor's executive council, approving the management. It is advised, however, that an age limit should be established and that there should be a separate institution for the care of hopeless inebriates without criminal records. With these two changes, the present institution will be much more efficient in accomplishing the purposes for which it was established.

MINNESOTA.

Few County Health Boards.—Dr. Henry M. Bracken, secretary of the State Board of Health, states that only 30 out of the 85 counties in Minnesota have appointed county boards of health, as required by law.

Proposed Fund for Sanatorium.—A request is to be made to the legislature at this session for the creation of a fund of $50,000, to be used for the maintenance of the State Sanatorium for Consumptives, near Walker. One wing of the main building is nearly completed and about 25 acres of land, on which cottages may be constructed, have been cleared. The building already erected is almost ready for occupancy at a cost of more than $60,000.

Personal.—Dr. and Mrs. Charles P. Robbins, Winona, have returned after eight months abroad.——Dr. O. Edward Linjer has been elected city physician of Minneapolis, vice Dr. Emil H. Beckman, resigned.——Dr. Charles Malchow, Minneapolis, imprisoned on a charge of sending improper literature through the mails, was released from the state penitentiary, March 30.——Dr. John B. Dunn has been elected chairman of the board of health of St. Cloud.——Dr. Thomas H. Wimer, Marshall, is reported to be critically ill.——Dr. Adolph O. Bjelland has been appointed health officer of Mankato.

MISSOURI.

Brown Gets Loving-Cup.—On April 11 the staff of the St. Louis City Hospital presented a silver loving-cup to Dr. John Young Brown, who recently resigned from the superintendency.

Hydrophobia Ward Opened.—The hydrophobia ward of the St. Louis City Hospital was opened April 12. St. Louis is now thoroughly equipped for treating patients afflicted with rabies.

Smallpox.—Five cases of smallpox have occurred at the Young Women's Christian Association boarding-house, Kansas City.——The health officer of Greene County reports 25 cases of smallpox at Republic.

Senior Student Dies.—Joseph H. Magana, a native of Mexico and a senior student at the St. Louis College of Physicians and Surgeons, died at Jefferson Hospital in that city, April 4, after an operation for appendicitis.

Tuberculosis Prevention.—The St. Louis Society for the Prevention of Tuberculosis has been incorporated with the aim of disseminating, by means of lectures and literature, information concerning tuberculosis, how it spreads and how it may be combated. The association expects to formulate plans for a tent sanitarium for the treatment of tuberculosis.

Physician Fined.—Dr. F. W. Lanoix, Kansas City, was fined $25 April 14, on the charge of practicing medicine without a license. A complaint was made that he had entered into the practice of medicine and surgery in the city without having filed a copy of his certificate with the State Board of Health, and that he was not authorized by the board to practice medicine and surgery.

Personal.—Dr. Emmett P. North has been appointed to succeed the late Dr. Augustus Von Liew Brokaw as superintendent of the United Street Railways Company, St. Louis.——Dr. Edmund A. Donelan, St. Joseph, for several years president of the board of education, has been re-elected medical supervisor of public schools by the board.——Dr. John F. Chandler, Forest City, has been elected secretary of the Holt County Medical Society, vice Dr. Samuel W. Aiken, Oregon, removed from the county.

MONTANA.

State Board Election.—The newly formed State Board of Health met in Helena, perfected its organization and elected Dr. William Treacy, Helena, president, and Dr. Thomas D. Tuttle, Billings, secretary.

Personal.—Dr. William T. Scott, Great Falls, has resigned as secretary of the Cascade Medical Society, and has gone to Europe.——Dr. Robert L. Stokes, Lewiston, has moved to Washington, D. C.——Dr. Thomas H. Pleasants, Lewiston, formerly of Helena, is reported to be dangerously ill with pneumonia in Chicago.

Elections.—The Silver Bow County Medical Society, at its annual meeting held in Butte, elected the following officers: President, Dr. Josiah S. Hammond; vice-president, Dr. Creswell T. Pigot; secretary, Dr. Grace W. Cahoon; treasurer, Dr. McCormick Smetters; and executive committee, Drs. Josiah S. Hammond, Laura L. Keisker, Richard C. Monahan and Thos. J. Murray, all of Butte.——The Madison County Medical Society, at its annual meeting, held in Virginia City April 5, elected Dr. Gay F. Tidyman, Ennis, president; Dr. Emmer L. Sutherland, Sheridan, vice-president; Dr. Edgar I. Bradley, Virginia City, secretary-treasurer, and Drs. Tidyman and Bradley delegates to the State Medical Association.

NEBRASKA.

Bill for Tuberculosis Hospital Passed.—A bill introduced by Representative Howard, providing for the establishment of a tuberculosis hospital at Hastings, and appropriating $25,000 to pay for the site and construction, has passed the House of Representatives.

Personal.—Dr. Joseph W. Bourne, South Auburn, has been appointed physician for the west half of Nehama County, including Auburn, and Dr. W. W. Frazier, Nehama, physician for the east half of the county, including the poor farm.——Dr. Allen T. Hill, Lyons, while making a professional call, was attacked by highwaymen and lost $15 and a hypodermic syringe.

Official Organ of State Society.—The *Western Medical Review*, recently transferred from Lincoln to Omaha, has been made the official organ of the state medical society. At a meeting, April 11, the following directors were elected: Drs. August F. Jonas, Frank E. Coulter, Henry L. Akin, Henry L. Burrell, and George H. Bicknell. On the following day the board of directors met and elected Dr. August F. Jones, president; Dr. Henry L. Akin, secretary, and Dr. Archibald L. Muirhead, editor.

NEVADA.

Personal.—Dr. John A. Ascher, Sparks, has been appointed physician of Washoe County.——Dr. William L. Berry, Carson City, has been re-elected physician of the Nevada state prison.

Hospital Notes.—The local Catholic parish of Reno will undertake the construction of a hospital, to be placed in charge of the Dominican Sisters, and to cost $70,000.——The Miners' Union, Wonder, has started a movement toward the erection of a hospital in the camp.

NEW HAMPSHIRE.

Loss by Fire.—A recent fire at Newport destroyed the house of Dr. J. Leavitt Cain, with a loss of more than $4,000.

Epidemic of Influenza.—The physicians of Nashua report that there are at least 200 cases of influenza, affecting especially the eyes, in Nashua and vicinity.

New Hospital Building.—Laconia is to have a new hospital, the erection of which will be begun in a short time. The structure will be of brick with stone trimmings. The administration building will be the first to be erected.

College Graduation.—At the annual graduation of Dartmouth Medical School, Hanover, March 29, a class of 11 received diplomas. Dr. William H. Leith, Lancaster, delivered the address to the graduates and diplomas were presented by Dr. William T. Smith, Hanover, dean of the medical school.

NEW YORK.

New District Society Organized.—The Fifth District Branch of the State Medical Society has just been organized, including the counties of Oswego, Onondaga, Lewis, Oneida, Herkimer and Jefferson. The first meeting will be held in October.

Academy Anniversary.—The fifty-fifth anniversary of the Elmira Academy of Medicine was celebrated by a dinner at the Elmira City Club, April 4. Dr. Charles H. Frazier, dean of the Medical Department of the University of Pennsylvania, read a paper on "Surgical Complications in Typhoid which Affect the Abdominal Viscera."

Personal.—Dr. Charles W. Pilgrim, Poughkeepsie, has decided to retain the position of president of the State Board of Lunacy Commissioners.——Dr. Henry W. Carpenter, for 55 years a practitioner of Oneida, suffered a cerebral hemorrhage recently.——Dr. Edward H. Hutton, Corning, is seriously ill at the Corning Hospital with pneumonia.

Deaths from Respiratory Diseases.—This class of diseases was mainly responsible for an increase in the February death rate. The death rate was 18.8 per 1,000 for the month of February, compared with 18 for the same month last year. In the entire state there was a decrease of 228 deaths from pneumonia as compared with February, 1906, but an increase of 974 from other acute respiratory diseases. In New York City there were 463 fewer deaths from pneumonia, but an increase of 668 from other acute respiratory diseases. The mortality from influenza was also high, 618 deaths being recorded from this cause. There was also a slight increase in the number of deaths from these diseases during February as compared with January. Deaths from external causes increased from 548 in February, 1906, to 715 in February, 1907.

Matters Before the Legislature.—Representatives of humane societies have made a strong appeal for a favorable report on the Francis bill, which restricts vivisection to such experiments as shall be performed under the supervision of the state. A delegation of New York surgeons appeared in opposition to the bill. They argued that the bill might bring about experimentation on human beings and check the advance of science. Such a bill would close the laboratories in the medical colleges and discourage surgery.——After a debate characterized by considerable bitterness, the senate on April 18, advanced to the order of final passage the public health committee's bill substituting a single medical examining board for the three boards now representing the allopathic, homeopathic and eclectic schools of medicine. Dr. D. B. St. John Roosa says in regard to the passage of this bill through the senate, that a ridiculous climax in medical legislation is evidently near. The following paragraphs have crept into the bill somewhere along its course:

> Where the application be for a license to practice osteopathy, the applicant shall produce evidence that he has studied osteopathy not less than three years, including three satisfactory courses of not less than nine months in three different calendar years, in a college of osteopathy maintaining at the time a standard satisfac-

tory to the regents. After 1910 the applicant for a license to practice under this act shall produce evidence that he has studied not less than four years, including four satisfactory courses of not less than seven months each in four different calendar years, in a college maintaining at the time a standard satisfactory to the regents.

It is further provided that any person who shall be actively engaged in the practice of osteopathy in the State of New York on the date of the passage of this act and who is a graduate in good standing of a school or college of osteopathy within the United States which at the time of his or her graduation required a course of study of two years or longer, including the subjects of anatomy, physiology, pathology, hygiene, chemistry, obstetrics, diagnosis and the theory and practice of osteopathy, with actual attendance of not less than twenty months, which facts shall be shown by his or her diploma and affidavit, shall, on application and payment of $10.00, be granted, without examination, a license to practice osteopathy, provided application for such license be made within six months after the passage of this act. A license to practice osteopathy shall not permit the holder thereof to administer drugs or perform surgery with a knife. Licenses to practice osteopathy shall be recorded in accordance with the provisions of this act, and the word osteopath shall be included in such registration, and such license shall entitle the holder thereof to the use of the degree D.O., or doctor of osteopathy.

The New York milk committee and the committee on the prevention of tuberculosis of the charity organization have decided to cooperate in seeking to get a law passed this session to stamp out tuberculosis in the cattle of the state. It is thought that with not less than $200,000 to be spent by the state department of agriculture in testing and condemning cattle, a long step would be taken in securing milk free from tuberculosis germs. A bill to increase the compensation to be paid to farmers for condemned cattle has led the committee to believe that some law can be passed providing for a strict quarantine on all cattle coming into the state and that all cattle shall be tuberculin tested. The proposed bill, in addition to this, would forbid the sale of all milk handled by a person having an infectious disease and would make it illegal for any one who has been exposed to such disease to be employed in a dairy farm until such person had received a clean bill of health from the local health authorities.

New York City.

Personal.—Dr. Charles H. Peck, the senior attending surgeon to the French Hospital of this city, has recently received from the French government through the minister of public instruction and fine arts the decoration of "Officier de l'Instruction Publique."

Object to Tuberculosis Hospital.—The taxpayers of Richmond, Staten Island, have asked for a permanent instead of the temporary injunction obtained last December, restraining the charities commissioner from building a tuberculosis sanitarium on Staten Island.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended April 13, 469 cases of measles, with 6 deaths; 466 cases of tuberculosis, with 200 deaths; 438 cases of scarlet fever, with 14 deaths; 341 cases of diphtheria, with 39 deaths; 80 cases of typhoid fever, with 8 deaths; 55 cases of whooping-cough, with 7 deaths; 17 cases of cerebrospinal meningitis, with 15 deaths; 69 cases of varicella and one case of smallpox, a total of 1,936 cases and 289 deaths.

Contagious Diseases and the Bellevue Staff.—The records of Bellevue Hospital for the past three months show that six members of the house staff have been stricken with diphtheria, three with scarlet fever and one with blood poisoning, which may result in the loss of a finger. During the same time 13 nurses have been stricken with diphtheria or scarlet fever while on duty. This would indicate that the hospital interne in New York takes more risk of death than a fireman, and more chances in one day than a policeman takes in a year.

Hospital Conference.—The annual hospital conference of the City of New York was held April 24 at the Academy of Medicine. Dr. S. S. Goldwater gave an address on "Dispensary Ideals, with the Plan for a Dispensary Reform Through the Adoption of Restricted Numbers." The address dealt with the literature of dispensary abuse; the New York dispensary law; the newer dispensary ideals; the work of dispensary nursing association; the district work of New York dispensaries; the opinions of prominent dispensary workers and the author's own proposed program.

City Has Low Death Rate.—The lowest death rate for the year was reported for the week ended April 13. It was 18.47 per 1,000, or 1,517 deaths, as compared with 20.35 per 1,000, or 1,620 deaths for the corresponding week of last year. The highest number of deaths thus far this year was for the week ended January 5, when there were 1,721 deaths. The number of deaths from typhoid fever for last week was 8, as compared with 10 in the corresponding week of last year. The number of cases reported last week was 81, which is encouraging as compared with the 120 cases reported two weeks previously.

Anniversary of German Dispensary.—On the occasion of the fiftieth anniversary of the German Dispensary, Dr. Charles H. Jaeger founded three prizes, to be known as the Marie Jaeger Memorial Prizes. The prizes are for medical essays and are of $100, $75 and $50, respectively. The competition is to be open to members and collaborators of the German Dispensary and to members of the house staff of the hospital. The prizes are to be awarded December 31 of each year. The essays are to be based on cases occurring in the service of the hospital and dispensary. The object is to stimulate research and promote scientific study.

Watershed Dangers.—The department of health has given out the report of a conference at which Dr. Darlington, health commissioner; John H. O'Brien, the water commissioner, and Dr. Eugene H. Porter, state health commissioner, were present to consider conditions existing at Mount Kisco and Katonah, on the Croton watershed, which have been threatening the pollution of the water supply of this city. The report says that the State Department of Health has been endeavoring to have a sewer system constructed at Mount Kisco. The village authorities maintained under the law that New York City should pay for the sewer system and sewer disposal. The corporation counsel of New York City has advised that this city is not liable. The matter has been placed in the hands of the attorney-general, who will shortly render an opinion. Commissioner Porter has written Dr. Darlington urging the construction of a filtration plant as being the safe way in which the water supply can be protected. Experiments in infiltration are being made, as it is estimated that a plant will cost the city $10,000,000, which is more than well can be afforded unless it is assured that the plan adopted will be entirely satisfactory.

OHIO.

Joint Commencement.—On May 8 the sixtieth anniversary of Starling Medical College will be celebrated. At this time the joint commencement of the newly combined Starling Medical College and Ohio State University will be held. Seventy-two applicants for degrees will be presented.

Lectures on Nervous and Mental Diseases.—Dr. Frank W. Harmon, superintendent of Longview Hospital for the Insane, Carthage, has instituted a course of lectures from the immense mass of material on nervous and mental diseases collected in the institutions. These lectures, delivered on Mondays from 4 to 5 p. m., are by Dr. Philip Zenner, Frank W. Langdon, Herman H. Hoppe and David I. Wolfstein. The lectures are free and are intended for practitioners and senior students.

In the Hands of the Law.—"Dr." T. P. Hanley, Kinsman, arrested for practicing medicine without a license, was found guilty and fined $200 and costs.——Dr. James G. Ambrose, Dayton, charged with performing a criminal operation, is reported to have been found guilty and released on bail, pending the disposition of a motion for a new trial.——"Dr." C. R. Greiner of Toledo, charged with practicing medicine without a license, is said to have been found guilty. He has taken an appeal.

Personal.—Dr. A. W. Foertmeyer has been appointed resident physician to the Cincinnati City Hospital.——Dr. Samuel S. Wilson, Xenia, has returned from Europe.——Dr. J. Thomas Elliott, East Liverpool, goes to Johns Hopkins University for two years postgraduate work, June 1.——Dr. Oliver H. Pinney, Norwood, will leave for Assonat, Central Africa, about the 1st of June.——Dr. Adam B. Howard, formerly superintendent of the Cleveland City Hospital, will leave April 29 for a trip to Great Britain.——Dr. Frank McCafferty, Columbus, has been appointed a member of the local board of public safety.——Dr. Harry E. Welch, health officer of Youngstown, is seriously ill with septicemia.

PENNSYLVANIA.

Decrease of Typhoid.—Superintendent Edwards of the Pittsburg Bureau of Health, reports that during March 144 cases of typhoid were reported, while during March, 1906, more than 400 cases occurred.

Bills Passed.—On April 17 the senate passed the bill legalizing the practice of osteopathy in the state, providing for a State Board of Osteopathic Examiners, and allowing them a member in the State Medical Council. On the same day the Senate Appropriations Committee reported favorably the bill appropriating $20,000 to the York Hospital.

Expenditure for State Hospital.—At a special meeting of the Board of Trustees of the State Hospital for the Insane, Norristown, held April 19, it was decided to expend the

$412,000 appropriated by the legislature as follows: Home for men nurses, $75,000; convalescent home for men, $60,000; chapel and amusement, $50,000; bard extension and storage house, $15,000; two ward buildings, $200,000, and enlargement of refectories, $30,000.

Personal.—Dr. Martha S. Everitt has removed from Scranton to York.——Dr. Jonathan L. Forwood, Chester, completed his first half century of practice of medicine and was the guest of honor at a banquet at the Keystone Club in that city April 8.——Dr. Milton A. Hengst has been elected president and treasurer of the Birdsboro Board of Health.——Dr. John W. Beck, Peckville, who has been seriously ill with peritonitis, is reported to be convalescent.——Dr. B. H. Warren, state dairy and food commissioner, has resigned.——Dr. William T. English, Pittsburg, has returned from an extended tour in the South.——Dr. Joseph K. Weaver, Norristown, surgeon general of Pennsylvania, was recently presented with a loving-cup by the officers and teachers of the Baptist Sunday School, of which he has been superintendent for 25 years.——Dr. Charles W. McConnell, Altoona, is seriously ill as the result of a shock from a heavy current of electricity, April 6.——Dr. Henry H. Riegel, Catasauqua, will finish half a century of practice of medicine early next month.——Dr. Frederick H. Evans, Chester, has been elected advisory physician of the Eddystone Board of Health.——Dr. Samuel G. Dixon, State Health Commissioner, Harrisburg, has been elected honorary member of the Academy of Physics and Chemistry, Palermo, Italy, and has been awarded a medal of the first class for scientific and humanitarian merit.

Philadelphia.

School of Anatomy Competition.—On April 15, Dr. W. Wallace Fritz announced the result of the competitive examination of the Philadelphia School of Anatomy. The best thesis was presented by Dr. James F. Kelly of Bridgeport, Conn., who received as a prize a case of surgical instruments.

Reception to Gilder.—A reception was given by the Medical Club of Philadelphia, April 19, to Richard Watson Gilder, who made a short address, in which he urged the establishment of an institute for the investigation of faith cure and other treatments not recognized by the medical profession.

Presentation to Resident Physician.—The physicians and nurses of the University Hospital gave an informal dinner to Dr. George Morris Piersoll, chief resident of the hospital, April 19. On April 20 he completed his two years' service and a silver loving cup was given him as a testimonial.

Donation of Land to Hospital.—Mr. Felix Isman has donated to the Jewish Hospital Association a triangular piece of ground at the corner of Tenth Street and Clarkson Avenue adjoining the property owned by the hospital. This conveyance enables the Hospital Association to square the lines of the property which it owns.

Personal.—Dr. Frank H. Getchell, prominent in medical circles for many years, is reported to be critically ill as the result of a fall on ice-coated steps five weeks ago.——Dr. J. William White has been selected by the directors of the Pennsylvania System as advisory surgeon for the company. He will have the general supervision of the medical department of the system and its hospitals and equipment will be organized in accordance with his views.——Dr. John H. Gibbon has been elected associate professor of surgery in Jefferson Medical College, vice Dr. John Hill Brinton, deceased.

Society to Support Dispensary.—At a meeting held April 16 a new society was formed whose object is to solicit funds for the support of the Southeastern Dispensary of the University of Pennsylvania. Dr. Barton Cooke Hirst, who as professor of obstetrics is, by arrangement, honorary president of the society and the active chairman of the board of directors, presided. An appeal is made to the Alumni and friends of the university to support this project, aside from further increasing the efficiency of the obstetrical department and the benefit to medical students. The inhabitants of the southeastern section of the city are most deserving poor, and the dispensary has been of great service to them.

Cerebrospinal Meningitis.—On April 14 Dr. Jay F. Schamberg addressed the medical inspectors of the Bureau of Health on measures to be taken to detect cases of spinal meningitis and to prevent the spread of the disease. Dr. Schamberg declared there is no need for public alarm over the number of cases of spinal meningitis. He regards it as unlikely that the present ratio of cases will keep up. In the week ended April 20 there were 36 new cases of cerebrospinal meningitis reported to the Bureau of Health. This is an increase of 8 over the number reported for the previous week. Director Clay of the Department of Public Safety has issued orders to flush the streets in the districts where the disease exists.

Semi-Centennial of Society.—The Pathological Society of Philadelphia, one of the oldest, if not the oldest of its kind in America, will celebrate its semi-centennial May 10 and 11. On the first day addresses will be delivered by Dr. Frederick G. Novy, Ann Arbor, on "The Rôle of Protozoa in Pathology;" by Dr. Simon Flexner, Rockefeller Institute, New York, on "The Newer Pathology;" and by Dr. Alonzo E. Taylor of the University of California, San Francisco, on "The Dynamic Point of View in Pathology." In the afternoon a commemorative meeting will be held in the Pennsylvania Hospital, where the first meeting of the society took place in 1857. At this session Dr. William Osler, Regius Professor of Medicine in Oxford University, will deliver an address on "Pathology and Practice." A dinner will be given in the evening, and the next day will be devoted to an exhibition meeting of interest to pathologists, clinicians and surgeons.

GENERAL.

Carroll Made Doctor of Laws.—The Board of Regents of the University of Nebraska has recommended that the degree of Doctor of Laws be conferred on Major James Carroll, surgeon, U. S. Army, at the annual commencement exercises in June.

Data on Diet and Endurance Wanted.—Prof. Irving Fisher of Yale University desires us to announce that he is engaged in collecting all available statistics and facts bearing on the question of diet in relation to endurance. Physicians who have had experience with more than one system of diet, whether personally or through patients, are invited to address him at 460 Prospect Street, New Haven, Conn. He will then submit definite questions.

Railway Surgeons Meet.—At the annual meeting of the physicians of the Cotton Belt Railway System, held in Texarkana, Texas, April 8, the following officers were elected: President, Dr. C. M. Ludlow, Hillsboro, Texas; vice-presidents, Drs. William H. Blythe, Mount Pleasant, Texas; Amos W. Troupe, Pine Bluff, Ark., J. W. Beall, Malden, Mo., and Oscar Dowling, Shreveport, La; and secretary-treasurer, Dr. H. H. Smiley, Texarkana, Texas.

Control of Typhoid Fever in the Army.—Medical officers of the Army have become more and more impressed each year with the importance of contact infection as a means of spread of typhoid fever among troops. This fact was clearly shown in the report of the typhoid-fever board of 1898. Of 1,608 cases which they were able to definitely locate in particular tents, 62.80 per cent. were connectable directly or indirectly. Of recent years the attention of medical officers has been frequently called to the importance of the patient as the source of infection, and recently they have been instructed that for practical purposes the disease must be considered contagious and patients affected with it isolated as far as practicable in separate wards. This point, together with early recognition and careful attention to detail in the disinfection of all discharges as they leave the patient, are emphasized in the directions for the control of the disease.

Education Conference.—The third annual conference of the Council on Medical Education of the American Medical Association will be held in the Auditorium Hotel, Chicago, Monday, April 29, 1907. Committees will report on the advisability of allowing a year's advanced standing in the medical school to graduates of colleges of arts and sciences, and also on details as to the requirement, in addition to a four-year high school education, of a year to be devoted to physics, chemistry, biology and one language, as a prerequisite to the study of medicine. The following papers are also announced:

Conditions Controlling General and Medical Education in the South. Chancellor J. H. Kirkland, of Vanderbilt University, Nashville, Tenn.
Inspection of Preliminary Credentials by an Officer of the State Examining Board. Dr. Dudley Tait, President California State Examining Board, San Francisco.
What Constitutes a Reputable Medical College? Dr. Howard J. Rogers, First Assistant Commissioner of Education, Albany, N. Y.
Methods of Conducting the State Board Examinations. Dr. Beverly D. Harison, Secretary Michigan State Board of Registration, Detroit.
A Plea for a Licensure Examination in Two Parts. Dr. W. T. Means. Chairman Judicial Council, Association of American Medical Colleges.

National Health Department.—Steps have been taken by the Committee of One Hundred, appointed last June by the American Association for the Advancement of Science. toward stirring up the public sentiment in favor of federal supervision of the public health, either through a new department or through a bureau in the department already existing. Twenty members were present at a recent meeting, and an executive committee was named which will be vested with the prosecution of the movement. Other meetings will soon be held and local committees to cooperate with the central committee will be named. If this scheme is successful it will include bureaus on infant hygiene, school sanitation, pure food, registration of physicians, drugs, druggists and drug manufacturers, and on public and private institutions of correction, detention and residence. There would also be a bureau of national sewage and one of organic disease.

Tuberculosis Association to Meet.—The third annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held at the New Willard Hotel, Washington, D. C., May 6 to 8, 1907. The secretary is Mr. Livingston Farrand, 105 East Twenty-second Street, New York. The general meeting will open at 11:30 a. m., Monday, with an address by the president, Dr. Herman M. Biggs. Dr. Lawrence F. Flick will make a report on the International Congress on Tuberculosis, 1908. In the evening Dr. Herman M. Biggs will speak on "Compulsory Notification and Registration on Tuberculosis." Discussion will follow. On Tuesday evening Mr. Livingston Farrand will make an address on "The Campaign Against Tuberculosis in the United States." The Sociological Section, of which Paul Kennaday, New York, is chairman, and Christopher Easton, Mt. Vernon, N. Y., secretary, will meet Monday at 4 p. m. and Tuesday at 11 a. m. The subjects announced are:

Tuberculosis Classes and Day Camps, Dr. Joseph H. Pratt, Boston.
Country Treatment of City Cases. Dr. B. H. Waters. New York.
A Working Program for a Small City, Dr. Oscar H. Rogers, Yonkers, N. Y.
Schools and Tuberculosis, Dr. John H. Lowman. Cleveland.
Factory Inspection for Tuberculosis, Dr. Frank T. Fulton, Providence.

The Clinical and Climatological Section, of which Dr. George Dock, Ann Arbor, Mich., is chairman, and Dr. Joseph Walsh, Philadelphia, secretary, will meet Tuesday at 4 p. m. and Wednesday at 11:30 a. m. In addition to the reports of the committees on clinical nomenclature, medication and mixed infection, the following papers are announced:

Some Experience with Tuberculin, L. Rosenberg, Bedford Station, N. Y.
The Varieties of Tuberculosis, Dr. Woods Hutchinson, Redlands, Cal.
Phagocytosis, etc., in Sputum as a Measure of Resistance in Tuberculosis. Dr. Albert H. Allen, Saranac Lake, N. Y.
Examination of Feces as a Means of Diagnosis in Tuberculosis, Dr. Myer Solis-Cohen, Philadelphia.

The Pathological and Bacteriological Section, of which Dr. Frank F. Wesbrook, Minneapolis, is chairman, and Dr. S. Marx White, Minneapolis, is secretary, will meet Tuesday at 11 a. m. and Wednesday at 9:30 a. m. The following subjects are announced:

Split Products of the Tubercle Bacillus and Their Effects on Animals, Dr. Victor C. Vaughan, Ann Arbor.
Further Notes on the Technic of the Tuberculo-Opsonic Test, Drs. Hugh M. Kinghorn and David C. Twichell, Saranac Lake, N. Y.
Homologous Bacteria as a Vaccine in Tuberculosis (Preliminary Report). Dr. Albert H. Allen, Saranac Lake, N. Y.
Report from the Rockefeller Institute, Dr. Simon Flexner, New York.
The Pleura, Dr. W. B. Stanton. Philadelphia.
Acute Miliary Tuberculosis without Tubercle Formation, Dr. A. S. Warthin. Ann Arbor.
The Blood in Tuberculosis, Dr. Frank A. Craig. Philadelphia.
Occult Blood Findings in Tuberculosis, Dr. H. R. M. Landis, Philadelphia.

The Section on Tuberculosis in Children, of which Dr. Thomas M. Rotch, Boston, is chairman, and Dr. Samuel S. Adams, Washington, secretary, will meet Monday at 2 p. m. The following papers are announced:

The Living Pathology of Tuberculosis of the Bones in Early Life, Dr. Thomas Morgan Rotch, Boston.
Recent Advances in the Knowledge of Tuberculosis in Children, Dr. Charles Hunter Dunn, Boston.
The Present Status of the Transmissibility of Bovine Tuberculosis as Illustrated by Infants and Young Children, Dr. Henry L. K. Shaw, Albany.
Tuberculosis of the Cervical Nodes and Infections from the Tonsils, Dr. Fred. T. Murphy. Boston.
Are Tuberculous Infants and Children in the First Five Years of Life Liable to be Sources of Infection? Dr. Samuel S. Adams, Washington.

The Surgical Section, of which Dr. William S. Halsted, Baltimore, is chairman. and Dr. Hugh H. Young, Baltimore, secretary, will meet Tuesday, May 7, at 9:30 a. m. The following papers are announced:

Present Status of the Opsonic Theory and the Treatment by Tuberculins, Dr. Rufus I. Cole, Baltimore.
The Treatment of Bone and Joint Tuberculosis by "Stauung's-Hyperemie," Dr. Schmieden, Bonn, Germany.
The Use of the X-Ray in the Treatment of Certain Forms of Tuberculosis, Dr. Henry K. Pancoast, Philadelphia.

FOREIGN.

International First-Aid Congress.—The German "Samariterbund" has called an international conference of all leaders in the matter of first-aid to the injured on sea and land. The congress will convene at Frankfurt a. M., in May, 1898. Mayor Adickes of Frankfurt is the chairman of the executive committee.

Institute for Puericulture as Memorial to Budin.—A committee has been formed in France to collect funds to found a practical school of puericulture to bear the name of P. Budin, an enlargement of his idea of "nursling consultations." Senator P. Strauss is chairman of the committee, and the publishing house of O. Doin & Co., 8 Place de l'Odéon, Paris, has been appointed treasurer of the fund.

Moebius Endowment.—The friends of the late P. J. Moebius of Leipsic, whose death was mentioned in The Journal on page 541, issue an appeal for subscriptions to endow a Moebius prize to perpetuate his name. The appeal is signed by Professor Ediger and others. Dr. Curt Reinhardt, Lessingstrasse, Leipsic, Germany, is the treasurer of the fund. The intention is to found an annual prize for the best work on neurology or psychiatry, one year to be given for original works sent in competition, the next year for the best work published anywhere during the preceding two years.

Approaching International Congress of Hygiene.—The Fourteenth International Congress of Hygiene is to be held at Berlin, September 23-29, as already announced. These congresses have been held in various countries, but this is the first time that Germany has been the host, and elaborate preparations are under way to add to the historic interest and practical benefits of the congress. The Imperial Board of Health is getting out a *Festschrift*, as also the Imperial Board of Statistics. The Prussian department of public instruction is also at work on a *Festschrift*, to be dedicated to the congress, and the city of Berlin is getting up a fourth.

International Medical Association for Suppression of War.—The annual meeting of this society, which has its headquarters at Paris, was held March 22, with the organizer and president of the association, Dr. J. A. Rivière, in the chair. Nine resolutions were adopted by the convention, among them one congratulating the president of the United States and the presidents of Mexico and Guatemala for their offer of arbitration to Honduras and Nicaragua, and congratulating the latter countries for their acceptance of the offer. Another resolution congratulated "le grand journaliste, Stead, pour sa superbe campagne pacifique auprès des gouvernants." The last resolution was a message of congratulation to Dr. Senolo-Murakamvi for his success in organinzing a "Peace Association" in Japan. The meeting is described in the *Progrès Méd.* for April 6.

LONDON LETTER.

(From Our Regular Correspondent.)

London, April 13, 1907.

Lord Lister's Eightieth Birthday.

Lord Lister celebrated his eightieth birthday at his residence, 12 Park Crescent, Portland Place. Many telegrams from all parts of London, the country and abroad reached him. His apartments were decorated with floral offerings from professional and private friends and admirers. To each bouquet was attached a card bearing a congratulatory message. He received several deputations, who presented addresses expressing high appreciation of his work. Dr. Charles Martin, president of the Lister Institute of Preventive Medicine, which was founded by Lord Lister and a few colleagues, presented a letter recording the decision to signalize the anniversary by republishing all his works. Lord Lister expressed himself greatly pleased by the compliment. Mr. Jonathan Hutchinson headed a deputation from the Royal College of Surgeons. Professor Tilanus of Amsterdam presented an address from the physicians of that city. Another address was presented by Dr. Madsen of Copenhagen bearing the signatures of 1,000 Danish doctors. Lord Lister briefly replied to all the congratulations and presentations, saying how greatly he felt honored by them. He enjoys excellent health, and may be seen daily talking walking exercise. He is a somewhat broadly set man, in quasi-clerical attire, with a strikingly leonine but kindly head.

The Manifesto on Alcohol.

As anticipated in a previous letter, the manifesto signed by fifteen of the most eminent members of the profession advocating the use of alcohol, has provoked a storm of controversy in both the medical and the lay press. A counter declaration has been issued by the British Medical Temperance Association for advancing the practice of total abstinence. The main propositions in the manifesto are criticised as follows: (1) Alcohol is sometimes valuable as a drug. This, says the association, is much discussed in medical circles and is not to be settled by ipse dixits, however eminent. In large hospitals the amount used has diminished from 20 to 70 per cent. during the last 20 years. (2) It is said that the universal belief that the moderate use of alcohol is beneficial for adults is amply justified. The belief is by no means universal; millions believe to the contrary. On the other hand, the experience of several life assurance companies and friendly societies shows that abstainers live longer, have less sickness and recover more quickly than non-abstainers. Abstainers can do more work and show greater endurance of cold, fatigue and hardship than non-abstainers. In 1903 an international medical manifesto was signed by many eminent English, American and European professors and by 664 physicians at the instance of the British Medical Temperance Association. This stated: (1) That experiments have demonstrated that small quantities of alcohol are injurious and that it is not a food; (2) that it increases liability to disease and shortens life. On the other hand, those engaged in the liquor trade have eagerly seized on the manifesto in favor of alcohol and used it for all its worth. The Licensed Victuallers' Central Protective Association has reproduced it and distributed it broadcast in leaflets. On the other side the National Temperance League is about to hold a meeting to take decisive steps to counteract the effect of the manifesto on the masses. At the annual meeting of the Society for the Study of Inebriety, the President, Dr. Harry Campbell, described the manifesto as misleading and harmful. Much of the whisky consumed, he said, is raw, immature spirit, practically never more than two or three years old. Therefore, to say that the moderate use of alcohol is beneficial is to encourage the whisky-drinking poor to poison themselves.

Pharmacology

The Viavi Treatment.

Yet one more of what Samuel Hopkins Adams in "The Great American Fraud" calls the "fundamental fakes" has been exposed. The *California State Journal of Medicine* devotes six pages in its April issue to showing up "Viavi;" and it is well done. It appears that two astute and, since they have made their millions, highly respected, men on the Pacific Coast conceived the idea some years ago of instituting a "treatment" for the ills peculiar to women. This "treatment" practically consisted—and, in great part, still consists—of prescribing vaginal douches. But, of course, as our contemporary says, "no large paying business could be built up by simply selling a little good advice and a trifle of common sense. There must be something definite to take, some wonderful secret and very costly remedy that will work the result, to secure which the douche is but the merest preliminary. Hence the 'capsules' and the 'cerate' and the 'liquid' and the 'royal,' and the rest of the wonderful remedies which, collectively, leave little uncured or uncurable by Viavi."

So Viavi is bought and the douche is taken. "The immediate increase of personal comfort, and many times the quick relief from some annoying minor ailment, which follows this exercise of cleanliness and common sense, might so hypnotize the average woman who accepts the Viavi preachments and takes the Viavi 'treatment,' that she would be ready to believe almost anything the promoters care to tell her."

Inquiry was made as to whether the Viavi remedies contained morphin, opium or any habit-forming drug. Nothing of this sort was found, in fact, as our contemporary says: "It was unnecessary to put an expensive article like morphin, and one liable to bring about trouble in the future, into their 'remedies' when they do not need to."

Then the question was put: Are the Viavi remedies used for the prevention of conception? This query was answered by a most emphatic denial. The manufacturers were horrified at the thought of their remedy being put to such repulsive and frightful misuse. The questioners wondered in the face of such evident righteousness on the part of the makers of Viavi how they could have been led to think of such a thing. The thought may have been suggested by a paragraph in a booklet put out by these people, called "Viavi Hygiene." Here we find that " . . . the remarkable effectiveness of the Viavi system of treatment . . . places it in the power of healthy wives to LIMIT THE NUMBER of their offspring for proper reasons, and women who are not fit for maternity to AVOID it by natural means." [The small capitals are inserted for emphasis by the California journal.]

An inability to correctly interpret what appears to be simple English is the only excuse that the enquirers have to offer for their unjust suspicions.

Naturally after two such rebuffs the question arose: What is Viavi? In the language of its makers—who ought to know—it "is purely a vegetable compound—more a food than a medicine, and is prepared in a predigested manner, so that it can be easily absorbed by the tissues of the body with which it comes in contact." But on the other hand analytical chemists reported: "So far as we are able to determine, they contain nothing but the extract of hydrastis and cocoa butter."

But why quarrel about what this wonderful remedy *is* when we know what it will *do?* Gynecology, after the universal adoption of the Viavi treatment, will become a lost art and the gynecologist, who is referred to in Viavi literature as a "body carpenter," will have to cease his sacrilegious "carpentry," for "a very large proportion of women's diseases were really incurable until the Viavi system of treatment was introduced."

But it is on the subject of etiology, pathology and treatment of tumors that Viavi literature really distinguishes itself. Could the cancer commission be but persuaded to read this entlightening treatise it would adjourn *sine die.* Like all great discoveries this one is remarkable for its simpleness. With the ingenuousness characteristic of great scientists the vexed problem of tumor causation is explained as follows: "The cause of these growths (tumors), which by inspiring terror drive so many women to a premature death by way of the operating table, is so simple a thing as a poor circulation of the blood. Tumors are caused by a stagnation of the venous blood. . . . This important discovery on our part has swept away the mist that has always surrounded this subject and enabled us to accomplish the most remarkable cures. . . ."

But not only will Viavi cause a diminution in the size of tissues not wanted, but, *mirabile dictu*, it will bring about an increase in bulk in those tissues which are desired. For, say its exploiters, "we recall particularly the case of a man suffering with wasting of the testicles, who secured perfect recovery from the Viavi cerate applied to the scrotum." The delightful ambiguity of this sentence, by the way, is an illustration of the shrewdness of their literature generally. It will be noticed that they do not say that the patient recovered from the condition for which he was treated, but that he made a "perfect recovery from the Viavi cerate"!

Where statements are made claiming more for the remedy than even the gullible laity would be willing to swallow, the verbiage is so changed as to present the "truth" in the form of a syllogism. To say, point blank, that Viavi would cure appendicitis, paralysis, locomotor ataxia, *et al*, would possibly arouse a healthy skepticism which would prove unhealthy for Viavi. We are told, therefore, in one part of the literature, that all these diseases "and many more, proceed from a depletion of nervous force—*from nervous debility,*" while elsewhere we are informed that Viavi *cures nervous debility.*

Such, as our western contemporary says, is the "business which has made two men, starting with practically nothing, affluent. Their patrons consist of confiding sick and suffering women, to whom, not skilled in medicine, their literature appeals."

We regret that we have not the space to quote the complete article. It is also to be regretted that a reprint of it can not be placed in the hands of those who are being humbugged so effectively by this California fraud.

Correspondence

Medical Practice Among the Maoris.

Auckland, New Zealand, Feb. 25, 1907.

To the Editor:—In the January 12 number of The Journal I find an extract from the *British Medical Journal* on "Phthisis and Superstition Among the Maoris." Perhaps your readers may be interested in some observations by myself while acting as local native health officer for four years among these interesting people.

All forms of tuberculosis are widespread among them, and even in localities where the conditions are naturally almost ideal for coping with this disease, it is increasing in all its forms. The principal reason for this is their national custom of holding a "tangi" over the dead. This consists of feasting and mourning of all the relatives of the deceased while the body lies in state, surrounded by weeping women and men who rub noses with one another, and cover and uncover the dead to show new arrivals. No matter what the nature of the disease, this custom is not interfered with. The police dare not interfere. I was once called on to perform an autopsy on a native who had died suddenly without any apparent reason, and when I arrived where the body was lying in state in a tent I was refused permission to do anything and it was only after the police had been called and the tent cleared that I could get to work. Half-way through, the relatives returned with re-enforcements to drive away the desecrating "pakeha tokuta" (whiteman doctor), and I had to be content with what I had done, especially as I had gone far enough to satisfy myself as to the cause of death. The result of this was that those natives had no use for me afterward. I was polluted and would pollute them if I touched them. It is not the policeman that the native child is threatened with as a last means of coercion, but the "pakeha tokuta."

Once I was called in to a native hut to see a sick child, whom I found to be suffering from a psoas abscess. This I opened, and for want of anything better at hand, gathered the pus in some absorbent cotton, and as the best means of getting rid of it, I put it in the cooking stove fire. They took that stove out and would never use it again and not even the fireplace. It was "tabu" ever afterward.

But the serious part of it is that their superstitions have such a hold on them that any wandering Maori "tohunga" (native doctor) who comes along with his incantations is allowed to take precedence and overrule the physician's authority and upset all his work. I once had as a patient a woman who was suffering from pneumonia. I rode many miles on horseback to see her, as I wished to reward the husband for his confidence in coming to me early and before he went to the Maori "tohunga" (doctor). I stayed two days with the woman, and left her on the road to recovery, and with every hope that she would recover. That night after I left she wanted to defecate, and could not be restrained from going to the customary place in the scrub a hundred feet or more from the house, although it was raining hard. She got rapidly worse and died. They will not perform this act in a dwelling, for if they do the dwelling is unclean and can no longer be used as a dwelling.

Before the white man came it was the universal custom of the expectant mother to go off with the husband to a secluded place in the bush near a stream. After parturition, which was always accomplished in the squatting position with the husband clasping his wife's abdomen from behind and aiding the expulsion by squeezing, the woman would lie down in the running water and the husband knead her abdomen with his bare feet. The baby would be washed in the running stream, and all three would go back to the pa.

Never have I seen a Maroi woman lie down as do white women after confinement. They can not be kept down. They sit up almost immediately and next day may be seen hanging out clothes on the line or doing something else just as unexpected.

In times past the Maoris, both male and female, bore pain with the utmost stoicism. I have opened a painful felon for a Maori maiden, who did not flinch any more than if I had only cut her nails, and who looked on at it all the time. But these individuals are rare now. One Maori came to me with a beautifully ripe boil on his wrist and told me that he wanted me to put something on it that would cure it at once. His friend who came as interpreter said he would not have it cut, and knowing the native character well, I simply replied that I would give it only one touch with a remedy that would cure it at once. They were pleased, and I made elaborate preparations to conceal my real intention, and at the crucial moment made a slash with my secreted knife. He instantly fled howling like a madman, and I have not seen him since, but fortunately the other native was in sympathy with my action and I did not lose their confidence (as I properly deserved to), as the touch did all I said it would.

On another occasion I was called by an Irishman, who had married a full-blooded Maori woman, to come and attend his wife in confinement. She had been in labor for three days when he returned from a journey to find her surrounded by all the old Maori women in the district who had given up hope. When I arrived on the scene they had all fled, for they recognized me from afar. The Irishman, who had never attended an event like this before, although he had had fourteen children by this woman, was my only assistant. After really throwing the woman, for she resisted like a fiend, I applied the forceps. With the Irishman hanging on to her shoulders over the head of the bed, a baby was delivered of such dimensions that the father exclaimed when he saw it, "Docther, that's a man child sure!"

When a smallpox scare came on the country some four years ago, I was directed to vaccinate all the natives, both old and young, and strange to say, they took to this as ducks to water, and would arrive at my office or at the outstations in large parties of thirty to a hundred or more. By selecting the youngest baby first and performing the act painlessly on him, I could do the rest, both old and young, without hearing a whimper, and that without any effort to do it painlessly, but rather with every effort to do it expeditiously.

In the effort to get their names in order to record who had been vaccinated, I learned of a curious custom that prevails with them. One was named "Four-o'clock." He was so named when a baby because one of the family had been drowned at 4 o'clock in the afternoon. Another was named "Glass," because at the time he was being fitted with a name a relative died and the coffin maker had sprung an innovation on the natives in the shape of a glass window in the coffin lid. Another child was named "Boots," because a member of the family had died with his boots on. I could recite numberless instances of this primitive way of originating new names.

The "tohunga" is the medicine man of the Maoris and in him they have unshakable faith. The "tohunga" makes most preposterous claims and has little difficulty in attracting a large following. I have known one to call himself Jesus Christ and to claim power to work miracles. He had a cure-all which he compounded at the nearest saloon. It consisted of something out of every bottle or receptacle containing liquor—beer, gin, whisky, brandy—some of each brand. Sick natives at a distance would send him $200 and $300 to come and lay his hands on them. This he would do with great solemnity and much quoting of scripture, and afterward spend the evening with his disciples in the nearest billiard room, interspersing his conversation with lurid oaths in the distraction of an exciting game.

One of these "tohungas" once tore off the bandages and dressings I had placed on a badly burned limb and plastered it with the filthiest mud in the neighborhood. In spite of this the burn healed and he was given credit for the cure.

Once a Maori gets it into his head that he is going to die no "tohunga" nor the cleverest physician could save him, however easy the task. But once I knew of an old man whose relatives concluded he was about to die. They gathered all the tribe from far and near and much food and made every preparation for a glorious "tangi." He lay in his hut unconscious of all that was going on, but accidentally learned they had really begun a "tangi" on his account. He said I will arise and help them, and he did. He had not made up his mind to die, and since all preparation had been made and everybody invited, it could not be put off. At these "tangis" sometimes six or seven hundred people will assemble and eat and drink almost continuously for days until the last scrap has been swallowed. At one a year or two ago twenty sheep, thirty pigs, two cows, a ton of potatoes, a ton of kumaras (sweet potatoes), half a ton of flour and many tons of fruit and jam and other eatables were consumed. All the food is prepared in the native fashion—in a hole lined with hot stones. Meanwhile, the dead lies stinking right in the middle of this feasting.

Like all superstitious peoples, they have a great horror of spirits, and I have yet to know the Maori who will venture alone in the dark.

Some time ago a steamer, which had been chartered and loaded with 400 Chinese dead men who had been accumulating in New Zealand for some time, foundered off the coast near where I was stationed. Some of the boxes came ashore. One was found by a European and Maori who were riding in company along the beach. They naturally supposed they had found something valuable and opened the outer and then the inner casing, when they came on the lead lining. The European then suspected what they had hold of and allowed the Maori to open the lead lining. He did so, and as soon as he saw the shriveled-up, parchment-like features of the dead Chinaman, he sprang aside, ran for his horse, mounted and galloped away. The beach is 70 miles long, and the European could see him riding for fully an hour as hard as he could make his horse go, and then he went out of sight. And yet the Maoris are brave and resourceful in danger. I have known them to exhibit courage equal in every degree to the best. They have great love for their children, but care little for their old people.

In conclusion, I will relate the experience I had with one of these medicolegal-clerico-schoolmasters. (I mean no reflection on them as a class.) About 70 miles from my station was a native school with about 90 children in attendance. Whooping cough was prevalent. This man did what he could, but was foolish enough to think he knew everything and refused the assistance I was authorized to proffer him. Everything went well until one day he bethought him to take the temperature of his charges. He only had an ordinary wall thermometer in a metal case. This he placed in the mouth of every youngster. It was quite a mouthful. He got an average temperature of 96 degrees. He became alarmed and rode some miles to wire to Wellington, the capital of the country, that a large number of children were in a very serious condition and to plead for help. I received an urgent message to travel fast to their aid. All the patients came out to greet me mostly clad in shirts and some were very short shirts. But for some severe coughing nothing seemed wrong, and perplexed, and I turned to the schoolmaster for an explanation. Well, it transpired that he had heard that no one could live long with a rise of temperature more than 7 or 8 degrees above normal, and he understood the normal temperature was 60 F. This man was called by the natives a "pakeha Maori," which has much the same meaning as does "white trash" in some parts of the United States.

Dr. Pomare, the chief native health officer, himself a half caste and educated in Chicago, states that in thirty years there will not be a full-blooded Maori in existence. While they are building houses like those of the white man, they fail to ventilate or properly drain around them. They often live day and night in the same clothes, frequently allowing wet clothes to dry on their bodies. They alternately feast and starve. After a "tangi" they will have little to eat sometimes for weeks together.

The half-castes are mostly delicate, and tuberculosis is very prevalent among them. The pulmonary form is the most common. As they do not come under skilled care until well advanced, nothing can be done to check it, and they have lost faith in the ability of the "pakeha tokuta" to do them any good. John S. Reekie, M.D., Ch.M.

A New Trypanosome.

Ottawa, Ont., April 19, 1907.

To the Editor:—Pathologists will be interested in the information that the *Trypanosoma equiperdum* has been found in a mare clinically affected with dourine, or *maladie du coit*, at the quarantine station established by this department at Lethbridge, Alberta, in 1904. The first demonstration was made by Drs. E. A. Watson and M. V. Gallivan, on Feb. 11, 1907, in material taken from a vesicle on the mucous membrane of the vagina of the animal above referred to, which was found to be affected with dourine on the premises of her owner, Mr. R. Tiffin, near Lethbridge, on Dec. 21, 1906, and subsequently removed to the quarantine station for purposes of experimental observation.

The disease was successfully transmitted in February to a yearling filly and the parasite subsequently observed in preparations from a fresh plaque. The finding was confirmed by Dr. C. H. Higgins, pathologist of the department, on March 21, and was further observed in preparations taken by him on March 23 and 25.

The identity of dourine, or *maladie du coit*, as seen on this continent and hitherto diagnosed by American and Canadian veterinarians from clinical manifestations alone, with the disease as known in Africa and Asia, as well as in southern Europe, is thus fully established.

A detailed report of the discovery and of the work which led up to it, as well as of the steps subsequently taken, will be issued at the earliest possible date.

J. G. Rutherford,
Veterinary Director General.

Association News

House of Delegates, Session of 1907.

As a number of the state associations have not yet held their meetings for 1907, it is impossible to give, at this time, a complete list of the members of the House of Delegates for the Atlantic City session. The following is a list of the hold-over delegates and of the newly elected members who have been reported up to the time of going to press.

ARKANSAS.
E. K. Williams, Arkadelphia.

COLORADO.
Hubert Work, Pueblo.
J, N. Hall, Denver.

CONNECTICUT.
George R. Shepherd, Hartford.

DELAWARE.
Peter W. Tomlinson, Wilmington.

DISTRICT OF COLUMBIA.
George N. Acker, Washington.

FLORIDA.
Joseph N. Porter, Key West.

GEORGIA.
T. D. Coleman, Augusta.
T. P. Waring, Savannah.

IDAHO.
R. L. Nourse, Boise.

ILLINOIS.
George W. Webster, Chicago.
J. L. Wiggins, East St. Louis.
O. B. Will, Peoria.
Charles L. Mix, Chicago.

IOWA.
E. E. Dorr, Des Moines.
William Jepson, Sioux City.

KANSAS.
C. E. Bowers, Wichita.

KENTUCKY.
J. Garland Sherrill, Louisville.
J. N. McCormack, Bowling Green.
W. W. Richmond, Clinton.

MAINE.
E. M. Fuller, Bath.

MARYLAND.
G. L. Taneyhill, Baltimore.

MASSACHUSETTS.
Walter P. Bowers, Clinton.
Frank G. Wheatley, North Abington.
Edward H. Bradford, Boston.
C. H. Cook, Natick.
R. C. Cabot, Boston.

MICHIGAN.
A. I. Lawbaugh, Calumet.
Leartus Connor, Detroit.

MINNESOTA.
John T. Rogers, St. Paul.
A. E. Spalding, Luverne.

MISSISSIPPI.
John Darriugton, Yazoo City.
W. W. Crawford, Hattiesburg.

MONTANA.
Donald Campbell, Butte.

NEBRASKA.
R. C. Moore, Omaha.

NEVADA.
J. E. Pickard, Virginia City.

NEW HAMPSHIRE.
John M. Gile, Hanover.

NEW JERSEY.
Chas. L. Kipp, Newark.

NEW YORK.
Wisner R. Townsend New York City.
Abraham Jacobi, New York City.

J. W. Grosvenor, Buffalo.
D. C. Moriarta, Saratoga.
Albert Vander Veer, Albany.
W. S. Ely, Rochester.
H. L. Elsner, Syracuse.
A. T. Bristow, Brooklyn.
R. Park, Buffalo.
H. D. Wey, Elmira.

PENNSYLVANIA.

Fremont W. Frankhauser, Reading.
Adolph Koenig, Pittsburg.
William T. Williams, Mt. Carmel.
Samuel Wolfe, Philadelphia.
Alexander R. Craig, Philadelphia.
George W. Guthrie, Wilkes-Barre.
Edward B. Heckel, Pittsburg.
Walter Lathrop, Hazleton.

OHIO.

Frank D. Bain, Kenton.
A. B. Walker, Canton.

OREGON.

H. W. Cole, Portland.

RHODE ISLAND.

John Champlin, Westerly.

TENNESSEE.

T. J. Happel, Trenton.

TEXAS.

J. T. Wilson, Sherman.
C. E. Cantrell, Greenville.
A. C. Scott, Temple.
S. T. Turner, El Paso.
Frank Paschal, San Antonio.

UTAH.

Philo E. Jones, Salt Lake City.

VERMONT.

J. Henry Jackson, Barre.

WASHINGTON.

N. Fred Essig, Spokane.

VIRGINIA.

Wm. E. Anderson, Farmville.

WISCONSIN.

W. H. Washburn, Milwaukee.
W. T. Sarles, Sparta.
B. M. Caples, Waukesha.

SECTIONS.

HYGIENE AND SANITARY.

Denslow Lewis, Chicago.

SURGERY AND ANATOMY.

F. B. Lund, Boston.

OPHTHALMOLOGY.

Samuel D. Risley, Philadelphia.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

Workingmen's Insurance in Germany.

During a recent visit to this country Prof. Frederich Müller read a paper at the Boston Medical Library on "Social Legislation in Germany and Its Influence on the Care of the Sick." It is significant that Professor Müller considered social medicine of sufficient importance as a subject for one of the few papers which he read in this country, instead of taking up some phase of technical work.

Professor Müller emphasized the fact that in Germany the relation between the medical profession and the state has assumed much greater importance than it has, as yet, in America. National legislation along this line was begun in Germany in 1883, by providing for compulsory industrial insurance against disease, invalidism and old age, and accident. At present 15,000,000 people in the German Empire are protected by the first form of insurance. Each individual who works for wages pays two-thirds of the cost of his insurance, the other third being paid by the employer. For this the employé receives free medical treatment and medicine, either at home or in a public hospital, for six months, if necessary. He also receives half pay for the time for which he is incapacitated, and, if he dies within six months, a certain amount is paid to his family. This form of insurance protects against acute diseases.

A second form, which provides for chronic invalidism and old age, insures a certain amount to each working person of 70, as well as to persons under 70 who may be physically disabled. Chronic and incurable diseases entitle the insured to a benefit, if he is incapable of earning one-third of the wages which he earned before contracting the disease. This form of insurance is held by about 12,000,000 people, and the amount of benefit paid runs from $45 to $120 per year, one-half of which is paid by the employers and one-half by the employés.

The third form of insurance is against accident. The entire amount of the benefit in this case is paid by the employer. The natural result is to stimulate every possible care regarding accidents and the use of all forms of safety devices on machinery. A certain sum is paid for crippling and disabling injuries. Professor Müller stated that while this plan naturally results in a considerable amount of malingering on the part of the employés, it is felt that the beneficial results outweigh the harmful. In spite of the great increase in German industries, the number of accidents have actually, as well as relatively, decreased in the last years.

An interesting feature of this plan of workingmen's insurance is its bearing on the medical profession. The first arrangements provided that each insurance company organized under the protection and encouragement of the state should have a surgeon who should do all the work for that company. This led to great reduction in fees, and finally to the "doctors' strike," concerning which so much has been said. The result of the refusal of the physicians to work for the amount named was that the fees were raised and the patient was also given the right to choose his own physician.

The experience of the profession and the public regarding workingmen's insurance in Germany is of interest to physicians in this country. The workings of the German system should be carefully watched in order that if such a plan is ever inaugurated here we may profit by the lessons which have been learned in that country.

One Physician's Influence.

A striking illustration of the influence which physicians can have in public affairs is furnished by Dr. George T. McWhorter of Riverton, Ala., who for the last year has been president of the Medical Association of the State of Alabama, and who is also a state senator. As president of the admirable organization of physicians in Alabama, Dr. McWhorter is in a position to speak authoritatively in the state senate for his profession. Among other bills which he has recently introduced is one providing for an epileptic colony for the care and treatment of epileptic patients, either at the public charge or at the cost of their friends. The bill has the endorsement of the state association and will probably be passed.

Writing regarding the work of the legislature in his state, Dr. McWhorter stated in a recent letter: "Medical men have been sadly derelict in bringing to bear the influence on public affairs which should have been exerted by a learned and influential profession. We have tamely relinquished almost all political power and influence until, as a profession, we have almost ceased to be a factor in shaping legislation. We are largely to blame for this ourselves, as we have maintained an attitude of cold hostility toward any member of our profession who ventured to seek political preferment, no matter how able and well qualified he might be. In the meantime we have begged favors when we should have been in position to have dispensed them.

"We should not submit to being relegated to a subordinate position. We should take a lesson from the legal profession on this subject. We should steadily and persistently demand the establishment of a department of public health in the United States, with a representative of the first rank of our profession in the cabinet of the President. The necessities of the age demand this and it is due the medical profession. Many of the most important problems of to-day are sanitary and hygienic in character. All thoughtful men now recognize the fact that the sanitary problems at Panama dominate and control the engineering difficulties, vast and complicated as the latter are. The men who plan and institute sanitary measures of such transcendent importance to the success of military undertakings, as well as commercial and industrial enterprises, should receive proper recognition from the government they serve.

"The domain of the legislator has been immensely widened. The lawmaker now needs the assistance, counsel and advice which can only be had from the thoroughly trained medical man. The legislation of the age should reflect the science of the age and conform to its medical needs. It can not do so unless guided by men familiar with medical science and acquainted with its needs. A department of public health in charge of a high-grade physician, his annual reports to the President, to be in turn, transmitted to Congress, would set before our national legislators the demands of commerce as well as the medical needs of the people."

Dr. E. E. Maxey, secretary of the Idaho State Medical Society, reports the passage of a bill providing for a state board of health and making an appropriation for its support for two years. Two bills introduced into the legislature, which provided for serious modifications of the present medical practice act, were killed in committee.

Marriages

Bird J. A. Bombard, M.D., to Miss Anna Courcy, both of Burlington, Vt., April 10.

Stanley Lincoln Allen, M.D., to Miss Lucy Brown, both of Zanesville, Ohio, April 17.

Frederick N. Blanchard, M.D., to Miss Alice Osgood, both of Detroit, Mich., April 9.

Daniel J. Price, M.D., Newark, Ohio, to Miss Flora Furniss of Columbus, Ohio, April 17.

Bryce Rex Winbigler, M.D., Seaton, Ill., to Miss Estella E. Jamieson of Monmouth, Ill., April 11.

Gaylord Crawford Hill, M.D., to Miss Gertrude Dorothy Laib, both of Louisville, Ky., April 25.

Angus McLean, M.D., to Mrs. Rebecca Scotten Day, both of Detroit, Mich., at Atlantic City, N. J., April 8.

Gustave E. Henschen, M.D., Georgetown, Texas, to Miss Ida A. Anderson of Racine, Wis., April 10.

Albert H. McMurray, M.D., Youngwood, Pa., to Miss O. Marian Wingfield, at Cumberland, Md., April 10.

Deaths

Edward Oscar Fitzalan Roler, M.D. Rush Medical College, Chicago, 1859; who received his degree of A.M. from DePauw University, Greencastle, Ind.; a member of the Illinois State and Cook County medical societies; during the Civil War assistant surgeon of the Forty-second and surgeon of the Fifty-fifth Illinois Volunteer Infantry, and later medical director of the Fifteenth Army Corps on the staff of Gen. W. T. Sherman and of Gen. John A. Logan; for 45 years a prominent practitioner and obstetrician of Chicago; for two years surgeon of the U. S. Marine Hospital; professor of obstetrics and diseases of women and children for many years in Chicago Medical College (Northwestern University Medical School), and later professor emeritus of obstetrics, who retired from active practice about three years ago on account of ill health, died at his home in Chicago, April 18, from chronic gastritis and interstitial nephritis, aged 74.

William Taylor, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1852; a member of the Alabama State and Mobile County medical societies; surgeon of the Seventh Alabama Infantry, C. S. A., and subsequently chief surgeon of brigade and division during the Civil War; to whose oration before the Alabama Medical Association in Mobile in 1855, on "The Eligibility of Mobile as a Site for a School of Medicine" is said to have been due the foundation of the Mobile Medical College; one of the incorporators of the Alabama School for the Deaf, Talladega, and for more than 30 years chairman of its board of trustees; a member of the Alabama legislature in 1876 and 1880, died at his home in Talladega, April 7, from malignant disease of the brain, after an illness of several months, aged 80.

William Robertson Campbell, M.D. University of Buffalo (N. Y.) Medical Department, 1880; a member of the New York State and Niagara County medical societies; surgeon of the First Battalion N. G., N. Y., with the rank of captain; president of the Niagara Home Telephone Company; one of the curators of the University of Buffalo, and president of the alumni association, died at his home in Niagara Falls, N. Y., April 9, from carcinoma of the liver, after a long illness, aged 53.

Gustav J. Finstad, M.D. University of Minnesota, College of Medicine and Surgery, Minneapolis, 1893; a member of the American Medical Association, and a practitioner of Menominie, Wis.; who had been under treatment at the Mounds Parks Sanitarium, St. Paul, Minn., for acute nervous disorder, is reported to have committed suicide by hanging himself, in his room in that institution, April 12, aged 42.

Justin Llewellyn Barnes, M.D. New York University Medical College, New York City, 1885; a member of the New York State and New York County medical societies and the New York Academy of Medicine; a member of the staff of the Manhattan Eye and Ear Infirmary for 20 years, died at his home in New York City, April 13, from heart disease, after an illness of two years, aged 47.

Walter Augustus Stevens, M.D. Rush Medical College, Chicago, 1887 (Honorary Degree); said to have been the oldest practicing dentist in Chicago; treasurer of the Illinois State Dental Society from 1890 to 1895, and president of the society in 1895; died at his home in Chicago, April 15, from the effects of a fracture of the hip, after an illness of almost a year, aged 76.

Elijah A. Woodward, M.D. Berkshire Medical College, Pittsfield, Mass., 1842; said to have been the oldest practitioner of Dane County, Wis., where he had practiced since 1855; assistant surgeon of the Twelfth Wisconsin Volunteer Infantry, and assistant surgeon and surgeon of the Thirty-sixth Wisconsin Volunteer Infantry, during the Civil War, died at his home in Sun Prairie, Wis., April 8, from influenza, aged 90.

Charles B. Combe, M.D. Jefferson Medical College, Philadelphia, 1858; a member of the Texas State and Cameron County medical societies; surgeon in the Confederate service during the Civil War; who did effectual service during the epidemics of yellow fever in the Rio Grande country, died at his home in Brownsville, Texas, March 31, aged 70.

Andrew Meeker Mills, M.D. College of Physicians and Surgeons in the City of New York, 1892; a member of the American Medical Association and physician of Essex County, N. J., died at his home in Newark, April 21, from the effects of a wound of the throat, said to have been self-inflicted while temporarily insane, aged 36.

John B. Wood, M.D. St. Louis Medical College, 1860; assistant surgeon in Shelby's Brigade, C. S. A., throughout the Civil War; prominent as a practitioner of central Missouri; president of the Bank of Saline, died at his home in Marshall, April 13, from tuberculosis, after an illness of about five years, aged 68.

William F. Atwell, M.D. Cincinnati College of Medicine and Surgery, 1881; a member of the Wisconsin State and Portage County medical societies; at one time city physician of Stevens Point, Wis., died suddenly at his home in Amherst, April 8, from arteriosclerosis, after an illness of two years, aged 58.

Francis H. Gaines, M.D. Medical Department of University of Nashville, Tenn., 1856; a member of the Kentucky State and Carroll County medical societies; surgeon in the Confederate Army during the Civil War, died at his home in Carrollton, April 14, after an operation for strangulated hernia, aged 74.

Daniel Edgar Pocock, M.D. New York University Medical College, New York City, 1876; a member of the Ohio State and Ashland County medical societies; one of the oldest practitioners of Jeromeville, died at Lakeside Hospital, Cleveland, April 7, after an operation for the removal of gallstones, aged 54.

George F. Gale, M.D. Berkshire Medical College, Berkshire, Mass., 1855; surgeon of the Eighth Vermont Volunteer Infantry during the Civil War, and since 1858 a resident of Brattleboro, Vt., died at his home in that city, April 14, from senile debility, after an illness of a few weeks, aged 79.

Henry DeWitt Joy, M.D. College of Physicians and Surgeons in the City of New York, 1866; surgeon for the Pacific Mail Steamship Company and for 17 years chief surgeon at Sailor's Snug Harbor, died at his home in West New Brighton, Staten Island, April 15, from cerebral hemorrhage, aged 63.

Amos B. Paun, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1869; a member of the Massachusetts State and Plymouth County medical societies; for many years a practitioner of Middleboro, Mass., died at his summer home in Onset, Mass., April 6, aged 60.

Elmer H. Rogers, M.D. Jefferson Medical College, Philadelphia, 1885; a member of the New Jersey State and Mercer County medical societies and of the Trenton Medical Library Association, died suddenly at his home in Trenton, April 11, from angina pectoris, aged 47.

William Frank Morrison, M.D. Medical School of Harvard University, Boston, 1882; a member of the American Medical Association and a prominent practitioner of Providence, R. I., died suddenly at his home in that city, April 9, from cerebral hemorrhage, aged 49.

Richard G. Kratsch, M.D. University of Würzburg, Germany, 1870; assistant surgeon during the Austro-Prussian War in 1866; later a ship surgeon and a practitioner of New York City, died at his home in Milwaukee, January 22, aged 63.

Thomas Edward Hardy, M.D. University of Maryland School of Medicine, Baltimore, 1849; who had practiced in Frederick County, Md., for more than 50 years, died at his home in Burkittsville, April 11, from pneumonia, aged 76.

Arthur F. Ritchie, M.D. McGill University Medical Faculty, Montreal, 1876; of Duluth, Minn.; a member of the Minnesota State and St. Louis County medical societies, died at Mount Clemens, Mich., April 1, from heart disease, aged 52.

Austin S. Tinsley, M.D. University of Georgia, Medical Department, Augusta, 1888; a member of the Georgia State and Richmond County medical societies; died at his home in Augusta, April 16, after an illness of two weeks, aged 38.

William W. Genge, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1891; died at his home in St. Johnsbury, Vt., April 10, from pneumonia, after a short illness, aged 39.

Dietrich C. Husmann, M.D. Western Reserve University Medical College, Cleveland, Ohio, 1879; at one time a member of the board of education, died at his home in Cleveland, April 12, from acute disease of the liver, aged 59.

Raymond Palmer Robbins, M.D. Minnesota Hospital Medical College, College of Medicine and Surgery of the University of Minnesota, Minneapolis, 1904; died at his home in Portland, Ore., April 16, from spinal meningitis, aged 27.

William Armes, M.D. (Licensed Kentucky, 1867); a member of the Grayson County (Ky.) Medical Society, died at his home in Shrewsbury, Ky., March 6, from pneumonia, after an illness of six days, aged 77.

F. P. Brunthaven, M.D. Medical Department of Western Reserve University, Cleveland, Ohio, 1889; of Tomales, Cal., died from appendicitis at the French Hospital, San Francisco, April 4.

Oliver Crook Haugh, M.D. Louisville (Ky.) Medical College, 1893; convicted of the murder of his father, mother and brother in 1905, was electrocuted at Columbus, Ohio, April 20.

Jason L. Edgar, M.D. University of Missouri Medical Department, Columbia, 1875; died suddenly at his home in Clearwater, Fla., March 13, from cerebral hemorrhage, aged 63.

Thomas S. Parr, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1886; died at his home in Indianola, Iowa, January 2, from appendicitis, aged 64.

Henry Swayer Hahn, M.D. Indiana Medical College, La Porte, 1848; city physician of Chicago in 1870, died at the residence of his daughter in that city, April 17, aged 81.

Jerome B. Lawrence, M.D. New York Homeopathic Medical College and Hospital, New York City, 1885; died at his home in Brooklyn, N. Y., April 11, after a long illness.

William S. Patterson, M.D. Medical College of Ohio, Medical Department of University of Cincinnati, 1853; died at his home in Hillsboro, Ohio, Dec. 30, 1906, aged 76.

G. Hamlin Anderson, M.D. Hahnemann Medical College and Hospital of Chicago, 1886; died at his home in Seneca, Kan., April 9, after an illness of four years, aged 46.

Edward P. Miller, M.D. Hahnemann Medical College and Hospital, Chicago, 1871; for many years a practitioner of Chicago, died in Denver, Colo., April 15, aged 65.

G. W. Mason, M.D. Chicago Medical College, 1880; for many years a prominent physician of Monroe County, Ohio, died at his home in Stafford, April 8, aged 80.

Emory W. Blackburn, M.D. Eclectic Medical Institute, Cincinnati, 1885; died at his home in Latrobe, Pa., April 4, from septicemia, due to a carbuncle.

John L. Brown, M.D. University of Nebraska College of Medicine, Lincoln and Omaha, 1904; died at his home in Western, Neb., February 4.

A. Theodore Braxton, M.D. Meharry Medical College, Nashville, Tenn., 1897; died at his home in Columbia, Tenn., April 8, from tuberculosis.

Helene C. Byington, M.D. Boston University School of Medicine, 1896; died at her home in Montrose, Colo., April 13, from influenza, aged 47.

William F. Noe, M.D. Barnes Medical College, St. Louis, 1901; was shot and killed in his office in Mountain Home, Ark., February 8, aged 38.

Charles Eugene Casgrain, M.D. McGill University Medical Faculty, Montreal, 1851; died at his home in Windsor, Ont., March 8, aged 82.

J. A. Meek, M.D. Southern Botanico-Medical College, Macon, Ga., 1871; died at his home in Jonesboro, Ark., recently, aged 76.

Death Abroad.

Thomas Henry Wakley, F.R.C.S., senior editor and proprietor of the *Lancet*, died at his residence in Queen's Gate, London, on April 5, aged 86. He was the eldest son of Thomas Wakley, the founder of the *Lancet*, and well-known coroner and member of Parliament, who was associated with all the advanced political movements of the early Victorian days. He was educated at University College, London, became a member of the College of Surgeons in 1845, and a fellow four years later. In 1848 he was appointed surgeon to the Royal Free Hospital, where he established a reputation as a skilful operator. He devoted himself specially to aural surgery and orthopedics and attained an extensive practice. On the death of his father, in 1862, he became manager of the *Lancet*, his younger brother, Dr. James Wakley, being the editor. His new duties led to the gradual abandonment of practice, and in 1886, on the premature death of his brother, he took over the editorship of the paper in conjunction with his son. Under this joint editorship the journal has progressed on the lines laid down by its founder, and has maintained the highest position from all standpoints—scientific, literary and ethical. Like most successful editors, Mr. Wakley did not write much; but he was skilful and keen in discovering men who could write and what they could write. Like his father, he was bold in exposing public evils. His principal original work was an article on "Diseases of Joints," contributed to Samuel Cooper's "Surgical Dictionary," then the standard work on surgery in England. His sympathy with the profession was shown by many private acts of generosity as well as by the foundation of the *Lancet* relief fund, contributed entirely by himself and his son to meet unforeseen and urgent pecuniary exigencies among members of the profession. His activity, physical and mental, was unbounded. He was never ill and never absent from his duties. Even in his eighty-second year he journeyed to the office daily from Brighton (where he spent the summer). He leaves a widow, a son, Thomas Wakley, Jr., who has been for twenty years his father's colleague in the editorship of the *Lancet*, and a daughter.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending April 20, 1907:

Snyder, Henry D., surgeon, granted thirty days' leave of absence, with permission to apply for fifteen days' extension.

Usher, F. M. C., asst.-surgeon, relieved from duty at Fort Brady, Mich., and will proceed to San Francisco and report not later than April 29, 1907, to the medical superintendent, Army Transport Service, that city, for duty as surgeon transport *Buford* during the voyage of that vessel to China and the Philippine Islands. On arrival at Manila, Captain Usher will report in person to the commanding general, Philippines Division, for assignment to duty.

Bloombergh, Horace D., asst.-surgeon, detailed as a member of the examining board appointed to meet at Fort Riley, Kans., vice Captain Elmer A. Dean, asst-surgeon, hereby relieved.

Whitmore, Eugene R., asst.-surgeon, relieved from duty at Fort Jay, N. Y., and ordered to Fort Riley, Kans., for duty.

Dean, Elmer A., asst.-surgeon, granted ten days' leave of absence.

Bosley, John R., asst.-surgeon, left Jefferson Barracks, Mo., on ten days' leave of absence.

Adair, George W., asst.-surgeon general, granted fifteen days' leave of absence.

Wadhams, S. H., asst.-surgeon, granted leave of absence for one month on surgeon's certificate of disability.

Girard, Joseph B., asst.-surgeon general, on the expiration of his present leave of absence, will proceed to Atlanta, Ga., and report in person to the commanding general, Department of the Gulf, for duty as chief surgeon of that department, relieving Lieutenant-Colonel William W. Gray, deputy surgeon-general.

Gray, William W., deputy surgeon-general, on being relieved from duty as chief surgeon, Department of the Gulf, by Colonel Joseph B. Girard, asst.-surgeon general, will proceed to Omaha and report in person to the commanding general, Department of the Missouri, for duty as chief surgeon of that department, relieving Lieutenant-Colonel John M. Banister, deputy surgeon-general.

Banister, John M., deputy surgeon-general, on being relieved from temporary duty as chief surgeon, Department of the Missouri, by Lieutenant Colonel William W. Gray, deputy surgeon-general, will return to his proper station, Fort Riley, Kans.

Flagg, Charles E. B., asst.-surgeon, granted leave of absence for four months, to take effect on or about May 1, with permission to apply for an extension of one month.

Bell, Richard P., contract surgeon, ordered from Fort Wadsworth, N. Y., to temporary duty as surgeon of the transport *Kilpatrick.*

Johnstone, Ernest K., contract surgeon, ordered to accompany troops to duty in Yosemite National Park.

Bell, Leonard P., contract surgeon, relieved from duty in the Philippines Division and ordered to Fort Riley, Kans., for duty.

Newton, Ralph W., contract surgeon, relieved from duty at Fort Niagara, N. Y., and ordered home, Barre, Vt., for annulment of contract.

Wren, Raphael J., contract surgeon, ordered to Fort Totten, N. Y., for duty.

Rebert, Michael A., contract surgeon, relieved from duty at Fort Totten, N. Y., and ordered to Fort Terry, N. Y., for duty.

Suggs, Frank, contract surgeon, relieved from duty at Fort Terry, N. Y., and ordered to Fort Niagara, N. Y., for duty.

Card, Daniel P., contract surgeon, ordered to Fort Jay, N. Y., for duty.

Tyler, George T., contract surgeon, left Fort Monroe, Va., for duty at West Point, N. Y.

Stephenson, Andrew V., contract surgeon, ordered from Crawford, Neb., to San Francisco for duty in the Department of California.

Stallman, George E., dental surgeon, left Fort McIntosh, Texas, for duty at Fort Reno, Okla.

Voorhies, Hugh G., dental surgeon, arrived at San Francisco, Cal., on the transport *Logan* for treatment at the General Hospital, San Francisco.

Patterson, Edwin W., contract surgeon, arrived at San Francisco on the transport *Logan* on leave of absence for three months.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending April 20, 1907:

Gatewood, J. D., surgeon, ordered to additional duty in the Bureaus of Medicine and Surgery, Navy Department.

Bertolette, D. N., medical director, sick leave further extended three months.

Delancy, C. H., P. A. surgeon, ordered to Naval Medical School Hospital, Washington, D. C., for treatment and observation.

Downey, J. C., assistant surgeon, granted leave for one year from April 15.

McGuigan, J. H., pharmacist, granted sick leave for three months.

Spear, R., surgeon, when discharged from treatment at the Naval Hospital, Mare Island, Cal., ordered home and granted sick leave for two months.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 17, 1907:

Carrington, P. M., surgeon, granted leave of absence for 3 days from April 15, 1907, under Paragraph 189 of the Regulations.

Fox, Carroll, P. A. surgeon, granted an extension of leave of absence for 15 days from April 29, 1907.

Berry, T. D., P. A. surgeon, granted leave of absence for 1 day.

Stimson, A. M., asst.-surgeon, leave of absence granted for 7 days from April 6, 1907, under Paragraph 191 of the Regulations, amended to read for 5 days.

Rucker, W. C., asst.-surgeon, directed to proceed to Norfolk, Va., and assume charge of the Service exhibit at the Jamestown Ter-Centennial Exposition at Hampton Roads, Va.

Ward, W. K., asst.-surgeon, granted leave of absence for 1 month, or so much thereof as may be necessary, on account of sickness from April 7, 1907.

Salmon, T. W., asst.-surgeon, granted leave of absence for 10 days from April 19, 1907.

Walker, T. Dyson, acting asst.-surgeon, granted leave of absence for 9 days from April 12, 1907.

Holt, E. M., pharmacist, authorized to proceed to New Orleans, special temporary duty, once each month for 3 months, on completion of which to rejoin station.

BOARDS CONVENED.

A board of medical officers was convened to meet at Wilmington, N. C., April 15, 1907, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon C. H. Lavinder, chairman.

A board of medical officers was convened to meet at Seattle, Wash., April 19, 1907, for the purpose of examining an alien immigrant. Detail for the board: P. A. Surgeon J. H. Oakley, chairman; Asst.-Surgeon H. G. Ebert; Acting Asst.-Surgeon F. R. Underwood, Recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended April 19, 1907:

SMALLPOX—UNITED STATES.

California: San Francisco, March 23-30, 1 case.

Florida: Duvall County, Jacksonville, March 30-April 6-13, 1 case. 1 death; Hillsboro County, April 6-13, 7 cases; Polk County, April 6-13, 7 cases; Santa Rosa County, April 6-13, 6 cases.

Georgia: Augusta, April 2-9, 1 case.

Illinois: Chicago, March 30-April 13, 4 cases; Galesburg, March 30-April 6, 3 cases; Peoria, March 30-April 6, 17 cases.

Indiana: Indianapolis, March 31-April 7, 4 cases; South Bend, March 30-April 6, 2 cases.

Iowa: Everly, March 30, present; Spencer, March 30, present.

Kentucky: Louisville, March 28-April 11, 11 cases.

Louisiana: New Orleans, March 30-April 6, 3 cases.

Massachusetts: Chelsea, March 30-April 6, 8 cases; Haverhill, March 30-April 6, 1 case; Lawrence, March 30-April 6, 27 cases.

Michigan: Detroit, March 30-April 13, 12 cases.

Minnesota: Winona, March 30-April 6, 2 cases.

Mississippi: Natchez, March 23-April 6, 1 case.

Missouri: St. Joseph, March 30-April 6, 9 cases; St. Louis, March 30-April 6, 4 cases.

New Jersey: Hoboken, April 6-13, 1 case.

New York: New York, March 30-April 6, 4 cases.

North Carolina: Charlotte, March 30-April 13, 2 cases.

Ohio: Cincinnati, May 29-April 5, 1 case; Cleveland, May 24-April 12, 2 cases.

Tennessee: Nashville, April 6-13, 1 case.

Texas: Bell County, March 23-April 6, 206 cases; Galveston, April 5, 5 cases; San Antonio, December 29-April 6, 9 cases.

Washington: Spokane, March 30-April 6, 6 cases (1 imported).

Wisconsin: Appleton, March 30-April 6, 1 case; Milwaukee, March 23-30, 5 cases.

SMALLPOX—INSULAR.

Porto Rico: San Juan, April 2, 13 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, March 3-10, 1 death.

Canada: Winnipeg, March 30-April 6, 2 cases.

China: Niuchwang, January 1-February 3, present; Shanghai, February 27-March 9, 1 case, 7 deaths.

Egypt: Cairo, March 11-18, 1 case.

France: Marseilles, March 1-31, 238 deaths; Paris, March 16-23, 12 cases.

India: Bombay, March 5-12, 1 death; Calcutta, February 23-March 9, 68 deaths; Rangoon, February 23-March 9, 1 death.

Italy: General, March 21-28, 22 cases; Turin, March 9-16, 1 case.

Mexico: Aguas Calientes, March 23-30, 6 deaths; Mexico City, March 2-9, 12 deaths; Tuxpam, March 26-April 2, 2 deaths.

Portugal: Lisbon, March 16-23, 12 cases.

Russia: Moscow, March 2-16, 4 cases, 1 death; Odessa, March 9-16, 32 cases, 2 deaths; Riga, March 16-23, 2 cases; St. Petersburg, March 9-16, 1 death; Warsaw, February 23-March 9, 11 deaths.

Spain: Valencia, March 17-24, 3 cases.

Brazil: Rio de Janeiro, March 3-10, 1 case, 1 death.

CHOLERA.

India: Bombay, March 5-19, 4 deaths; Calcutta, February 28-March 2, 33 deaths; Madras, March 2-8, 10 deaths; Rangoon, February 23-March 9, 29 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, April 15, 2 deaths.

PLAGUE—FOREIGN.

Australia: Queensland—Brisbane, February 2-9, 3 cases, 1 death; Port Douglas, February 2-9, 6 cases. New South Wales—Sydney, February 2-9, 4 cases, 1 death; Kempsey, February 2-9, 4 cases, 3 deaths.

Brazil: Rio de Janeiro, March 3-10, 6 cases, 2 deaths.

Egypt: Ismailia, March 10-April 6, 3 cases, 3 deaths; Port Said, March 8-17, 1 case, 2 deaths; Assiout Province, March 8-16, 15 cases, 7 deaths; Beni Souef Province, March 12-19, 4 cases, 3 deaths; Girgeh Province, March 9-16, 30 cases, 23 deaths; Keneh Province, March 11-18, 26 cases, 20 deaths; Minieh Province, March 13-18, 2 cases, 1 death.

India: General, March 2-9, 3,426 cases, 2,971 deaths; Bombay, March 5-19, 978 deaths; Rangoon, February 23-March 9, 124 deaths.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

Association of American Medical Colleges, Washington, May 6
American Therapeutic Society, Washington, May 4-7.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 7-9.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 7-9.
Amer. Climatological Association, Washington, May 7-9.
American Gynecological Society, Washington, May 7-9.
Amer. Laryngological Association, Washington, May 7-9.
Amer. Medico-Psychological Association, Washington, May 7-9.
American Ophthalmological Society, Washington, May 7-9.
American Orthopedic Society, Washington, May 7-9
American Pediatric Society, Washington, May 7-9.
American Assn. of Physicians, Washington, May 7-9.
American Surgical Association, Washington, May 7-9.
Nebraska State Medical Association, Omaha, May 7-9.
Texas State Medical Association, Mineral Wells, May 7.
Utah State Medical Association, Salt Lake City, May 7-8.
New Mexico Medical Association, Las Cruces, May 8-9.
Kansas Medical Society, Kansas City, May 8-10.
Oklahoma State Medical Association, Shawnee, May 14-15.
North Dakota State Medical Association, Minot, May 14-15.
Louisiana State Medical Society, New Orleans, May 14-16.
Arkansas Medical Society, Little Rock, May 15-17.
Iowa State Medical Society, Cedar Rapids, May 15-17.
Michigan State Medical Society, Saginaw, May 15-16.
Missouri State Medical Association, Jefferson City, May 14-16.
Montana State Medical Association, Billings, May 15-16.
New Hampshire Medical Society, Concord, May 16-17.
West Virginia State Medical Association, Huntington, May 15-17.

MEDICAL ASSOCIATION OF GEORGIA.

Fifty-Eighth Annual Session, held at Savannah, April 17-19, 1907.

The President, Dr. H. H. Martin, Savannah, in the Chair.

After the customary addresses of welcome, the reading of papers began, the scientific work being divided into two sections, medical and surgical.

The Training of Epileptic and Feeble-Minded Children.

Dr. Wesley Taylor, Atlanta, advocated a state school for the feeble-minded and epileptic, open and free to any one in the state, either to train their children up to a certain standard of efficiency or to relieve them of their embarrassment. He asked the cooperation and endorsement of the association. Manual training is at length beginning to be appreciated and valued as it deserves, and in connection with other training it is intended to teach some useful and simple trade to those capacitated for such work.

Dr. H. D. Allen, Milledgeville, thinks it is incumbent on the state to establish a colony for the epileptic and feeble-minded. It is known how much good has been done for the deaf and dumb. The deaf and dumb can be taught to read and write by experienced teachers. Feeble-minded children can not be properly cared for at home, for the reason that members of the family are too indulgent or too harsh. They do not regard the children as defective; they think many of the things they do are done through pure meanness or are prompted by an evil spirit.

Dr. R. R. Kime, Atlanta, said it is time the Medical Association of Georgia and the state at large should awaken to its duty along humanitarian lines. The epileptic or feeble-minded children are not responsible for their condition; they are brought into the world with defects they can not themselves eliminate, and physicians as representatives of one of the great professions of the state have a duty and responsibility resting on them which they can not shift without doing themselves an injustice. There is no class of defectives that need the sympathy and support of the medical profession, as well as the people of the state, more than the epileptic and feeble-minded.

Dr. Kime offered a resolution to the effect that the association endorse the idea of requesting the establishment of a state colony for epileptics and an industrial school for feeble-minded. This resolution was unanimously carried.

The Soda Fountain and Its Attendant Evils.

Dr. J. A. Combs, Locust Grove, read a paper on this subject. He finds that the soda fountain has nothing for which to commend itself either to the medical profession or to the public, but he thinks the following serious objections may be justly urged against it: It fosters the nostrum evil; it is a fruitful source of nervous and digestive disturbances; by its filthiness it may be and probably is the means of spreading infectious diseases. It offers opportunity for the illicit sale of whiskies and other narcotics. The powerful drugs dispensed in the "patent" or secret drinks create a thirst which leads to crime and disgrace. It affords opportunity for undesirable commingling of the sexes. It paves the way for the wine and beer garden, and at last for the saloon.

The Doctor in Relation to Exercise as a Factor in Medicine and Surgery.

Dr. Theodore Toepel, Atlanta, said the orthopedic surgeon needs exercise and massage in his corrective work. Lateral curvature of the spine is no longer treated by braces exclusively, but by gymnastics, sometimes in connection with other measures, it is true, but always by exercise in some form. The author explained the physiology of exercise and its therapeutic applications. He divided the system of exercise into passive, active and resistive, each division being discussed at length.

(To be continued.)

TENNESSEE STATE MEDICAL ASSOCIATION.

Seventy-fourth Annual Session, held at Nashville, April 9-11, 1907.

(Concluded from page 1372.)

Tuberculosis of Kidney.

Dr. Richard Douglas, Nashville, impressed on the general practitioner the importance of collective evidence and of a correct history in diagnosis. The patient, in 75 per cent. of the cases, is a woman between the ages of 20 and 40. Careful investigation will reveal the history of some rather protracted and unexplained illness, a decline in health for some months. Not infrequently the onset is more acute, and the febrile state is mistaken for some of the essential fevers, as in two of his patients. He called attention to polyuria, occurring particularly at night. The voiding of large quantities of clear urine is quite suggestive, indicating the stage of irritation which is followed later by congestion. If the urine is examined, microscopic quantities of blood will be found; but the characteristic of the hematuria in renal tuberculosis is a spontaneous occurrence of a quantity of free blood sufficient to be detected with the unaided eye. This bleeding is not induced by exercise or exertion; it merely marks the early stage of invasion of the kidney. Ureteral catheterization is not an essential, though a great aid to specific diagnosis. In 80 per cent. of the cases only one kidney is affected. Radical removal of the diseased kidney and ureter by lumbar nephrectomy should be undertaken at once, the condition of the patient permitting it. Nephrotomy or partial nephrectomy is dangerous.

Tuberculosis in the Negro.

Dr. E. H. Jones, Murfreesboro, said that one feature with reference to tuberculosis in the negro race is that a large proportion of the cases are of the acute phthisic variety, running a rapid and fatal course, yielding little to the measures usually instituted. Those who are familiar with the habits of this race know their morbid proclivities for crowding around their sick and attending the funerals in crowded houses, illy ventilated, and not in the best of sanitary conditions. He believes that every house, tent or apartment used for dwelling purposes, when vacated, should be thoroughly disinfected before being occupied again. From observation, this is one of the most dangerous sources of contamination. This applies to public carriers, hotels, passenger trains, day coaches, sleepers, passenger boats and steamers, railroad stations, etc.

Lesions of the Prostatic Urethra and Their Reflex Neuroses.

Dr. Jere L. Crook, Jackson, said his attention was first directed to the prostatic urethra as a causal factor in neurasthenia and other neuroses about four years ago, when treating a college student for nightly seminal emissions. The history of the case was negative as to any form of venereal disease. The patient had practiced masturbation more or less. By means of a direct light urethroscope he found it easy to examine the entire urethra. Examination made after cocainizing the urethra and performing meatotomy disclosed a hyperemic area about one inch long in the prostatic urethra. This was extremely sensitive. The diseased patch included the point of entrance of the seminal duct. By the use of nitrate of silver solutions of varying strength he was enabled to cure the local conditions, and when this was done the other symptoms vanished. No other treatment was required. Since then he has successfully treated a number of cases according to this plan.

Surgery of Prostate.

Dr. W. A. Bryan, Nashville, said the method of removal of the prostate depends on the operator. The results of the suprapubic and the perineal routes are slightly in favor of the latter. The mortality of either is small compared with non-operative treatment. Fistulas are seen occasionally, but they do not usually persist long, and when they do, can usually be relieved by curetting away their lining. If they do persist, it is better to have a vent through two openings than one. Not every patient can stand a prostatectomy; then permanent drainage may be instituted, or, if preferable, a two-time operation may be executed after the suggestion of Chetwood. When the patient is very feeble he will improve by simply draining the bladder, either suprapubically or perineally. This may be done, and after a sufficient lapse of time, if the symptoms subside sufficiently, a complete removal of the gland may be done with a much lower mortality than would have been possible. Every step should be taken during the interim to assuage the infection of the bladder and kidneys and to build up the patient's resistance for the more serious undertaking. In all very old men it is preferable to do some minor operation, prolong life and relieve pain even if only with halfway comfort than to attempt the ideal treatment and fail. He condemned the partial excision of a large prostate in those patients whose condition warrants radical measures.

Suprapubic Prostatectomy.

Dr. **Cooper Holtzclaw**, Chattanooga, described the technic and advantages of the suprapubic operation, and among other things said it requires no skilled assistants and no special instruments to do this operation. The only grave danger is entering the abdominal cavity. The whole operation need not take but a few minutes. If, however, the patient is old and feeble and exhausted by long and continued suffering and infection, the operation can be done in two stages. He most earnestly recommended this plan, as he had pursued it several times, opening the bladder under cocain anesthesia, letting the patient recuperate from all his troubles, and then in a week or two removing the prostate under general anesthesia. He uses no drainage tube. He seldom finds it necessary to irrigate the bladder. He lets the bladder wound heal slowly by granulation, which is usually accomplished in from four to six weeks, by which time the wounds in the bottom of the bladder will have healed and contracted, thereby making a complete and effectual exit to the urethra. He allows the patient to sit up in three or four days, when he can be taught to take care of himself. The lack of experience, the rapidity and facility of the operation, the freedom from hemorrhage and unpleasant sequelæ, the more perfect drainage and satisfactory results, all appeal to him in recommending this method of operating.

Researches in Rabies.

Dr. **William Litterer**, Nashville, discussed the significance of the Negri bodies, the diagnosis of rabies, and then referred to his original experimental work. He said: (1) It is the consensus of opinion that the Negri bodies are the true etiologic factors in rabies. (2) They are living organisms belonging to the class of protozoa. (3) When found in smears or sections of the central nervous system, they are specific for this disease. (4) These bodies have never been found in other diseases than hydrophobia.

Recurrent Non-Malarial Hematuria.

Dr. **T. J. Happel**, Trenton, emphasized the necessity of careful diagnosis in differentiating the forms of recurrent nonmalarial hematuria. He said that the use of the microscope is most essential, because a careful examination will, in some cases, reveal the presence of some parasite other than the malarial hematozoon. The fact that some of these cases are cured by methylene blue may be taken as strong presumptive evidence that the condition is caused by the schistosoma hematobium.

Cancer of the Breast.

Dr. **W. D. Haggard**, Nashville, pointed out the factors which influence the permanence of cure in operations for carcinoma of the breast. It may be stated as an axiom that cancer is an entirely curable disease when situated in an organ or tissue which of itself is completely removed without causing death, and if there is lymphatic involvement of the immediate tributary lymph glands, that they also are thoroughly removable. The younger the patient the worse the prognosis. In elderly persons, where there is a general atrophy of the lymph system and changes in all the vessels, dissemination is more slow. Cancer will remain local a longer period of time in the older patient, and the prognosis is better. The contraindications to operation were enumerated and the details of the operation described.

Other Papers Read.

The following papers were also read:

"Non-Infectious Sclerotic Ovary," by John A. Gaines, Nashville; "The Practical Use of Opsonic Treatment in Certain Specific Infections, Especially Those of the Skin," by Dr. J. M. King, Nashville; "Treatment of Fractures of the Hip," by Dr. C. N. Cowdon, Nashville; "Surgery of the Thyroid Gland," by Dr. Charles H. Mayo, Rochester, Minn.; "Foreign Bodies in the Larynx and Trachea," by Dr. M. M. Cullom, Nashville; "Headaches," by Dr. Hazel Padgett, Nashville; "Inversion of the Uterus; Reports of Two Cases," by Dr. B. V. Dickson, Covington; "True Croup (Non-Diphtheritic)," by Dr. Walter Dotson, Kempville; "Appendicitis," by Dr. R. J. McFall, Cumberland City; "Local Anesthesia," by Dr. Paul DeWitt, Nashville; "The Etiology, Pathology and Prophylaxis of Puerperal Eclampsia," by Dr. G. W. Moody, Shelbyville; "Report of an Unusual Case of Ununited Fracture of the Humerus," by Dr. Duncan Eve, Nashville; "The Differential Diagnosis of Multiple Neuritis and Muscular Atrophy," by Dr. D. R. Neil, Nashville; "An Ovarian Cyst Cast of the Abdominal Cavity," by Dr. Wm. D. Sumpter, Nashville; "Glaucoma," by Dr. J. T. Herron, Jackson; "Cerebrospinal Meningitis," by Dr. William McCague, Nashville.

Book Notices

Diseases of the Lungs. Designed to be a Practical Presentation of the Subject for the Use of Students and Practitioners of Medicine. By Robert H. Babcock, A.M., M.D., Consulting Physician to Cook County Hospital. Twelve Colored Plates and 104 Text Illustrations. First Edition. Cloth. Pp. 809. Price, $6.00. New York: D. Appleton & Co., 1907.

This is designed to supplement Dr. Babcock's book on "Diseases of the Circulatory System," and covers the subject of the diseases of the lungs rather thoroughly with the exception of the diseases of the pleuræ, to which are devoted but seventy of the 770 pages which comprise the text. The chapters on bronchitis are fairly complete, though necessarily abbreviated, particularly the one on bronchial asthma. In his preparation of the text of these chapters the author has relied largely on the writings of Hoffmann and of Lenhartz. In general, however, and be it added much to his credit, he has been not so much a searcher of medical literature as a student of individual patients.

The chapters on Acute Fibrinous Pneumonia are far better than the single chapter devoted to Acute Bronchopneumonia. Pulmonary emphysema seems to the reviewer rather slighted, inasmuch as it is of much clinical interest by reason of its frequent occurrence. For example, its relative importance demands a greater amount of space than is given to atelectasis and pneumonoconiosis. The best portion of the book by far is that which is devoted to pulmonary tuberculosis, and we are especially pleased to see the author's advocacy of infection as opposed to the old idea of hereditary predisposition. The chapter devoted to the physical signs and clinical varieties of pulmonary tuberculosis is the best chapter on physical diagnosis in the book. That devoted to the treatment of pulmonary tuberculosis embraces all of the modern methods in regard to the best way of managing this dread disease. The author is not so fortunate in his description of acute miliary tuberculosis, which includes less than three pages. This is by no means an uncommon infection and is less frequently diagnosticated than it should be. Surely, in comprehensive works like this one of Dr. Babcock's, more than fourteen lines should be given to the physical signs of acute miliary tuberculosis, yet that amount is all that appears in the text. Indeed, in general, one could wish that less space had been surrendered to symptomatology, so that more might have been left for physical signs.

Mechanically, the volume is well gotten up. The fact that the author mentions the names of physicians who have from time to time called him as a consultant, seems open to criticism. What benefit the names and home addresses of such physicians can be to the general reader is hard to estimate. In the interest of brevity, if for no other reason, these names should be omitted. The style of the book is excellent. Indeed, at times the author's elegance and fluency get the better of strength and force. Things which should stand out ruggedly are by the ease and flow of language so smoothed down that their relative importance is lost sight of. There is not a single epigram in the book for this same reason.

Tumors, Innocent and Malignant. Their Clinical Character and Appropriate Treatment. By J. Bland-Sutton, F.R.C.S., Surgeon to and Member of the Cancer Investigation Committee of the Middlesex Hospital. Fourth Edition, with 355 Engravings. Cloth. Pp. 675. Price, $4.50 net. Chicago: W. T. Keener & Co., 1907.

This book, now in its fourth edition, is of value chiefly because of the interesting manner in which a varied clinical experience with tumors has been utilized in the presentation of the subjects discussed. In no sense, however, is the work complete, and it is far from being up to date. Histologic considerations are scanty and uninstructive, and the majority of the illustrations of microscopic sections are pathetically poor. The important features of tumor biology are entirely neglected, or discussed in a most superficial manner, and the author disregards almost entirely the essential features of histogenesis. A few references are attached to each chapter; but they are of little value, consisting of a most haphazard collection of articles, largely reports of single cases in British literature, while important contributions and bibliographic collections written in other lands are largely overlooked.

From the standpoint of the pathologist this book contains little that would cause him to recommend it either to elementary students or to men engaged in research. It does contain considerable information that will be found useful to the practitioner and surgeon, but the lack of completeness and its general superficiality will be at once evident to the man of much training and experience. A feature of value to the general practitioner is the method of considering the various sorts of tumors, particularly with reference to the different organs and tissues they attack, which enables one to readily acquaint himself with the relative prevalence of different sorts of tumors in each part of the body. Teratoid growths have received particular attention, as also have odontomas.

The defects are largely those of omission rather than of commission, for there are few erroneous statements; however, many good authorities would challenge the dictum that an adenoma never becomes transformed into a cancer (p. 267). One also occasionally notes with pleasure certain advanced ideas, e. g., the statement that "it would be convenient and perfectly justifiable to deprive myxomata of even the rank of species among tumors" (p. 60). The favorable results from local removal of giant cell sarcoma of bone, and the usual absence of true malignancy in this form of tumor, is also well brought out, although no reference is made to certain important contributions to this subject.

Progressive Medicine, Vol. 1, March, 1907. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College. Paper. Pp. 280. Illustrated. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00. Philadelphia: Lea Bros. & Co.

In this issue Dr. C. H. Frazier, in the Department of Surgery of the Head, Neck and Thorax, presents a complete review of the practical bearing of edema of the brain in early operations for intracranial injuries, and gives a résumé of 530 cases of fractures of the base of the skull. Among other topics discussed are the following: Results of thyroidectomy in over a thousand cases; a summary of 16 cases of suture of the heart; operations on the pituitary body; trifacial neuralgia; epilepsy and cerebral abscess. Dr. Robert H. Preble devotes considerable space to the part taken by insects in the transmission of various infectious diseases. Dr. Floyd M. Crandall discusses the incidence of disease in childhood; infantile mortality; the tonsil as a portal of microbic infection; hernia in young children; enuresis; infant feeding; the management of infants in hot weather, etc. The Department of Rhinology and Laryngology is covered thoroughly by Dr. D. Braden Kyle, and the Department of Otology by Dr. B. A. Randall. The latter reviews 645 cases of brain abscess. Dr. Kyle discusses the use of chlorid of sodium in the treatment of chronic laryngitis, and reports a case of inoperable cancer treated with a bacterial vaccine made from a micrococcus neoformans.

Pediatrics. The Hygienic and Medical Treatment of Children. By Thomas Morgan Rotch, M.D., Professor of Pediatrics, Harvard University. Fifth Edition, Rearranged and Rewritten. Illustrated. Half Leather. Pp. 1060. Price, $2.25 per volume. Philadelphia and London: J. B. Lippincott Co., 1907.

This work has been revised to bring it up to the standard required by recent advances in this department. This has necessitated the rewriting of a considerable portion of the book and the careful revision of the other articles. The book retains the practical as well as scientific character which rendered the previous editions so helpful to practitioners as well as to students. The illustrations have been increased by a number of new photographs and radiographs and one new colored plate.

A Guide to Diseases of the Nose and Throat and Their Treatment. By C. A. Parker, F.R.C.S., Surgeon to the Throat Hospital, Golden Square, London, W. With 255 Illustrations. Cloth. Pp. 624. Price, $5.00 net. New York: Longmans, Green & Co., 1906.

This work is for students and practitioners who take courses at special hospitals for diseases of the throat and nose, and is the outgrowth of the author's lectures at the Throat Hospital. Section I is devoted to methods of examination of the upper respiratory tract: local treatment, and the general principles governing operations in this region. Section II on complications of the upper respiratory tract in relation to general medicine, while Section III, nearly a third of the volume, is devoted to the nose. The use of the Heryng lamp for transillumination of the antrum is illustrated with a colored plate. On the subject of spurs and deviations of the septum the author gives an unbiased description of various operations, including several by American rhinologists. Diseases of the throat and larynx are grouped in two large sections of the work, which concludes with an appendix on the notification and isolation of fibrinous rhinitis.

Eye Injuries and Their Treatment. By A. Maitland Ramsey, M.D., Fellow of the Faculty of Physicians and Surgeons, Glasgow. Illustrated. Cloth. Pp. 210. Price, $6.00. New York: The Macmillan Company, 1907.

This book is based on the author's graduate course of lectures on this subject. He very modestly suggests in his preface that the book is suitable particularly for the general practitioner who requires a pithy presentation of cases, whereas it is a work that any ophthalmologist may read with profit. The main feature of the book is its purely clinical consideration of the various eye injuries with the appropriate treatment. The stock formulas of the Glasgow Ophthalmic Institution are given in an appendix. The book is very freely illustrated with colored plates and drawings and is printed in large type on heavy paper. Dr. Ramsey's large practical experience in the care of eye injuries makes his views invaluable and we heartily recommend his book.

Text-Book of Materia Medica for Nurses, Including Therapeutics and Toxicology. By G. P. Paul, M.D., Attending Physician to Samaritan Hospital, Troy, N. Y. Cloth. Pp. 242. Price, $1.50 net. Philadelphia: W. B. Saunders Co., 1907.

Paul's materia medica for nurses is practical in that it deals chiefly with the indications and contraindications for the various drugs, and gives their doses. Part IV, on the "Newer Medicinal Agents," as it deals with the new synthetics, the use of which is not clearly defined, might well have been omitted. Part V, "Practical Therapeutics," deals with hydrotherapy, including baths, gastric lavage, enteroclysis and hypodermoclysis; hypodermic medication; antiseptics and disinfectants; disinfection; topical medication, including application of heat, stupes, poultices, cupping, counterirritation and rectal alimentation; antitoxins and serums.

Text-Book of Embryology. For Students of Medicine. By John Clement Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. With 212 Illustrations. Third Edition. Thoroughly Revised. Cloth. Pp. 432. Price, $3.00 net. Philadelphia and London, W. B. Saunders Co., 1907.

In order to be in consonance with existing views, the text of this work has been revised thoroughly and in many instances whole chapters have been rewritten, such as the sections dealing with the ovum, the spermatozoon, blastodermic vesicle, the vascular system, ductless glands, pancreas, kidney, spinal cord, spinal column and the musculature. The text is concise and yet sufficiently full for a text-book to be used by the student as well as by practitioners. All the good features of the previous editions have been retained and many new ones added.

A System of Surgical Nursing. With an Appendix Containing Useful Formulas, Emergency Drill, Etc., by A. N. McGregor, M.D., F.F.P.S.G. Cloth. Pp. 554. Price 9s. net. Glasgow: David Bryce & Son.

A volume of more than 500 pages might be considered rather extensive for the elucidation of only one portion of the work of the nurse, but the book is well written, easy to read, well arranged, and, despite the size, not diffuse. It takes up systematically the qualifications of nurses, principles of surgical treatment, sepsis, asepsis, etc., general considerations of disease and repair processes, instruction in the practical details of ward work, preparatory and postoperative treatment of patients and working instructions.

Anatomy for Nurses. E. R. Bundy, M.D., Member of the Medical Staff of the Woman's Hospital, Philadelphia. With a glossary and 191 illustrations, 34 of which are colored. Cloth. Pp. 252. Price, $1.75 net. Philadelphia: P. Blakiston's Son & Co., 1906.

This work is written in simple language and is fairly well illustrated. The chapter on foods and digestion seems slightly out of place in a text-book on anatomy and is so brief and superficial that it might well have been omitted.

Miscellany

Assay of Pepsin.—Cowie and Dickson (*Pharm. Jour.*, Feb. 23, 1907) worked out a new method of assay of pepsin which determines not simply its solvent power on albumin as in ordinary methods, but rather its actual peptonizing power, which they think is a better measure of its therapeutic efficiency. The process depends on the depth of color given by the biuret produced by the peptone formed in four hours from a given weight of dry albumin by a definite amount of the pepsin to be tested. The color is compared with a solution of potassium permanganate which corresponds in color with the biuret produced from a known weight of peptone. A control experiment must be carried out with the pepsin and water without the addition of albumin. The difference between the number of cubic centimeters required to match the color produced in the two tests corresponds to the amount of peptone actually produced by the digestive action of the pepsin. The method is recommended as giving results that are sufficiently near those obtained by standard methods to give a very good idea of the power of a pepsin. It can be carried out in a comparatively short time and requires no special apparatus. The authors have tried the xanthoproteic reaction by boiling the proteid with nitric acid and then adding excess of ammonia, but found it impossible to measure the differences between the depths of color by any standard yellow solution. At the meeting of the Pharmaceutical Society of Great Britain, at which this paper was read, Mr. Dott expressed doubts as to whether or not the solvent power of pepsin as given by the ordinary methods of assay did not represent the therapeutic efficiency nearly enough for practical purposes. Mr. Cowie said that it would be advantageous if a uniform process of assay were adopted by the various nations. As America supplies most of the pepsin used in Great Britain it is desirable, he said, that the British process should be similar to that of the U. S. Pharmacopeia.

An Injection Fluid for Preserving Cadavers.—An excellent injection fluid for preserving cadavers can be made of equal parts of alcohol, glycerin and melted phenol (carbolic acid) crystals. This fluid, the formula for which has been furnished us by Dr. Burton D. Myers, professor of anatomy in the Medical Department of the University of Indiana, is made as follows: White crystalline phenol is preferred though the straw-colored product will do just as well, but it is not much cheaper. Should the black crude phenol be used blue injection fluid must be used for the arteries, as red lead would be decolorized. White crystals do not seriously affect the color of the red lead. The alcohol should be used in about 95 per cent. solution. All the used 95 per cent. and 80 per cent. alcohol from the histology and neurology laboratories may be saved; this should be filtered and mixed with enough unused 95 per cent. alcohol for the injection fluid. The phenol costs from 23 to 24 cents a pound; the glycerin from 16 to 17 cents a pound, and the alcohol about 50 cents a gallon. The fluid of this formula thus costs about $1.42 a gallon. While this is, of course, more expensive than the arsenic and formalin compound, the advantages are well worth the difference in cost. It does not harden and stiffen the tissues as does formalin; there is never any infection from a cut received in the dissecting room, and the tissues, even the finger tips, toes, nose, etc., do not dry out even after weeks of exposure. When cadavers are brought in they are placed on a table and scrubbed; then, as there is no chance of decomposition, there is no odor except that of the phenol. The odor of decaying flesh, so common in dissecting rooms, is entirely absent, and the worst hindrance to good work has been removed.

A Medical Senator Pleads in Favor of Absinthe in France.—Belgium has recently prohibited the manufacture and sale of absinthe in that country, and some cantons in Switzerland have likewise taken drastic measures against it still more recently. The medical profession in France has long been striving to restrict the use of absinthe in France, and the group of medical members of the houses of parliament has been agitating the question with renewed energy during the last few months. The treasury department is strongly against any measure tending to reduce the present income from the internal revenue, and the minister at the head of the department does not hesitate to proclaim openly his hostility to any measure that would create at once a deficit of $12,000,000. An article in the *Presse Méd.*, page 137, remarks that more money is paid out annually to the hospitals, asylums and almshouses on behalf of the victims of absinthe than the entire revenue from this source amounts to. The superintendent of the Ville-Evrard asylum states that out of the average of 550 alcoholics annually in the institution, fully 90 per cent. are victims of absinthe. On the other hand, the representatives in parliament of a certain district where the manufacture of absinthe is the principal industry, are making a strong stand against its suppression. The senator from this district is a physician, and he admits that cheap absinthe is a vile poison, but proclaims that the absinthe made in his district is so pure and made of such delightful ingredients that high-grade, expensive absinthe like this should not be regarded as injurious. He says that the standard of health in his district is above the average and epilepsy is unknown, although every one drinks absinthe. He pleads earnestly for the few thousands of his voters who live by absinthe, forgetting the many more thousands who die by it every year—surely a very strange stand for a physician to take.

Erroneous Ideas About Poisonous Reptiles.—Popular opinion attributes to nearly all reptiles more or less poisonous properties. The more formidable or repulsive the reptile the more likely it is to be associated in the popular mind with the possession of venom. In the case of the Gila monster, investigation has failed to bear out the preconceived notion of its dangerous character. Although some evidence has been adduced of the occurrence of sickness and even death after the bite of this reptile, experiment has shown that its saliva is possessed of only very feeble toxic properties, and that it has neither poison glands nor fangs, so that it can not envenom a wound in the manner of the poisonous snakes. Dr. G. Goodfellow, in the *Scientific American*, March 30, 1907, refutes the evidence recently adduced to show the poisonous character of wounds inflicted by this reptile, especially in two cases occurring in Arizona with the history of which he states he is entirely familiar. The first patient died from acute alcoholic poisoning grafted on chronic alcoholism. The second patient had a very sore finger which resulted apparently from the cauterization and not from the bite. Dr. Goodfellow has himself been bitten by the monster, but has seen no consequences different from those usual in case of a lacerated wound. It is probable that some of these cases are aggravated by the unnecessary active local treatment and the injudicious dosing with alcoholic liquids. If Dr. Goodfellow's conclusions are correct, such wounds should be treated as ordinary lacerations; no special constitutional treatment is required.

Tapeworm from a Cat.—Pollak recently reported at a meeting of the local medical society in Vienna the case of a child of six months affected with tenia. For about 4 months small greenish, grayish objects, resembling cucumbers, about 1x2 cm. in size, had been observed in the stools, and the microscope revealed that they were links of the *Tenia cucumerina*, common in cats and dogs. The family had no cat or dog, but it was remembered that three weeks before the first appearance of the links in the stools the child had been taken to visit a friend and had lain on a bed with the friend's cat. There were no appreciable symptoms in the infant from the presence of the tenia. This form of tenia passes through the cysticercus stage in dog fleas and dog lice. Only 20 cases are on record of its invasion of man, but in most of these severe symptoms were observed, convulsions, and intestinal disturbances. In the affected animals it frequently induces diarrhea and fits or pseudo-rabies.

The Study of Dietetics.—The study of the association of foods in health as well as in disease is not only fascinating but extremely profitable to all concerned. A person without appetite may be induced to take the necessary nourishment if the attending physician is competent to suggest articles of diet which will appeal to the sense of taste, and this is a point not to be overlooked.—*Medical Times.*

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Dosage for Children.

YOUNG'S METHOD.

This is easily remembered and is a good rule for children over a year old. It is: Add 12 to the age and divide the age by the result. For example, for a child of 2:

$$\frac{2}{2+12}=\frac{1}{7}.$$

COWLING'S METHOD.

According to this method the dose for a child is obtained by dividing the number of the following birthday by 24. For example, at 2 years: $3 \div 24 = \frac{1}{8}$.

CLARK'S METHOD.

This rule, although accurate, is not very practical. According to Clark, the proper dose is in proportion to the weight of the individual. Assuming 150 pounds as the average weight for which the dose is 1, then the proper dose will be in the same proportion to 1 as the patient's weight to 150. Therefore, if the weight be divided by 150, the resulting fraction represents the proper part of 1 for the dose in that particular case. For example: The proper dose for a baby of 10 pounds would be 1/15 ($10 \div 150 = 1/15$).

Administration of Hypnotics in Tablets.

The tablet as a form for the administration of medicines has many advantages since it combines exactness of dosage, convenience in handling and pleasantness in administration. It is apt to be forgotten, however that all medicines can not be used in this form. Very volatile drugs are manifestly excluded, and salts which irritate the stomach should not be administered in tablet form, unless the tablet is first crushed and dissolved. Difficultly soluble drugs may escape absorption altogether, or their action be much delayed if given in tablet form. The varying degree to which the compression is carried permits of marked variations in the readiness of disintegration and accounts for many variations in the action of the same remedy. It is not an uncommon experience for tablets to be found unchanged in the feces. When a drug is insoluble there is no occasion for administering it in tablet form unless for sake of convenience. In such a case the patient should be instructed to crush the tablet to a powder before taking it.

W. Kohn (*Medizinische Klinik*) calls attention to the disadvantages of the tablet in administration of hypnotics. It is important for the success of a hypnotic that it be promptly absorbed, and this can best be secured by giving it in solution. The difficult solubility of several of these remedies requires that special precautions be taken to secure solution. If the medicine be taken into the stomach in a tablet it is apt to remain some time undissolved, and hence unabsorbed and inactive, even if a quantity of warm water be taken after it. The remedy may be so gradually absorbed that its hypnotic effect may not appear, the preliminary stage of excitement only being reached. The frequent experience that a remedy does not act until the next day or the succeeding night is probably due to imperfect solution of the drug.

Another accident that may arise in consequence of the irregular absorption of medicines in tablet form is cumulative action. Kohn believes that the unfavorable results noted by some observers in the use of hypnotics arise from the fact that an additional and perhaps increased dose was given before the first had been excreted, although due time had been allowed to intervene between the doses. Kohn has found by experience that the administration of a hypnotic in solution secures a quicker effect and as the medicine is all absorbed in a short time, the occurrence of a tired feeling on awakening is avoided. Another advantage is that the desired effect can be obtained with a smaller dose—four-fifths as large an amount generally being sufficient.

Laxatives, Cathartics and Purgatives.

The following formula for a laxative pill is recommended by Shoemaker:

℞.	Extracti rhei			
	Pulveris jalapæ comp., āā	gr. xx	1	3
	Hydrargyri cum creta	gr. xl	2	6
	Extracti belladonnæ fol	gr. iv		26

M. Ft. pilulæ No. xx. Sig.: One pill at bedtime.

In acute nephritis Croftan recommends evacuating the bowel with castor oil or cascara sagrada. From 2 to 8 grains (0.12-0.5) of the extract of cascara may safely be given. or of the fluid extract from 10 to 15 minims (0.6-2.). In this disease Croftan states that saline purgatives must be avoided, as most salts irritate the kidneys or are eliminated with difficulty by the kidneys when these organs are diseased. He asserts that calomel and all drastic purgatives should be used only as extreme measures in emergency cases.

When a simple laxative is necessary the elixir of cascara sagrada (Elixir rhamni purshianæ, N. F.) is very efficient.

℞.	Fluidextracti rhamni purshianæ aromatici			
	Elixir aromatici, āā	f℥i	30	

M. Sig.: One teaspoonful at bedtime.

When a more powerful preparation is needed, the compound elixir of cascara (Elixir rhamni purshianæ compositum, N. F.), may be used.

℞.	Fluidext. rhamni purshianæ aromatici	fʒii	8	
	Fluidextracti sennæ	m. xlviii	3	
	Fluidextracti juglandis (N. F.)	fʒi	4	
	Elixir aromatici	fʒxii	48	

M. Sig.: One teaspoonful at bedtime.

The above prescriptions are useful in the constipation of pregnancy in which saline cathartics are seldom indicated. In these cases pills of belladonna, aloin and strychnin may also be used. The National Formulary contains formulas for several such pills:

℞.	Aloini	gr. 1/2		03
	Resinæ podophylli	gr. 1/8		008
	Extracti belladonnæ fol	gr. 1/4		01

Ft. pilula. Sig.: One such pill as often as necessary.

℞.	Aloini	gr. 1/5		012
	Strychninæ	gr. 1/120		00054
	Extracti belladonnæ fol	gr. 1/8		008

Ft. pilula. Sig.: One such pill at bedtime when necessary.

℞.	Aloini	gr. 1/5		012
	Strychninæ	gr. 1/120		00054
	Extracti belladonnæ fol	gr. 1/8		008
	Extracti rhamni purshianæ	gr. 1/2		03

Ft. pilula. Sig.: One such pill at bedtime when necessary.

For children calomel and the syrup and tincture of rhubarb answer the purpose in most cases. If castor oil is particularly indicated H. B. Sheffield, New York, recommends the following emulsion:

℞.	Olei ricini	f℥i	30	
	Olei menthæ piperitæ	m. v		3
	Sacchari	ʒi	4	
	Mucilaginis acaciæ			
	Aquæ, āā, q. s. ad	f℥ii	60	

M. et ft. emulsum. Sig.: From 2 to 4 teaspoonfuls at a dose, according to the age of the child.

Sheffield states that Rochelle salts with a little aromatic spirits of ammonia, glycerin and water constitute a pleasant mixture. Podophyllin and aloin, he states, are best prescribed in suppositories of cacao butter. This authority also says that it is well to remember that an enema often obviates the necessity for drugging.

The following has been recommended in obstinate constipation:

℞.	Fluidextracti rhamni purshianæ	f℥i	30	
	Fluidextracti belladonnæ	fʒi	4	
	Tincturæ nucis vomicæ	fʒii	8	
	Syrupi			
	Aquæ, āā, q. s. ad	f℥iv	120	

M. Sig.: One teaspoonful thrice daily.

The following pills have also been recommended:

℞.	Extracti colocynthidis comp	gr. xii		78
	Extracti belladonnæ fol	gr. ii		13
	Extracti gentianæ	gr. vi		4
	Olei cari	gtts. ii		19

Ft. pilulæ No. vi. Sig.: One pill at bedtime.

℞.	Resinæ podophylli	gr. ii		13
	Quininæ sulphatis			
	Extracti aloes, āā	gr. viii		5
	Fellis bovis	gr. xvi	1	04

Ft. pilulæ No. vi. Sig.: One or two pills at bedtime.

Potter recommends the following castor oil emulsion for children:

℞.	Olei ricini		
	Glycerini, āā	f℥i	30
	Tincturæ aurantii	fʒii	8
	Tincturæ senegæ	fʒi	4
	Aquæ cinnamomi q. s. ad	f℥iv	120

M. Ft. emulsum. Sig.: One or two tablespoonfuls for children, according to age. For adults: From two to four tablespoonfuls.

Asthma in Infants and Children.

Cautley, in the *Clinical Journal*, London, states that the prophylactic treatment consists in bringing up predisposed children in the most suitable manner as regards hygiene, diet and prevention of catarrhal conditions. The body should be kept warm and the apartments cool. A high dry air (mountain region) is more suitable for these patients than the seaside. When there is much catarrh, however, it is more important to choose a warm dry climate, or seaside air and sandy soil, with the object of benefiting the catarrh. High altitudes are unsuitable for emphysema.

The diet should be simple and nutritious and should consist of small regular meals, avoiding all meat extracts and excess of carbohydrates. Fruit may be given liberally. The bowels should be kept open.

All local sources of irritation should be attended to, and adenoids or enlarged tonsils should be removed.

During a paroxysm of spasmodic asthma a warm bed in a room with open windows may be all that is necessary in mild cases. In more severe ones some of the following methods may be adopted: In order to induce general vasodilation give a hot-water or vapor bath; apply hot fomentations or turpentine stupes to the chest; administer nitroglycerin, nitrites, or inhalations of amyl nitrite; or give chloral by mouth or rectum; or give alcohol. Constriction of the respiratory mucosa can be induced by inhalation of cold air from ice in a jug or inhaler; adrenalin, 1 in 1000; the fumes of brown paper, nitre paper, the leaves of stramonium, or belladonna or hyoscyamus.

Most of these remedies are irritating, unsuitable and injurious in the catarrhal asthma of infants, in which more benefit is derived from the inhalation of terebene or creosote.

An emetic is often useful at the onset of an attack, and for this purpose the syrup or the wine or powder of ipecacuanha can be given. In older children, unable to swallow, one-tenth of a grain (0.006) of apomorphin may be given subcutaneously. Emetics help the child to get rid of mucus and also act as cardiac depressants. Other remedies which may be mentioned are belladonna by the mouth and atropin or pilocarpin subcutaneously, counter-irritants to the chest, dry cupping, and occasionally bleeding. Morphin, administered subcutaneously, is useful in bad attacks, but should very rarely be employed for children.

For the prevention of the nocturnal paroxysms antipyrin, acetphenetidin (phenacetin) or bromids may be given at bedtime.

Between the attacks treatment must be directed to the general health. A course of potassium iodid or syrup of the iodid of iron and cod-liver oil, is advisable. Arsenic is beneficial in cases in which there is a tendency to glandular enlargement, while strychnin and cinchona form useful tonics. Cauterization of the nose is another measure which may be tried in this condition.

As a general principle it is infinitely more important to attend to the general health of the child, to prevent erroneous methods of feeding, to remove local sources of irritation, and to cure the catarrhal tendency, than it is to rely on measures for relieving or cutting short the paroxysms.

Medicolegal

Towns Can Not Remove Members of Boards of Health.

The Supreme Judicial Court of Massachusetts, in the case of the Attorney General vs. Stratton and others, a proceeding in the nature of quo warranto to require the respondents to show by what warrant and authority they exercised the office of members of the board of health of the town of Swampscott, holds that it could not be maintained. It says whatever the rule may be in reference to municipal corporations in other parts of the country, it is of the opinion that, in the cities and towns of Massachusetts, there is no power to remove public officers except that which is given by the statutes. In Massachusetts the election of public officers, their removal from office and the filling of vacancies have been the subject of elaborate legislation. But there is no provision for the removal of members of the board of health in towns. In the absence of any such provision the court is of the opinion that they can not be removed by a vote of the town, either with or without a hearing before the town or a committee thereof.

Damage for Injury Causing Loss of Bowel Control.

The Court of Appeals of Kentucky says, on the appeal of Louisville Railway Company vs. Bohon, a personal injury case brought by the latter party, that the plaintiff testified that, after she had been thrown to the ground while attempting to alight from a street car, she was confined to her bed about two weeks; that the physician visited her during this time quite frequently; that she was injured, not only by a cut in her scalp, but that there was an injury to her spine, affecting the lower portion thereof, and that at the time of the trial—which was a year or more after the date of the injury—she was still suffering from the effects of the injury. Her physician testified that he had visited her and prescribed for her at her home and at his office 50 or more times during the course of that year. He further testified that the injury was such as to leave her in a most distressing and unfortunate condition; that the injury to her back so affected the nerves of the back as to produce partial paralysis thereof, and caused her to lose control of her bowels, and that this trouble was traceable directly to the injury; that he had been her family physician for some seven years or more, and that she had no other injury than the one occasioned by the fall from the car, so far as he knew; that for some time after the injury the nerves controlling the bladder were also affected, but that at the date of the trial she had in a measure recovered from this trouble, but that she was still unable to control her bowels. The trial resulted in a verdict of $3,000 for the plaintiff, and the judgment therefor is affirmed. As to whether this injury was permanent or not, the court states that it can not say, but that even if it was not, it is of the opinion that the damages awarded were not excessive.

Proving Being Physician in Action for Services.

The Supreme Court of Montana says that the case of Leggat vs. Gerrick was brought to recover a balance of $100 for professional services rendered for the defendant, by the plaintiff, a physician. The physician obtained a judgment in the district court, which is affirmed, although it was urged that the evidence was insufficient to sustain the decision of the lower court, in that there was not any evidence offered on behalf of the plaintiff to show "that the plaintiff holds a certificate granted by the state medical board of the state of Montana, entitling him to practice medicine."

If the fact affirmatively appeared that, at the time the services were rendered the plaintiff did not have a certificate, then, the Supreme Court says, the question of his right to recover would be raised directly. But, as that fact did not appear, the only question presented here was: On whom rested the burden of proof? Was the burden on the plaintiff in the first instance to show that he had such certificate, or was it on the defendant to show that he did not have it?

The testimony given at the trial on behalf of the plaintiff by a witness named Kremer was: "I knew Dr. Leggat at that time, and I can state that I knew him to be a physician and surgeon in the city of Butte, and at that time was the city physician." In view of this testimony, the Supreme Court thinks that the presumption followed that Dr. Leggat had complied with the law, and that the burden of proof was on the defendant to show that he had not done so. And, in the absence of any attempt on the part of the defendant to make this proof, the court thinks the evidence was sufficient to sustain the decision of the lower court.

The Supreme Court says that after a careful review of the authorities the Court of Appeals of Illinois, in Williams vs. People, 20 Ill. App. 92, said: "Where the question of license or qualification of a physician arises collaterally in a civil action between party and party, or between the doctor and the one who employed him, then the license or due qualification under the statute to practice will be presumed. McPherson vs. Cheadell, 24 Wend. (N. Y.) 15; Thompson vs. Sayre, 1 Denio (N. Y.) 175; Pearce vs. Whale, 5 Barn. & Cres. 758." The reason for the rule is stated by the same court in the City of Chicago vs. Wood, 24 Ill. App. 40, as follows: "The reason why the license will be presumed where there is no evidence to the contrary, rests on the principle that, when an act is required by positive law, to be done, the omission of which would be a misdemeanor, the law presumes that it has been done, and therefore the party relying on the omission must make some proof of it though it be a negative."

While there is some conflict in the decisions, the decided weight of authority seems to be in favor of the rule stated above in Williams vs. People. McPherson vs. Cheadell, 24 Wend. (N. Y.) 15; Jo Daviess County vs. Staples, 108 Ill. App. 539; Lacy vs. Kossuth County, 106 Iowa, 16; Dickerson vs. Gordy, 5 Rob. (La.) 489; Lyford vs. Martin, 79 Minn. 243; Cather vs. Damerell (Neb.) 99 N. W. 35; Rider vs. Ashland County, 87 Wis. 160; Good vs. Lasher, 99 Ill. App. 653.

The same general rule is recognized by the Court of Appeals of Indiana in Cooper vs. Griffin, 13 Ind. App, 212, but, by reason of a special statute in that state, the contrary rule is upheld.

A somewhat analogous question is presented in an action brought in a court of tnis state (Montana) by a foreign corporation. It has been held that it is not necessary for the foreign corporation to prove, in the first instance, that it has complied with the laws of this state entitling it to do business here.

Nor does the Supreme Court think that the trial court erred in allowing interest on the amount recovered, its action appearing to be warranted by section 4280 of the Civil Code of Montana, which provides: "Every person who is entitled to recover damages certain, or capable of being made certain by calculation, and the right to recover which is vested in him on a particular day, is entitled also to recover interest thereon from that day, except during such time as the debtor is prevented by law, or by the act of the creditor, from paying the debt"—and by the construction given to that section by this court in Hefferlin vs. Karlman, 29 Mont. 139.

Liability of Hospitals and Others for Negligence in Charity Cases—Case of Patient Paid for by County.

The Supreme Court of Utah says that the case of Gitzhoffen vs. Sisters of Holy Cross Hospital Association was brought to recover damages alleged to have been sustained by the plaintiff through the defendant's negligence while he was an inmate of its hospital. The evidence on the part of the plaintiff tended to show that when he was admitted to the hospital he was suffering from gonorrheal conjunctivitis in the second, or purulent stage, and should have had his eyes cleansed every 20 minutes, which was not done, in consequence of which total blindness resulted in the left eye, and the sight of the right eye was so impaired as to amount to substantial blindness. The county paid the defendant for taking care of the plaintiff 41 days, $41.

The great weight of authority is, the court says, that a charitable institution or corporation is not liable for the negligent acts of its nurses or other employés, if it has not been guilty of negligence in selecting them. To a corporation organized for profit the doctrine of respondeat superior (the superior or master must answer) fully applies, and the corporation is made liable for the negligent acts of its employés done in the discharge of its business and within the scope of the servants' employment.

In this case, however, it was in effect urged that, notwithstanding the general character of the defendant as to its being a corporation for gain, nevertheless the actual relation existing betwen it and the plaintiff was merely charitable, and hence the same principle of the law should be applied to the case as is applied to charitable institutions, only making it liable for its negligence in the selection of the nurse. This position was taken from the assumed facts that the plaintiff was an indigent person, a charge on the county, and as such was placed by it in the hospital for treatment for which payment was made by the county, the plaintiff paying nothing and not agreeing to pay anything. As stated by counsel for the defendant in his brief: "There was no contract between plaintiff and the defendant. The contract for his admission to the hospital was between the county, whose charge he was, and the defendant. Under the contract between the county and the defendant, plaintiff, having been sent there, had a right to be in the hospital and to be treated as a patient."

If one, through mere kindness or charity, admits a sick or wounded person to his house to administer aid and comfort to him, and for such purpose selects a physician or servant to attend him, undoubtedly he ought not to be held, nor does the law hold him, liable for the negligence of the physician or servant, unless, as the authorities say, he has been guilty of negligence in the selection of the physician or servant. And, had the defendant so received the plaintiff, and not otherwise, it could not be held liable in any greater degree.

But, if one receives another into his house for the purpose of treating him, and assumes and undertakes to do so, though it may be done gratuitously, there is some force to the position that he should be held liable for the negligence of his servant in the discharge of the duties undertaken and assumed by him, on the principle of law that, if a person actually undertakes and enters on the execution of a particular work, it is his duty to use reasonable care in the manner of executing it, whether done by himself or through his servants. Applying the principle, there is force to the argument that the defendant, having received the plaintiff into its hospital, and having assumed and undertaken to treat him, it thereby assumed the duty of using reasonable care in so doing. But the court need not, and does not, rest the determination of the case on this principle.

It was alleged in the complaint that the defendant received the plaintiff into its hospital for hire. The defendant in its answer, while denying that it received the plaintiff under any direct contract or agreement with him, yet admitted that it received him for treatment under a contract with the county for which it was paid by the county. The admission had the effect of precluding the defendant from making the claim that the plaintiff was received and treated by it through mere charity, for the court can not well see how the defendant could admit that it received the plaintiff for treatment under contract with the county for hire, and then claim that it received the patient gratuitously. No claim was made that the payment received by it was not made or received as compensation, but only as a donation or contribution to the defendant determined by the ability of the patient or the county to give, and not on the value or cost of services rendered.

If the defendant agreed with the county to receive the plaintiff for treatment for a price which the county was willing to pay, and the defendant to accept, the court can not see what difference it made that the relation between the county and the plaintiff was charitable, any more than if an individual through mere kindness toward the plaintiff had contracted with the defendant for his treatment and care. While, therefore, the relation between the plaintiff and the county may be said to have been merely charitable, the relation between the defendant and the plaintiff nevertheless was not so. That a contract may be entered into between two persons for the use and benefit of a third person, and that such third person may maintain an action thereon, although the promise or contract was made without his knowledge and without any consideration moving for him, is well settled in this jurisdiction.

While it may be said that this was an action of tort, and not on contract, nevertheless, in such an action, a plaintiff seeking to recover for injuries sustained by him through the negligence of another must show that the latter committed a breach of some duty owing to the plaintiff or imposed for his benefit. To show what that duty was, it was proper to aver and prove the relation existing between the parties. As tending to show a duty owing from the defendant to the plaintiff, it was proper to aver and prove that the defendant had received him under contract for a consideration, and as tending to show what it was that the defendant had assumed and undertaken to do. For, it may well be said that, if the defendant had received the plaintiff as a mere object of charity, then it owed him no duty, except perhaps the exercise of care in the selecting of a physician or nurse, if it had undertaken to do so. If, on the other hand, it received him for treatment under a contract for pay, and undertook and assumed to treat him, then it owed a duty not only to exercise reasonable care in the selection of a nurse, if it had undertaken that duty, but also the duty to use reasonable care in the giving of the treatment and the doing of that which it had agreed and assumed to do. If the defendant agreed with the county to receive and treat the plaintiff for pay, the court can not see on what principle it did not owe him the same duty in the premises as if it had directly made the agreement with the plaintiff to receive and treat him for pay.

Neither by the pleadings nor the evidence was there presented a case of rendering services out of mere charity, but one of rendering services for pay by the defendant, a non-charitable corporation, and hence it must be held liable for the negligent acts of its servants done in the scope of their employment.

On the alleged acts of negligence, the court thinks the evidence was sufficient to require the case to be submitted to the jury for their finding.

As to the condition of the plaintiff's eyes at the time of his admission to the hospital, the yielding of the disease to treatment, the physician in charge of the plaintiff, the directions given by the physicians to the defendant and its nurses with respect to the treatment, and as to what transpired at the hospital, the evidence was conflicting. The case ought to have been submitted to the jury; and the trial court erred in not submitting it.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

April 13.

1 Treatment of Acute Cardiac Affections in Childhood. A. Baginsky. Berlin.
2 Local Thermotherapy. W. G. Thompson, New York.
3 Aneurism of the Arch of the Aorta. G. L. Peabody, New York.
4 *Diagnosis of Early Pregnancy. L. J. Ladinski, New York.
5 Symptomless Mastoiditis Followed by Meningitis and Death. A. B. Bennett, Washington, D. C.
6 *Prolapse of the Rectum. J. K. Hall, Morganton, N. C.
7 Aspiration in Otitis Media Acuta. P. R. Wood, Marshalltown, Iowa.
8 Arrested Mental Development. H. Richardson, Baltimore.

4. **Diagnosis of Early Pregnancy.**—Ladinski claims that the diagnosis is made by the appearance of a spot of peculiar softness and elasticity just above the junction of the body and the cervix in the anterior wall of the uterus, in the fifth or sixth week. When the uterus is retroverted and retroflexed it appears in the posterior wall and at the sixth or seventh week of pregnancy. In incomplete abortion or subinvolution this area of softness appears, but is much more doughy and less elastic. With a hard fibroid in the upper portion of the uterus there is a similar spot, but the softness is only relative. With a soft myoma in the center of the uterus the feeling is exactly that of pregnancy. The sign must be sought by bimanual palpation. Absence of this sign absolutely excludes uterine pregnancy. The sign aids in making a positive diagnosis of extrauterine pregnancy by excluding uterine pregnancy. Ladinski suggests that it is in all probability due to extreme vascularity of the uterine wall at the point where it is felt.

6. **Prolapse of Rectum.**—Hall reports a case of very large rectal prolapse, in which a successful operation was done by attaching the sigmoid flexure to the anterior abdominal wall on the left side. The muscular bands of the colon were very strongly attached to the surface of the peritoneum near the abdominal incision so as to produce strong adhesions. The patient was not allowed up for a month or more.

Boston Medical and Surgical Journal.

April 11.

9 Biography of Michel Servetus, the Discoverer of the Pulmonary Circulation. C. G. Cumston, Boston.
10 *Empyema and Abscess of the Lung as Sequels of Acute Suppurative Appendicitis. H. Gage, Worcester, Mass.
11 *Operative Treatment of Hemorrhoids. T. C. Hill, Boston.
12 *Hemorrhoids and Their Treatment. C. S. Gilman, Boston.
13 Studies in Psychopathology. (Concluded.) B. Sidis, Brookline, Mass.

10. **Sequels of Suppurative Appendicitis.**—Gage reports two cases in which suppuration in the thoracic cavity followed shortly after an attack of appendicitis. The first patient, a man, 45 years old, presented all the signs and symptoms of effusion in the lower part of the right chest. Four ounces of pus, dark brown in color and of distinctly fecal odor, were evacuated. On further questioning it developed that three weeks previously the patient had manifested the characteristic symptoms of appendicitis. The second patient was a child, 6 years old. An appendiceal abscess was opened, the appendix removed and the wound drained. There was no evidence of abdominal infection, and the patient progressed nicely until the third day, when he developed a right-sided pneumonia. In the course of a week both physical and constitutional signs disappeared and the child was sitting up in bed. The temperature then returned, associated for the first time with abdominal pain and tenderness. The boy died 31 days after the appearance of these symptoms. At the necropsy there was found an abscess of the right lung, pus in both pleural cavities, and a general suppurative peritonitis, chiefly noticeable in the upper part of the abdomen. The region about the cecum showed no evidence of fresh infection. The stump of the appendix was thoroughly healed and not even injected. In another case the left side of the thorax was involved primarily from the extension of an abscess in the subphrenic region on the left side. The patient was operated on five days after the onset of the disease and a perforated gangrenous appendix was removed. In three other cases of abscess of the lung no surgical interference was attempted, with the result that two patients recovered and one died.

11. **Operative Treatment of Hemorrhoids.**—Hill believes that the ligature operation should be chosen when local anesthetics are employed; this is the form of anesthesia which he prefers and uses whenever possible.

12. **Id.**—Gilman agrees with Hill with regard to the use of the ligature and local anesthetics.

New York Medical Journal.

April 13.

14 *Lesions of the Middle Ear Due to Influenza. G. Bacon, New York.
15 Occurrence of Atypical Phagocytic Cells in Circulating Blood. M. W. Rowley, Boston.
16 *Two New Dressings for Fractured Clavicle. R. Bellamy, New York.
17 Unsuccessful Aneurismorrhaphy for Abdominal Aneurism. J. C. Munro, Boston.
18 *Diagnostic and Prognostic Value of Enumeration of the Nuclei of the Neutrophilic Leucocytes, and their Relative Phagocytic Power. D. M. Kaplan, New York.
19 Renal Congestion and the More Common Forms of Nephritis Unaccompanied by Pyuria. W. G. Vincent, New York.
20 Premature Detachment of Normally Situated Placenta. W. R. Nicholson, Philadelphia.
21 Milk as a Carrier of Infection. C. Harrington, Boston.

14. **Middle-Ear Lesions Due to Influenza.**—Bacon believes that influenza plays a very important part in acute inflammation of the middle ear. Mastoiditis is a most frequent complication, and next come septic thrombosis of the sigmoid sinus and primary phlebitis and thrombosis of the jugular bulb.

16. **Fracture of Clavicle.**—Bellamy describes a first-aid and a permanent dressing for fractured clavicle which he has employed successfully in a large number of cases. His description is accompanied by numerous illustrations, hence it is necessary to refer the reader to the original article.

18. **Clinical Value of Nuclear Enumeration.**—Kaplan found that the mononuclear neutrophile is capable of carrying more staphylococci than are the multinuclear forms, and that the four-nuclear forms carry least of all.

Lancet-Clinic, Cincinnati.

April 13.

22 *Operation for Hypertrophy of Prostate. B. Lewis and C. E. Burford, St. Louis.
23 Endonasal Surgery. A. B. Thrasher, Cincinnati.

22.—See abstract in The Journal, Dec. 1, 1906, page 1850

St. Louis Medical Review.

April 6.

24 Case of Rigid Spine. W. W. Graves, St. Louis.
25 Additions to Our Knowledge of the Chancre and Primary Stage of Syphilis. J. Grindon, St. Louis.
26 Manifestations of Secondary Syphilis. C. D. Scott, St. Louis.
27 Marcelin Berthelot. G. D. Hinrichs, St. Louis.

Journal of Medical Research, Boston.

March.

28 Preservation of Neutrality in Culture Media with Aid of Phosphates. L. J. Henderson and H. B. Webster, New Haven, Conn.
29 Elastic Tissue of Carcinomata. G. McConnell, St. Louis.
30 *Absorption from the Peritoneal Cavity. Parts VI and VII. B. H. Buxton, New York.
31 *Pathology of Brown-Tail Moth Dermatitis. E. E. Tyzzer, New Haven, Conn.
32 Trypanosomes of the Trumpeter Hornbill. J. E. Dutton, J. L. Todd and E. N. Tobey, England.
33 *The Uricolytic Enzyme. A. E. Austin, Boston.
34 *B. Coli Communis*, "The Presumptive Test," and the Sewage Streptococci in Drinking Water. D. Rivas, Philadelphia.
35 Lesions of the Granule Layer of the Human Cerebellum. E. E. Southard, New Haven, Conn.
36 Occurrence of Oxidative Ferments in a Melanotic Tumor of the Liver. C. L. Alsberg, New Haven, Conn.
37 Fatty Tumor of Kidney Suggesting a Metamorphosis of Adrenal Cells into True Fat. C. B. Keenan and E. W. Archibald, Montreal, Canada.

30. **Absorption of Peritoneal Cavity.**—Buxton's article may be summarized as follows: Bacteria, when injected into the peritoneal cavity even in minute doses, reach the circulation in a few minutes by way of the lymphatics of the diaphragm. If these results are applied to man, then the Fowler position is indicated to avoid a rush of bacteria toward the diaphragm, and flushing of the abdominal cavity is not indicated. Rabbits frequently die from acute intoxication in about two hours after injection into the peritoneum of living typhoid bacilli. May not, then, asks Buxton, many deaths from shock after operation for perforation accompanied with irrigation be due to a similar cause?

31. **Brown-Tail Moth Dermatitis.**—Tyzzer says that the lesions are produced by the penetration into the epidermis of peculiarly modified microscopic hairs, the nettling hairs, which are sharply pointed and barbed. The other hairs of both the caterpillar and the moth do not produce any dermatitis. The nettling hairs, which from their shape are perfectly adapted for penetration, possess in addition an irritating substance which is undoubtedly an important factor in the production of the dermatitis. This substance may be destroyed by heating the nettling hairs at 115 C., or it may be extracted from them by certain solvents, such as dilute solutions of alkalies, at room temperature or water heated to 60 C. Nettling hairs inactivated by either of these measures produce no more than a slight redness when rubbed into the skin, and probably act then merely as foreign bodies. The dermatitis produced by the nettling hairs is of two types, dependent on the number of these elements penetrating a given area. The severe type is usually due to actual contact with caterpillars; the milder scattered rash is due to nettling hairs blown in the air and lodging on the skin or on the undergarments as they hang drying. The pathologic process in the skin consists of necrosis of the epidermal cells around the nettling hairs, the formation of spaces or microscopic vesicles in the epidermis at the site of injury, and inflammatory changes about the vessels of the corium. (See editorial comment, page 1436.)

33. **Uricolytic Enzyme.**—The results of Austin's investigation may be summed up as follows: All alkalies, even the weaker ones, at brood oven temperature split uric acid, an action which almost invariably increases as the temperature rises. The destructive action of the alkali used for the solution of uric acid is not uniformly increased by the addition of organic extracts isolated by the method of Rosell, which is supposed to isolate an active enzyme if such exists. Among the products of splitting by both the alkali alone and the alkali in conjunction with organ extracts, oxalic acid is rather uniformly found, urea and allantoin not at all. It is very difficult to isolate an extract of organs which does not contain purin bases, which are readily converted to uric acid at brood oven temperature by xantho-oxydase, thereby obscuring the results obtained by isolation of the remaining acid. There is no evidence of the reversible action of uricolytic enzyme if such exists. Unless some solvent other than an alkali is found for uric acid, it will be difficult to separate the destruction action of the alkali from that of any enzyme which may be present.

American Journal of Urology, New York.

March.

38 Hematuria of Chronic Nephritis. A. L. Chute, Boston.
39 *Patient with Renal Calculi Developing the Stone-passing Habit. E. L. Elsner, Rochester, N. Y.
40 Urethral Hemorrhage. F. C. Valentine and T. M. Townsend, New York.

39. **Stone-Passing Habit.**—Elsner reports the case of a woman, aged about 30, who had what he called the stone-passing habit. She passed renal calculi for a period of two years. During that time she had 405 attacks of colic and passed 518 stones, 415 of small size, 43 medium sized and 60 large-sized stones. Not included in the total of stones were 200 or 300 small pieces and a considerable amount of fine sand.

Washington Medical Annals, Washington, D. C.

March.

41 Diphtheria, Croup and Allied Affections, with Special Reference to Intubation. W. A. Wells, Washington.
42 *Fractures of Shaft of Femur. C. S. White, Washington.
43 *Case of Extensive Injury of the Cornea. R. S. Lamb, Washington.
44 Treatment of Chronic Diseases of the Heart. T. Schott, Nauheim, Germany.
45 *Phenol in Erysipelas. B. M. Randolph, Washington.
46 Medical Inspection of Schools. G. H. Heitmuller, Washington.
47 Case of Multiple Fibroids of the Uterus. J. W. Bovée, Washington.
48 Case of Ectopic Pregnancy. D. S. Lamb, Washington.

42. **Fractures of Shaft of Femur.**—White recommends wiring, especially in cases of fracture in the upper third of the shaft and other fractures, when perfect apposition is impossible and when union is delayed or vicious. He is firmly convinced that the future treatment of this fracture will be largely operative.

43. **Injury of Cornea.**—As the result of the explosion of a pop bottle Lamb's patient sustained a very severe injury of the cornea. The wound extended from above the sclerocorneal margin, including the ciliary body, across the center of the cornea, nearly to the opposite sclerocorneal margin. The anterior chamber was absent and the iris filled the wound from end to end. Rest in bed, a pressure bandage and the instillation of eserin sulphate constituted the treatment employed. The patient made an excellent recovery, his distant vision without glasses being 6/6.

45. **Phenol in Erysipelas.**—Randolph is convinced that in the application of pure carbolic acid, controlled by alcohol, used before secondary infection of the deeper tissues has occurred, we have almost a specific for erysipelas. He reports two cases in which this method of treatment was successful. In one of these cases the disease was communicated by a barber.

Louisville Monthly Journal of Medicine and Surgery.

March.

49 *Cases of Tuberculosis Treated with Serum. S. W. Holloway, Louisville.
50 Diagnosis and Treatment of Pulmonary Tuberculosis. F. M. Walker, Louisville.

49. **Serum in Tuberculosis.**—Holloway believes in the efficacy of the serum treatment of tuberculosis and reports 15 cases to illustrate the benefits he has derived from its use. In the early cases the best results were obtained; the next, in cases somewhat advanced, but not infected. Cases of mixed infection were apparently made worse, and the far advanced cases showed no reaction but progressed as under other methods of treatment. Medicinal treatment was eliminated as far as possible, and no fixed diet was insisted on. In every case the diagnosis was confirmed microscopically.

Journal of Cutaneous Diseases, New York.

March.

51 *Syphilitic Alopecia. H. G. Klotz, New York.
52 *Phagedenic and Serpiginous Ulcers and Infective Granulomata. W. F. Breakey, Ann Arbor, Mich.

51. **Syphilitic Alopecia.**—Klotz is of the opinion that alopecia is not a common or regular symptom of the early stages of syphilis, although a certain number of cases may be accompanied by a diffuse loss of hair, varying in degree, similar to that observed after other infectious diseases. There is, however, a form of alopecia that occurs almost exclusively in syphilitics, and it is so characteristic as to be diagnostic of syphilis, either acquired or hereditary. It occurs in the form of ill-defined, irregular, small, sometimes coalescent patches of baldness distributed principally over the back and uppper portions of the scalp and giving it a mangy or moth-eaten appearance. It generally follows a very tedious course, although terminating in restoration of the hair.

52. **Phagedenic and Serpiginous Ulcers.**—Breakey reports a case of this kind which is unique mainly because of its duration. The diagnosis was somewhat uncertain because the lesions resembled the ulcerating granulomata. The ulcer was situated across the posterior side of the right thigh.

New Orleans Medical and Surgical Journal.

March.

53 *Operative Surgery of Spine and Cord. W. S. Bickham, New Orleans.
54 Successes and Failures in Intubation. H. Dupuy, New Orleans.
55 Case of Dermatobia Noxialis. J. B. Elliott, Jr., New Orleans.

53. **Operative Surgery of Spine and Cord.**—Bickham pleads for greater ability on the part of the surgeon to diagnose his own neurologic cases, which involves a broader knowledge of physiologic, pathologic and clinical phenomena of nerve functions and nerve conditions. He says that in the absence of such ability and in the present status of limited knowledge of the cord in health and disease, and considering the equivocation of many clinical phenomena, in many cases, the only possibility of ascertaining the condition of the cord and, consequently, of giving a patient the best chance for recovery is by exposing the cord, seeing and palpating it. He also pleads for the freer application of surgical measures to a large variety of spinal lesions, at the same time laying stress on the need of more prompt surgical and sufficiently radical action in those cases in which surgical action is called for at all. He urges the substitution of the osteoplastic method of resection in exposing the spinal cord and canal, for the older form of exposure by laminectomy.

Northwest Medicine, Seattle, Wash.

February.

56 *Plea for a Better Knowledge of Materia Medica. L. R. Markley, Bellingham, Wash.
57 Conservative Midwifery. G. E. Fell, North Yakima, Wash.
58 *Cataracts Produced by Shocks from the Commercial Electric Current. H. Stillson, Seattle.

March.

59 *Treatment of Acute Septic Peritonitis. P. W. Willis, Seattle.
60 Syphilis. J. S. Smith, Bellingham, Wash.
61 Treatment of Patients and Methods of Sterilization at St. Mary's Hospital, Rochester, Minn. S. G. Gay, Selma, Ala.
62 Present Status of Orthopedic Surgery. R. J. James, Seattle.
63 *Gonorrheal Peritonitis in the Male. J. W. Thomas, Seattle.

56. **Plea for Better Knowledge of Materia Medica.**—Markley urges that physicians post themselves better than they do with regard to the physiologic action of drugs. After a thorough knowledge of diagnosis, it is essential to know what medicines are indicated in a given case. Markley says that medical colleges should devote more time to the teaching of materia medica and therapeutics.

58. **Cataract Produced by Electricity.**—Stillson reports three cases of opacities in the crystalline lens which were caused by electricity and which closely resemble cataracts caused by lightning. In the first case there is a complete loss of vision, and the only abnormality in the eyes is a cloudiness of the anterior portion of each lens, the cloud resembling small dust particles just under the anterior capsule. In the second case numerous spots appear in the anterior surface of the lens, just under the capsule, and composed of dots and interlacing lines. The fundus was normal and vision equaled 8/10. The third case was similar to the second. The current causing these lesions was an alternating one of 20,000 and 30,000 volts.

59. **Treatment of Acute Septic Peritonitis.**—Willis outlines his treatment as follows: In the majority of cases the cause should be removed by operative interference, which should cause as little traumatism as possible to the peritoneum; saline flushing should be practiced and adequate drainage provided. Firm dressings should be applied to give rest to the bowels. Nothing should be given by mouth except water. Gastric lavage should be used as often as necessary, even once an hour. Saline solution should be given by rectum and, if necessary, subcutaneously. If necessary, nutritive enemata should be given. Exceptions to the operative portion of the treatment are cases which are too far advanced, thus requiring precisely the same treatment without operation, and some cases which develop from the pelvic organs of the female. The points which Willis emphasizes are the absolute necessity of avoidance of all kinds of nourishment by mouth, and the frequent use of gastric lavage.

63. **Gonorrheal Peritonitis in Male.**—Thomas reports two cases of gonorrheal peritonitis occurring in the male. In one case it is assumed that the infection came from the seminal vesicles. The second patient denied all possibility of gonorrheal infection.

The Laryngoscope, St. Louis.

February.

64 *New Method of Operating on Turbinal Hypertrophies. S. Yankauer, New York.
65 *External or Internal Operation for Suppuration of Accessory Nasal Sinuses. M. Halle, Berlin, Germany.
66 *Pharyngo-mycosis or Pharyngo-keratosis. F. J. Quinlan, New York.
67 Vocal Nodules. H. H. Curtis, New York.
68 *Case of Fibrous Atresia of Nares. J. H. Abraham, New York.
69 Complete Removal of Diseased Tonsils. E. Moraweck and G. C. Hall, Louisville.
70 Reverse Antrum Bone Forceps in Antrum Surgery. L. Ostrom, Rock Island, Ill.

64. **Turbinectomy.**—Yankauer describes a new method of operating for hypertrophy of the turbinates. The operation consists of two stages: 1, The excision of the hypertrophied tissue; 2, the suture of the wound. The latter is the essential feature of the operation and in order to carry it out successfully, special instruments are required. These and the steps of the operation are described in detail. The procedure has been employed successfully in 14 cases of hypertrophy of the inferior turbinate.

65. **Suppuration of Accessory Nasal Sinuses.**—Halle summarizes his paper as follows: 1. In every case of accessory sinus empyema, physiologic breathing is first of all to be established. 2. In every case a cure should be attempted by establishing a blood drainage opening into the nose. 3. In a large number of cases, perhaps in most cases, the frontal sinus also can be opened from within easily and without danger if the proposed method be followed. 4. The external operation is to be resorted to when the discharge is continuously profuse or of long duration; also when life is endangered. The after-treatment in such cases is to be conducted from within, unless the complete obliteration of the cavity by means of granulation is to be effected.

66. **Pharyngo-mycosis.**—Quinlan reviews the clinical history of this condition, the etiology of which is not definitely established.

68. **Fibrous Atresia of Nares.**—In the case reported by Abraham, a fibrous circular web was situated at the junction of the mucocutaneous surface of the vestibule. An oval-shaped

opening was situated near the center of the web, and through this the patient attempted to breathe. The web was removed under local anesthesia. A trauma, with a baseball bat, was the cause of the condition.

Ophthalmic Record, Chicago.

March.

71 *Severe Vertigo from Eyestrain. L. S. Dixon, Boston.
72 A New Schematic Eye. W. A. Fisher, Chicago.
73 *Case of Self-enucleation of Eyeball. G. L. Noyes, Columbia, Mo.
74 Filtration of Eye and Pathogenesis of Glaucoma. A. U. Troncoso, Mexico.
75 *Accurate Diagnosis of Conjunctivitis. J. Clothier, Philadelphia
76 Ocular Rotations. G. C. Savage, Nashville, Tenn.
77 Case of Chronic Pseudomembranous Conjunctivitis with Development of Ocular and Pharyngeal Diphtheria on Use of Jequirity. H. Harlan, Baltimore.
78 A Capsulotome. R. Denig, New York.
79 *Case of Primary Gumma of Sclera. C. D. Jones, Boston.
80 Differential Diagnosis Between Headaches of Ocular and Nasal Origin. M. Black, Denver.

71. **Severe Vertigo from Eyestrain.**—Dixon reports two cases of vertigo in which relief was given by the wearing of glasses.

73. **Self-Enucleation of Eyeball.**—Noyes reports the case of an insane woman, 65 years old, who forced her finger back into the socket of the eye and deliberately pulled the organ out. About 3 cm. of the optic nerve were attached to the eye. The woman attempted to enucleate the other eye, but only succeeded in causing blindness. It seems that the removal of the eye was prompted by an irresistible impulse, its origin being an hallucination of hearing. The patient was very religious and thought she heard a voice say: "If thine eye offend thee, pluck it out."

75. **Diagnosis of Conjunctivitis.**—Clothier emphasizes the importance of a careful bacteriologic examination of the ocular secretions when attempting to make an accurate diagnosis of conjunctivitis.

79. **Primary Gumma of Sclera.**—The patient whose case is reported by Jones was 36 years of age. Occupying a position about 3 or 4 mm. above the cornea was a diffuse, slightly nodulated swelling, very red and inflamed, in the center of which was a bright yellow spot. It was underneath the conjunctiva, and apparently located in the sclera. From the course of the disease and its reaction to specific treatment Jones considered it a case of primary gumma of the sclera.

Pennsylvania Medical Journal, Athens.

March.

81 *Treatment of Hemorrhage Occurring Within the Thorax and Abdomen. O. C. Gaub, Pittsburg, Pa.
82 *Symptomatology and Diagnosis of Lobar Pneumonia. J. I. Johnston, Pittsburg, Pa.
83 Complications of Lobar Pneumonia with Reference to Surgical Interference. P. Y. Eisenberg, Norristown, Pa.
84 *Treatment of Acute Lobar Pneumonia. J. M. Anders, Philadelphia.
85 *Vaccination and Antivaccination. B. Lee, Harrisburg, Pa.

81.—See abstract in The Journal, Oct. 13, 1906, page 1221.

82. **Pneumonia.**—Johnston details the results of an analysis of 100 cases of pneumonia, made for the purpose of determining the frequency of the so-called classical symptoms and signs. In this series there were 16 cases of apical pneumonia. Crises occurred in 72 cases from the fifth to the eleventh day, 31 per cent. of these occurring on the ninth day. Twenty-four of the patients died. Herpes was noted in many of the cases. In 87 per cent. of the cases there was pain over the area of lung involved; abdominal pain was present in 2 per cent.; pain on both sides in 1 per cent; pain in the back and legs in 3 per cent., and in 7 per cent. no history was obtained. In 53 per cent. the temperature was 103 F. or higher, while in 29 per cent. it was 102 plus. In 39 per cent. the pulse rate was 120 or more, while 17 per cent. had a pulse rate of not less than 110. Cough was present in all the cases. The character of the sputum was not noted in all the cases, but it was characteristic in 37 in which record was made.

84. **Treatment of Pneumonia.**—Anders emphasizes the value of hygienic measures and plenty of fresh air in the treatment of pneumonia. Strychnin, whisky and digitalis are recommended in suitable cases and the application of cold compresses to the chest and the reduction of temperature by cold spongings are discussed favorably.

85. **Vaccination and Antivaccination.**—Lee discusses the statistical government reports of Russia and Germany with reference to the efficacy of compulsory vaccination in the prevention of smallpox. The records are very much in favor of the methods employed in Germany, where vaccination is compulsory.

Medical Fortnightly, St. Louis.

March 25.

86 *Diet in Gastric Disorders. G. H. Hoxie, Kansas City, Mo.
87 *Treatment of Conjunctivitis Trachomatosa Relative to Sequelæ. F. P. Parker, St. Louis.
88 Spinal Irritation. W. T. Marrs, Peoria Heights, Ill.

86. **Diet in Gastric Disorders.**—Hoxie emphasizes the value of dietetic treatment in gastric disorders and suggests that every practitioner have ready at his disposal a few dietaries which every household can follow out. He says that a great deal may be accomplished by having patients suffering from gastric exhaustion rest for from one-half hour to an hour after each meal; especially, if such rest be taken in the open air and sunlight. The electric tub bath, with a sinusoidal current, given when the stomach is empty, acts as a stimulant, and cold douches applied to the spine early in the day and deep massage of the abdomen late in the afternoon are procedures which Hoxie has found useful.

87. **Trachoma.**—Parker urges early operation in trachoma. He says that if there were more operative treatment combined with local applications in the treatment of trachoma it would shorten the duration of the disease and at the same time lessen the hypertrophy of the conjunctiva, thereby minimizing the danger of complications.

Archives of Pediatrics, New York.

March.

89 *Anemia Infantum Pseudoleukemica. H. Koplik, New York.
90 *Modified Wet Nursing. T. S. Westcott, Philadelphia.
91 *Typhoid Infection Conveyed by Convalescent Infant. T. S. Southworth, New York.
92 *Hypertrophic Stenosis of Pylorus in Infant. R. B. Kimball and F. Hartley, New York.

89. **Anemia Infantum Pseudoleukemica.**—Koplik presents a very detailed report of nine cases of this affection, occurring in children ranging in age from 11 to 20 months. Three of the patients died and three improved under treatment. The lowest hemoglobin record was 25 per cent.; the highest 65 per cent. In the latter case the leucocytes numbered 96,000, the highest count in any of the nine cases. Careful differential counts were made, as may be seen by consulting the original report.

90. **Modified Wet Nursing.**—In the plan of feeding proposed by Westcott the human milk serves simply as one ingredient of the bottle mixture. The average yield for the day is apportioned in fairly equal amounts for each feeding, and the total quantity of the bottle is made up according to the needs of the individual case. He has found this method a most helpful aid in convalescence from summer diarrheas in very young infants. The object of this plan of feeding is to secure a food which can be appropriated at once by the starving organism of the infant, and then to continue this until, by gradual increase, the artificial ingredients of the bottle can be fitted to the increasing demands of the infant, so that the human milk can be dispensed with altogether and the thriving infant allowed to proceed on a satisfactory artificial food.

91. **Typhoid.**—Southworth presents the histories of two house epidemics of typhoid fever in different cities, the connecting link between which was an infant 16 months of age, who, preceded and followed by definite cases of typhoid in his own family, passed through an illness with prolonged but relatively moderate temperature, with gastrointestinal symptoms and a complicating pneumonia, without positive Widal at the time, but after some weeks giving a positive reaction. The infant, after a normal temperature for about two weeks, during part of which he was under observation in a hospital, then entered another family and house in which there had been no typhoid, and during his stay there had been only one acute indisposition of a few days' duration, with temperature falling to the normal in two days under local treatment of an edematous and excoriated prepuce. Three weeks after his arrival there two children came down with typhoid, and two weeks

later a third child. Painstaking inquiry revealed no other source of infection. The evidence seemed to point strongly to the infant as the carrier of infection after his convalescence.

92. **Hypertrophic Stenosis of Pylorus.**—Kimball and Hartley report a case of hypertrophic stenosis of the pylorus, which was treated dietetically for about three weeks, when it became necessary to do a posterior gastrojejunostomy, from which the patient made an uneventful recovery.

Fort Wayne Journal-Magazine.

March.

93 European Clinics and Clinicians. C. E. Barnett, Fort Wayne.
94 Cases of Cholelithiasis. B. Van Sweringen, Fort Wayne.
95 Adjustment of Glasses by the Physician. A. E. Bulson, Jr., Fort Wayne.

Southern California Practitioner, Los Angeles.

March.

96 History and Etiology of Pulmonary Tuberculosis. H. Herbert, Los Angeles.
97 Pathology of Pulmonary Tuberculosis. S. P. Black, Los Angeles.
98 Medical Tuberculosis in Children. J. C. King, Banning, Cal.
99 Symptomatology of Pulmonary Tuberculosis. N. Bridge, Los Angeles.
100 Physical Signs of Pulmonary Tuberculosis. W. J. Barlow, Los Angeles.
101 Complications of Pulmonary Tuberculosis. G. L. Cole, Los Angeles.
102 Prognosis of Pulmonary Tuberculosis. C. C. Browning, Monrovia, Cal.
103 Dietetic Treatment of Pulmonary Tuberculosis. G. H. Kress, Los Angeles.
104 Medicinal and Other Treatment of Pulmonary Tuberculosis. F. M. Pottenger, Monrovia, Cal.
105 Progress in Medicine in 1906. D. J. Frick, Los Angeles.
106 Progress in Surgery in 1906. E. H. Wiley, Los Angeles.
107 Progress in Obstetrics in 1906. E. M. Lazard, Los Angeles.
108 Progress in Pediatrics in 1906. P. A. Adams, Los Angeles.

Detroit Medical Journal.

March.

109 Tuberculosis in Michigan To-day. F. W. Shumway, Lansing, Mich.
110 Home Treatment of Tuberculosis. B. R. Shurly, Detroit.
111 Résumé of Accomplishments of the Michigan State Medical Board During 1906. B. D. Harison, Detroit.

Columbus Medical Journal.

March.

112 Present Status of Surgery. H. P. Pomerene, Canton, Ohio.
113 Present Status of Reciprocity Relations Between Ohio and Other States. A. Ravogli, Cincinnati.
114 At What Point in the Curriculum Should a Student Begin to Attend Clinics. M. J. Lichty, Cleveland.
115 Kentucky Schools and Their Relation to the Ohio Board. R. L. Thomas, Cincinnati.

Philippine Journal of Science, Manila.

December, 1906.

116 Physiologically Active, Constituents of Certain Philippine Medicinal Plants. R. F. Bacon, Manila.
117 Toxic Action of Saponins. R. F. Bacon and H. T. Marshall, Manila.
118 Physiography of the Philippine Islands. W. D. Smith.
119 Agenesis of the Vermiform Appendix. H. T. Marshall and R. T. Edwards, Manila.
120 Problems in Economic Entomology in the Philippines. C. S. Banks, Manila.
121 Philippine Fibers and Fibrous Substances: Their Suitability for Paper Making (Part II). G. F. Richmond, Manila.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

March 30.

1 *Diagnosis of Certain Forms of Kidney Disease. J. R. Bradford.
2 *Albuminuric Retinitis. W. H. Jessop.
3 *Treatment of Syphilis. G. Pernet.
4 *Bacteriologic Diagnosis of Cholera. M. A. Ruffer.
5 *Insanity, Its Causes and Increase. G. H. Savage.
6 Recurrent Torsion of Spermatic Cord. W. G. Nash.
7 *Lupus Vulgaris of Long Duration; Iodoform Injections; Rapid Recovery. T. W. Dewar.
8 Treatment of Scabies by Balsam of Peru. F. J. W. Porter.
9 Spirillosis and Hematozoal Disease of Domestic Fowls in the Anglo-Egyptian Soudan. A. Balfour.

1. **Kidney Disease.**—Bradford discusses the diagnosis of certain forms of renal disease, particularly functional albuminuria and nephritis, and also reviews the principles of treatment of Bright's disease. He lays great stress on the importance of never diagnosing the presence of serious renal disease merely on the strength of a urinary examination. He says that this should always be controlled by a clinical examination of the patient, with special reference to the state of the cardiovascular system and the general nutrition.

2. **Albuminuric Retinitis.**—Jessop describes three cases of typical albuminuric retinitis occurring in a case of parenchymatous nephritis, in one of chronic interstitial nephritis and in one of acute nephritis in pregnancy.

3. **Treatment of Syphilis.**—The general treatment of syphilis, as usually carried out, is reviewed by Pernet, and special reference is made to intramuscular injections of mercurial preparations.

4. **Bacteriologic Diagnosis of Cholera.**—As the result of careful experimentation, Ruffer is of the opinion that it is not advisable to trust to the agglutination test only in the bacteriologic diagnosis of cholera. The test is said to be useful but not specific.

5. **Insanity.**—In this, his third lecture, Savage discusses alcoholism and influenza as causes of insanity, the sexual causes, and the question of an increase in the number of the insane.

7. **Lupus Vulgaris**—In the case reported by Dewar, the disease had existed for about fourteen years, resisting treatment by cauterization and inunction and radiotherapy. The lesions were situated on the left side of the nose, over the left malar bone, on the lobe and helix of the right ear, and at the angle of the jaw on the right side. A test injection of tuberculin was followed by a rather violent reaction. The treatment adopted by Dewar was about as follows:

After washing off the scabs with hot water, the lesions were dried, and thin pieces of cotton wool, soaked in a 5 per cent. solution of cocain, were applied to the ulcers for a few minutes. On removing these, thin films of cotton wool, soaked in a ten-volume solution of peroxid of hydrogen, were left on and kept in position by touching the edges with collodion. Every second day the patient was given an intravenous injection of 15 minims of an ethereal solution of iodoform plus liquid paraffin. Within forty days the patient was cured completely.

The Lancet, London.

March 30.

10 *Increase in Insanity. G. H. Savage.
11 Relations of Laryngology and Rhinology to General Practice. F. Semon.
12 *Acute Infective or Toxic Conditions of the Nervous System. E. F. Buzzard.
13 *Treatment of Acute Failure of the Heart. C. Bolton.
14 *Cerebrospinal Fever. N. Raw.
15 *Cases of Puerperal Septicemia. A. K. Gordon.
16 Chloretone and Its Uses, Especially in Chorea. W. E. Wynter.
17 *Pulmonary Hypertrophic Osteoarthropathy Occurring in Case of Congenital Heart Disease. H. B. Shaw and R. H. Cooper.
18 Twin Ovum in a Tubal Pregnancy. A. F. Rutherford.
19 Suppurating Hydatid of Gall Bladder. A. G. L. Reade.
20 Case of Duputyren's Contraction Successfully Treated with Fibrolysin. W. D. Lawrie.

10.—See abstract No. 5 in this issue of The Journal.

12. **Acute Infective or Toxic Conditions of Nervous System.**—In this paper, Buzzard discusses acute ascending myelitis, Landry's paralysis and acute toxic polyneuritis.

13. **Treatment of Acute Heart Failure.**—Nothing new is presented by Bolton with reference to the treatment of acute heart failure. He reviews the causes for the occurrence of such a failure and outlines the treatment that is usually adopted.

14. **Cerebrospinal Fever.**—Raw reports two cases which illustrate the impossibility of making an accurate diagnosis between cerebrospinal and acute tuberculous meningitis, especially in time of epidemic, when attention is turned in that direction.

15. **Puerperal Septicemia.**—In 49 cases of puerperal fever, reported by Gordon, there occurred 12 fatalities, 4 of these shortly after the patients reached the hospital. The routine treatment of these cases consisted in curettage and vigorous disinfection of the uterus. Antistreptococcic serum was given to 20 patients, the dose ranging from 50 to 200 c.c.; the usual amount injected was 100 c.c. Three of these patients died. Gordon believes that the proper treatment is thorough local disinfection, and that while sera and drugs are occasionally useful, they can never cure by themselves.

17. **Pulmonary Hypertrophic Osteoarthropathy.**—In the case reported by Shaw and Cooper, there was no lung disease. A

systolic murmur was heard over the precordium, probably due to a defect of the interventricular septum. A radioscopic examination was made and showed considerable enlargement of the bones of the legs, hands, feet and both forearms.

Journal of Tropical Medicine and Hygiene, London.

March 15.

21 Measures Against Mosquitoes in Port Said and Their Results. E. H. Ross.
22 Outbreak of Hemorrhagic Septicemia at Pokfulam, Hong Kong. J. M. Atkinson.
23 Epidemiologic Aspects of Small Outbreak of Beriberi. A. C. Ingram.

Journal of Obstetrics and Gynecology of the British Empire, London.

March.

24 Ovogenesis and the Formation of Interstitial Cells of the Ovary. J. E. Lane-Claypon.
25 *Possibilities of Ovarian Grafting in the Human Subject. E. S. Carmichael.
26 *Mechanical Dilatation of the Cervix Uteri in Obstetrics. J. C. H. Leicester.
27 *Prognosis of Pregnancy in Patients with One Kidney. J. H. Ferguson.
28 Radical Abdominal Operation for Uterine Cancer. E. T. Thring.
29 Case of Villous Tumor of the Uterus in Woman Aged 84. J. Bland-Sutton.
30 Complete Inversion of the Uterus Following Delivery. W. Tate.
31 Rupture of Vaginal Wall with Protrusion of Small Intestine in Woman aged 63. A. N. McGregor.
32 Case of Patent Urachus Over One Inch in Diameter Forming a Tubular Prolongation of Bladder. G. B. Marshall.

25. **Ovarian Grafting.**—Carmichael has looked into the value of ovarian grafting from the surgical standpoint. He found that in the rabbit the whole ovary may be transplanted with success; but in the majority of cases, about 80 per cent., there was partial degeneration of the ovary. The ovary also may undergo either a fibrous or a cystic degeneration. The germinal epithelium persists in a small percentage of cases. The Graafian follicles and ova persist and mature some months after grafting, but ultimately tend to become cystic. From these observations Carmichael concludes that it is unlikely that the whole human ovary can be grafted with success, but that partial grafting is more likely to succeed, the grafting of the cortical portions of the ovary more especially. Furthermore, part of the ovary may ovulate and preserve its function of internal secretion.

26. **Mechanical Dilatation of Cervix Uteri.**—Leicester reports 16 cases in which he made use of some form of mechanical dilatation of the cervix in order to effect delivery. In none of these cases was there any untoward effect which could be attributed to the method of dilatation. The instrument used in the first six cases was Bossi's model; in the remainder, Preiss's modification of the Bossi instrument. In 7 cases dilatation was resorted to for eclampsia, in 6 for rigid cervix, and in 1 each for induction of labor, placenta prævia and hydatid mole. Leicester is of the opinion that these dilators have a distinct place in obstetric practice, but that the number of cases in which their use is indicated is limited.

27. **Pregnancy in Women with One Kidney.**—The case reported by Ferguson shows that in a patient whose remaining kidney is healthy, and has had time to become sufficiently hypertrophied to perform the work of two, the strain of pregnancy can be borne fairly well. The patient had, on the whole, less severe albuminuria and less toxic disturbance than many albuminuric primigravidæ, both of whose kidneys are known to be organically sound.

Semaine Médicale, Paris.

33 (XXVII, No. 12, pp. 133-144.) Mechanism and Pathogenesis of Hernia of the Cecum. (Hernies du cæcum.) P. Cavaillon and R. Leriche.
34 (No. 13, pp. 145-156.) *Neuronophagy. (Ce qu'il faut entendre par neuronophagie.) G. Marinesco.
35 Persistence of Hymen Not an Absolute Sign of Virginity. (L'état de virginité apparente d'une femme mariée n'est pas, comme l'a admis un tribunal français, une preuve absolue de l'abstention de tout rapport conjugal.)

34. **Neuronophagy.**—Marinesco reviews what has been written on the destruction of nerve cells by phagocytosis. His conclusions are that neuronophagy actually does occur, but only when the nerve cells have become degenerated or disintegrated from any cause. Experiments with cauterization of brain tissue, injection of lycopodium powder and transplantation of ganglion cells have convinced him that so long as the nerve cells remain intact they are respected by the phagocytes, but that dead cells are soon incorporated by the phagocytes. He suggests "necrophagy" as a more appropriate term than "neuronophagy."

Archiv f. klinische Chirurgie, Langenbeck's, Berlin.

Last indexed page 1384.

36 (LXXXI, Part 1, pp. 1-786.) *Bone Tumors in Skull. (Tumoren des Schädeldaches.) von Eiselsberg.
37 *Subdural Hematoma. (Subdurale Hämatone.) Krönlein.
38 Removal of Malignant Glioma of Brain. (Gliom des Grosshirns.) Id.
39 *Operations in Posterior Cranial Fossa. (Hintere Schädelgrube.) F. Krause.
40 Primary Epitheliomata of Vascular Plexus of Brain. (Epithelgeschwülste der Adergeflechte des Gehirns.) M. Bielschowsky and E. Unger.
41 *Perforation of Gastric Ulcer. (Magengeschwürs-Perforation.) Brentano. Id. W. Körte.
42 *Peritonitis in Little Girls, Due to Acute Salpingitis. (Peritonitis der kleinen Mädchen.) Riedel.
43 Elephantiasis After Extirpation of Inguinal Glands. (Lymphdrüsenexstirpation und Eleph.) Id.
44 *Anatomy and Surgery of the Splenic Flexure of Colon. (Flexura coli sinistra.) O. Madelung.
45 *Kidney Operations. (Nierenchirurgie.) H. Gebele.
46 *Early Diagnosis and Operation for Tuberculosis of Kidney and Bladder. (Nieren- und Blasentub.) H. Kümmell.
47 *Treatment of Cancer of the Tongue and Ligature of External Carotid. (Zungenkrebs.) Küster.
48 Treatment of Wounds of Vessels During Campaign of 1905-6. (Gefässverletzungen.) Zoege von Manteuffel.
49 Historical Sketch of Extirpation of Aneurisms. (Exstirpatio aneurysmatis.) A. Köhler.
50 Removal of Tumors in Wall of Chest with Wide Opening of the Pleura. (Brustwandgeschwülste.) L. Rehn.
51 *Spinal Anesthesia. (Lumbalanästhesie.) H. Heineke and A. Laewen.
52 *Causes of Serous Effusions in Joints and Their Treatment. (Gelenkhydrops.) O. Hildebrand.
53 Congenital Coxa Vara from Defective Development of Cartilage. (Coxa vara adnata chondrodystrophica.) B. Bosse.
54 Results of Tendon Transplantation. (Sehnenplastiken.) A. Hoffa.
55 Osteomyelitis of Pelvis. (Beckenosteomyelitis.) A. v. Bergmann.
56 Differences in Resisting Power of Various Tissues and Cavities. (Exp. Untersuchung über die Infection und Bacterienresorption der Gelenke, des Subduralraumes, etc.) W. Noetzel.
57 Abdominal Fetal Inclusions. (Foetus in foetu.) F. Rosenbach.
58 Traumatic Rupture of Hepatic Duct. (Ruptus hepaticus.) Hildebrandt.
59 Remote Results of 100 Operations on the Biliary Passages. (Op. an den Gallenwegen.) T. Kocher and H. Matti.
60 Hitherto Unpublished Latin Translation of Arabian Work on Medicine and Surgery by Ali Abbas, A. D. 994. (Lateinische Version der Chirurgie der Pantegni). J. Pagel.

36. **Bone Tumors in the Skull.**—Three cases of large bony growths in the frontal bone are described in which operative intervention gave comparatively good results. In the two severer cases the operation was rendered difficult by the danger of involvement of the meninges in an otherwise harmless inflammatory condition in the nose, and also by the difficulty of keeping the wound aseptic when it was necessary to open the frontal sinus. The indications for operation were imperative, as the osteoma was growing fast and had already produced choked disc. There was danger of impending epilepsy, headache, blindness, etc., if the growth, harmless in itself, should increase much more.

37. **Subdural Hematoma.**—Krönlein's patient was a young man who fell on his head. The only symptom at first was headache. On the sixth day symptoms of Jacksonian epilepsy were observed, with signs of increasing pressure on the brain. A subdural hematoma was diagnosed and its evacuation restored conditions to normal.

39. **Operations in Posterior Cranial Fossa.**—Krause gives an illustrated description of the technic with which he has successfully removed tumors in the cerebellar pontine angle, and reports a case in detail. The patient was a woman of 45. The tumor shelled out readily, and proved to be a fibrosarcoma, measuring 18 by 25 mm. The symptoms of general pressure on the brain had developed gradually in the course of three years. The first symptoms were attacks of vertigo, gradually increasing to actual syncope, disturbances in hearing and tumbling toward the right side, with, later, intense headache, vomiting, diplopia and occasionally unconsciousness and convulsions. The left pupil was more dilated than the right, and the corneal reflex on the side of the tumor was abolished. Pains were sometimes felt in the right side of the face. The right ear was entirely deaf. The patient could

hardly walk and turned constantly toward the right. If the eyes were closed the woman fell, and generally toward the right side. She had from three to ten attacks of vertigo a day, even when in bed. The mastoid process was not tender; the pulse was somewhat accelerated. The woman rapidly recovered after removal of the tumor; the choked disc subsided and the hearing and ocular reflexes were soon normal on both sides. She could walk without trouble or dizziness, and even with the eyes closed there were only slight traces of the former disturbances. In a second, similar case, a sarcoma, as large as a hen's egg, was found at the base of the brain, and the attempt to remove it was abandoned. The Gasserian ganglion was transformed into a tumor mass, and yet the patient had never suffered from trigeminal neuralgia. In some other cases internal hydrocephalus induced symptoms suggesting cerebellar tumor, and Krause exposed the left hemisphere of the cerebellum on one side and, three weeks later, the other hemisphere, but found nothing, although he made an incision in each so that he could inspect the arbor vitæ to a depth of 3 cm. One patient derived great benefit from the relief from pressure after the operation; the choked disc subsided on each side, and she survived for three years. Autopsy revealed internal hydrocephalus. He describes some other cases in which autopsy confirmed the diagnosis of an extramedullary tumor near the atlas, and showed that it could have been easily removed if the surgeons had had a little more courage. He adds that the amount of compression which the spinal cord will bear is amazing.

41. **Perforation of Ulcer of Stomach.**—Körte relates his experiences with 19 cases of operative intervention for perforation of a gastric ulcer, with the recovery of 13 of the patients. All but five of the patients were men. The rigid abdominal walls were the most characteristic sign of the perforation; next came extreme sensitiveness to pressure at the epigastrium, at the umbilicus or over the entire abdomen. The contact of the acid gastric juice with the serosa ordinarily induces intense pain, but vomiting was noticed in only six of the cases and soon subsided. The physician must not be misled by this to assume that the trouble is transient. In two instances appendicitis was supposed to be responsible for the symptoms and the incision was made in the ileocecal region. An important sign for differentiating perforation in the stomach is the acid, sour smell of the effusion, while the effusion in case of appendiceal peritonitis soon becomes ichorous. One of the patients had been operated on twice, with a gastroenterostomy for callous ulcer of the pylorus, when the signs of perforation developed a year after the last operation. Four other patients were moribund when received. In three other cases an exploratory laparotomy was made on suspicion of perforation. In one case the trouble was traced to morphin addiction; in another no lesion was found in the abdomen and the patient died, presumably from perforation of an ulcer in the esophagus. In the third case nothing abnormal was found to explain the severe gastric symptoms occurring after a fall, and the patient soon recovered.

Brentano reviews 75 cases of perforation of gastric ulcer observed at the Urban Hospital, including 46 women, with 39 deaths, and 29 men, with 18 deaths. In 15 cases there had been nothing in the history to suggest a stomach lesion.

42. **Peritonitis in Little Girls as Sequence to Acute Salpingitis.**—Riedel has had occasion to observe eight cases of peritonitis in girls betwen 4½ and 9 years old, secondary to acute salpingitis. He operated in every case on the diagnosis of appendicitis, but was unable to save the patients. Another case was observed, but no attempt at operation was made. The same findings were encountered also in two young women. The infection was due to staphylococci or streptococci which had entered from the vagina and passed into the peritoneum through the tubes. All the patients had intact hymens. Another little girl had appendicitis first and then salpingitis. This brings to 17 per cent. the number of cases of peritonitis from infection by way of the vagina in a total of 48 cases of peritonitis in girls under 10 at the Jena Hospital.

44. **Lesions at the Splenic Flexure of Colon.**—Madelung concludes this exhaustive study of the pathologic anatomy and surgery of this part of the intestine with the statement that cancer of the splenic flexure offers more favorable conditions for a cure, even in advanced stages, than cancer at other points in the large intestine. A palpable tumor can not be counted on. Study of the literature shows that glandular involvement is extremely rare. In six cases a complete cure for a period of from three to eight years to date is known.

45. **Kidney Surgery.**—Gebele reviews 50 operations on the kidneys done in von Angerer's service at Munich. His experience with cryoscopy of the blood has always been favorable, and chromocystoscopy has also rendered him good service, but catheterization of the ureters is his main reliance. Seven of the 50 patients died, but in no case was the death due to insufficiency of the remaining kidney. There was a history of gonorrhea in a large proportion of the cases.

46. **Tuberculosis of Kidneys and Bladder.**—Kümmell warns that in tuberculous cystitis or nephritis the trouble is frequently referred to the genital organs, and the patients are treated for displacement of the uterus or for some allied condition, the physician not taking the trouble to examine the urine which would give the clue to the trouble. A chronic gonorrheal infection in a man or woman frequently causes an existing tuberculous affection of the bladder or kidney to be overlooked. Slight cloudiness of the urine, apparently slight cystitic disturbances, especially in women, slight pain in the kidney region and disturbance in the general health, pallor and some loss in weight should compel examination of the urine for tubercle bacilli. Catheterization of the ureters confirms the diagnosis.

47. **Cancer of the Tongue.**—This volume of the *Archiv* was dedicated to the late E. von Bergmann on his seventieth birthday, and is illustrated by numerous plates. In this article on cancer of the tongue, Küster refers to von Bergmann's pioneer work in this line, and then describes a case in which great improvement followed the simultaneous application of Roentgen exposures and ligation of the external carotid on both sides. The patient was a man of 36, a cigar maker, and the growth was inoperable when first seen, but under the treatment mentioned conditions improved to such an extent that the radical removal of the cancer became possible. The same measures applied in a second case were temporarily successful, but collateral circulation soon annulled the effect of the ligatures and the patient succumbed to the progress of the cancer. Küster states that he has ligated the external carotid on both sides 33 times, and has found 130 cases in the literature. The mortality has been about 1.54 per cent. His experiences were always favorable, even in his latest case, in which the artery was ligated on account of an angioma of the scalp in an infant of six weeks. His experience with cancer of the tongue indicates that the operations on the bones should be restricted to the minimum, as they are more serious than surgical measures on the soft parts. Ligature of the external carotid, he adds, is no more dangerous than ligature of the lingual artery, while it is far more effectual.

51. **Experimental Spinal Anesthesia.**—Among the conclusions of the research reported is one to the effect that subdural application of an anesthetic does not cause intoxication unless the drug comes in direct contact with the centers of the medulla oblongata and of the brain. Absorption from the dural sac of the small amounts of anesthetics used in spinal anesthesia has no toxic action.

52. **Treatment of Effusion into a Joint.**—Hildebrand explains the effusion as the result of abnormal nervous excitability on the part of the synovial membrane and states that treatment should aim to reduce this excitability. Injection of carbolic acid or tincture of iodin answers this purpose, but the effect can be much enhanced by preceding the injection of carbolic acid with an injection of salt solution to wash away the slimy secretions from the surface of the membrane, thus allowing the carbolic acid to penetrate better into the tissues. The effect is also enhanced by completely expelling the blood from the part. This reduces the amount of fluid in the tissues, so that they take up the injection better, the tissues opposing less resistance to the penetration of the fluid in the absence of the protecting nourishing influence of the blood.

Berliner klinische Wochenschrift.

61 (XLIV, No. 7, pp. 181-208.) *Induced Thrombosis in Treatment of Varices. (Künstliche Thrombose der Var.) Tavel.
62 *Isolated Subcutaneous Injury of Pancreas. (Verletzungen des Pankreas.) F. Karewski.
63 Dyes in Treatment of Experimental Trypanosome Infections. (Farbstoff-behandlung der Tryp.) Weber and Krause.
64 Remission of Multiple Sclerosis for 13 Years to Date. (Prognose der mult. Sklerose.) O. Maas.
65 *Primary and Secondary Tuberculosis in Man. (Tub. des Menschen.) Edens.
66 Age is True Cause of Cancer. (Problem des Krebses.) J. Rülf. Reply by B. Fischer in No. 10.
67 (No. 8, pp. 209-232.) *Magnet Operations in Ophthalmology. (Magnet-Op.) J. Hirschberg.
68 Statistics of Primary Intestinal Tuberculosis. (Darmtub.) J. Orth.
69 *Registering Contractions of Left Auricle by Way of the Esophagus. (Registrierung der Kontrakt. des 1. Vorhofs.) G. Joachim.
70 *Test for Sugar in Urine. (Bestimmung des Harnzuckers.) I. Bang.
71 *Ultramicroscopic Study of Granules in Leucocytes. (Leukocyten und Hämokonien.) M. Mühlmann.
72 Determination of Hypermetropia without Skiascopy. (Hypermetropie.) Lyritzas.
73 Importance of Breast Milk in First Few Days of Life. (Frauenmilch in den ersten Lebenstagen.) B. Salge.
74 (No. 9, pp. 232-264.) Technic of Bronchoscopy. (Bronchoskopie.) G. Gottstein.
75 Proliferation of Cancer Due to Action of Schüller's Parasites. (Ursache der Krebswucherung.) M. Schüller.
76 Lactic Acid a Secondary Product of the Muscular Spasms in Eclampsia. (Angebliche ursächliche Bedeutung der Fleischmilchsäure bei Eklampsie.) J. Donath.
77 Erroneous Interpretation of Enlarged Bronchial Glands in Children. (Physikal. Brustbefund.) H. Neumann.
78 *Blindness from Quinin. (Chinin-Amaurose.) W. Seeligsohn.
79 Physiotherapy of Tabes Dorsalis. (Physikal. Behandlung.) E. Tobias and E. Kindler.

61. **Induced Thrombosis in Treatment of Varices.**—Tavel noticed that patients with varices who suffered from thrombosis, after operations on the enlarged veins, fared better later than those patients who had displayed no tendency to thrombosis. Acting on this suggestion, he intentionally induces thrombosis in such cases, and has found the results invariably superior. His first communication on the subject was summarized in The Journal, Feb. 18, 1905, page 590. His experience now includes 27 cases, all with gratifying outcome. The main trunk of the vein may be ligated by passing a curved needle around the vein and bringing it out through the hole in which it entered, thus encircling the vein with a loop which is then tied fast; the ends of the thread are cut off near the knot. The skin is then taken up in a fold, when the knot slips down out of sight under the skin. His more usual technic, however, is by a transcutaneous method which allows resection of a part of the vein, generally about 4 cm. In order to locate the vein, he outlines its course with fuchsin as the patient stands. In case the vein is not visible or palpable he draws a line from the inner condyle to the middle of Poupart's ligament. This corresponds approximately to the course of the long saphenous vein, although in the middle of the thigh the vein is sometimes a little farther toward the back. Twenty-four or forty-eight hours after the ligature he commences to induce thrombosis. This he accomplishes by injecting 10 c.c. of a 5 per cent. solution of carbolic acid. This irritates the intima of the vessel and induces autochthonous thrombosis which spreads upward to the ligated point. A few days later, or at intervals of two or three days, another injection is made at another point until the entire varicose region is completely thrombosed, and the walls of the vessel become transformed finally, more or less, into connective tissue. The patient stands on a chair in front of a table and the syringe is introduced into the vein until the blood flows, then the syringe is filled with the carbolic acid solution and the patient sits down on the table and the solution is injected at two or three points. After this the patient is placed in bed or allowed to leave the clinic on foot, according to the conditions. There is occasionally a slight rise in temperature, but no disturbance has ever been noted in the general health. Usually the new circulation is soon established, but sometimes two or three months may elapse before normal conditions are restored. To promote the circulation he sometimes applies bandages or superheated air to the part and gives hamamelis and caffein internally, especially in case of diffuse phlebectasia. The ligature must invariably be applied well above the points where thrombosis is suspected or anticipated. The ligature above the focus of phlebitis and the induced thrombosis shorten the time of confinement to bed, he states, exclude all danger of embolism, and effect a radical cure of the phlebitis which otherwise is liable to recur.

62. **Treatment of Isolated Subcutaneous Injury of Pancreas.**—Karewski remarks that persisting hemorrhage and escape of pancreatic juice after injury of the pancreas are both threatening, but the latter is the more serious of the two and should be apprehended when the injury is near the head of the pancreas. He describes a case in which the laparotomy followed the injury in three hours; in Garré's case five and one-half hours elapsed before either hemorrhage or fat necrosis had had time to assume alarming proportions. Two other patients were saved by a prompt laparotomy and 12 succumbed when the operation was delayed. To promote the healing of the fistula after operation, it is important to restrict the production of the pancreatic secretion and to ward off metabolic disturbances from the loss of the juice. Meat and fat proved the most useful in this respect, in his case, while carbohydrates of all kinds had to be avoided. Large doses of sodium bicarbonate during and between the meals also checked the production of the juice. The healing of the fistula was promoted by application of tincture of iodin, with antiseptics to the skin outside to prevent maceration. The rapid healing of the pancreatic fistula in this case and the complete recovery of the lad after the severe injury to the pancreas render the case noteworthy as suggestive for future injuries of the kind.

65. **Primary and Secondary Tuberculosis in Man.**—Edens reports some new cases of intestinal tuberculosis—a total of 30. Infection in infancy, he thinks, is very common, but the individual organism reacts to it in some persons with the production of immunity, while in others the reaction takes the form of the "scrofulous diathesis," which entails greater susceptibility to secondary infection later.

67. **Magnet Operation in Ophthalmology.**—Hirschberg has applied the magnet in 347 cases of injury of the eye during the 27 years since he first suggested its application in ophthalmology. In 36 out of 64 cases between 1896-1903, an iron splinter in the retina or vitreous body was successfully removed with the magnet, leaving little if any impairment of vision. In 22 cases the splinter was so large or inflammation had already set in, so that finally the eye had to be enucleated. In 2 recent cases the magnet operation was performed on the injured eye when the other eye had long been blind. In one of these, an iron splinter, 2x2 mm., weighing 5 mg., was removed from the anterior chamber with the large and hand magnets nearly two years after the injury, with successful outcome.

69. **Registration of Auricle Beat Through the Esophagus.**—Joachim describes a case of "dissociation of the auricle and ventricle rhythms." The presumptive diagnosis from the extreme slowness of the pulse and the syncopal spells was confirmed by registration of the auricle beat by way of the esophagus, according to the technic described by Minkowski and Rautenberg (The Journal, Sept. 22, 1906, page 975). Joachim reproduces the tracings, but adds that the procedure is extremely tedious and disagreeable for the patient, even to the point of affecting the general health for several days afterward.

70. **Quantitative Test for Sugar.**—Bang makes high claims for the convenience, extreme precision and rapidity of the simple test for sugar in the urine which he here describes. The presence or absence of albumin does not affect the findings, and they are more accurate in the presence of very small amounts of sugar than with any other test, polarization, fermentation or reduction. Instead of a caustic alkali he uses potassium carbonate in the solution of copper, and titrates with hydroxylamin until the blue tint vanishes. The first copper solution is made by dissolving with heat 500 gm. anhydrous potassium carbonate; 400 gm. potassium sulphocyanate, and 100 gm. potassium bicarbonate in 1,200 c.c. water. When the mixture has cooled, a solution of 25 gm. crystallized copper sulphate in 150 c.c. water is added, the vessel rinsed, and the jar filled up to the 2 liter mark. In another vessel,

6.55 gm. hydroxylamin sulphate, and 200 gm. potassium sulphocyanate are mixed with water to the 2 liter mark. Both solutions are durable, and 1 c.c. of the hydroxylamin solution will decolor 1 c.c. of the copper solution. To 10 c.c. of urine 50 c.c. of the copper solution are added and the whole boiled for three minutes. The vessel is then rapidly cooled under running water, and the fluid is then titrated with the hydroxylamin solution until the blue tint vanishes, which is usually in a few seconds. He gives a little table showing that 44 c.c. of the hydroxylamin solution correspond to 4.9 mg. sugar; 33 c.c. to 15.4 mg. sugar; 22 c.c. to 27.7 mg. sugar; 11 c.c. to 41.8 mg. sugar, and 1 c.c. to 59.4 mg., and so on. He is now experimenting to establish beyond question the standards for normal urine, for comparison.

71. **Granules in Leucocytes.**—Mühlmann reports that he has seen active movements in the granules in living leucocytes. He also states that the ultramicroscope has shown that Müller's "hemoconia" or blood-dust consists in reality of particles of fat in the blood.

78. **Quinin Amaurosis.**—Seeligsohn's patient was an anemic young woman who took 6 gm. (90 grains) of quinin in the course of three days. Vertigo, tremor and absolute deafness and blindness followed. Hearing returned in a day or so, but the blindness persisted for ten days and normal vision was not regained for two months.

Deutsche medizinische Wochenschrift.

80 (XXXIII, No. 11, pp. 409-448.) Gangrene of the Lungs. (Lungengangrän.) C. Beck.
81 *Infiltrating Inflammation of Colon and Sigmoid Flexure. (Infiltrir. Colitis und Sigmoiditis.) T. Rosenheim.
82 *Tuberculous Coxitis. (Tub. Coxitis.) A. Hoffa.
83 *Pathology, Treatment and Prophylaxis of Electric Accidents. (Elekt. Unfälle.) S. Jellinek.
84 Hydrotherapy of Menopause (Hydrother. des Klimakteriums.) A. Zweig.
85 Progress in Military Sanitation. (Militarsanitätswesen.) E. Schill.
86 (No. 12, pp. 449-488.) *Intravenous Strophanthin Therapy. (Intraven. Str.-Therapie.) H. Starck.
87 Indications in Appendicitis. (App.) M. Jordan.
88 Staining Technic for Pale Spirochete. (Nachweis der Sp. pal.) J. Schereschewsky.
89 Spirochetes in Frambesia (Yaws). (Spir.-Befunde bei Framb. tropica.) M. Mayer.
90 Rock Crystal Tips for Phototherapy of Mucous Membranes. (Bergkristallansätze für Lichtbeh. von Schleimhäuten.) T. Schuler.
91 Rudolf Virchow's Letters Home. (Virchow's Lehr- und Wanderjahre.) J. Schwalbe. Concluded.

81. **Isolated Colitis and Sigmoiditis.**—Rosenheim has had occasion to observe a large number of cases of a localized acute or chronic inflammatory process in the colon or at the sigmoid flexure. The sigmoid process is generally chronic with occasional acute exacerbations, and the usual symptoms are disturbances in defecation and pains, tenderness of the part affected and thickening of the wall of the intestine to actual tumor formation. The extension of the infiltration over considerable stretches of the intestines speaks against the malignant nature of the process, as also normally shaped stools, showing the absence of stenosis. He describes 5 typical cases to show the various manifestations of the affection. One patient was a man of 63, somewhat "nervous," with arteriosclerosis, who noted a progressive tendency to obstipation, with blood and mucus in the stools, at last, dyspepsia and loss of weight. Gradually the abdominal pains increased in intensity, with, finally, a severe attack of colic, which recurred after three months. The sigmoid flexure rapidly swelled and signs of peritonitis were observed, with transient fever, muscular rigidity on the left side and fetid stools, with pus. The acute symptoms then promptly subsided, and in the course of a few months the whole process in the sigmoid flexure gradually subsided and the intestinal functions returned to normal. The treatment was mainly dietetic, a bland, mixed, vegetable diet, free from residue, bed rest, hot poultices to the side, and daily injections of 100 gm. warm oil. The lack of proportion between the clinical picture and the extent and softness of the tumor were the main points for differentiation of the condition from cancer. In a second case an otherwise robust man noted progressive obstipation and painfulness of the left side of the abdomen. The colon above and the rectum seemed to be normal, while the sigmoid region was evidently the seat of infiltrating inflammation. The wall of the intestine was thickened over a large expanse, as also in the third case related. In this case sigmoiditis accompanied by infiltration of the wall developed with a stormy, acute onset, with fever and great disturbances, subsiding into a chronic phase, manifested by constipation, blood and mucus in the stools and a palpable tumor. During convalescence a drastic purgative brought on an exacerbation, which subsided under treatment, with apparently complete restitution. The restoration of function and vanishing of the tumor confirmed the non-malignant character of the affection. Another differentiating point is the possibility of introducing the endoscope tube for a considerable distance—as far as 40 cm. in one instance. In another case the sigmoiditis was mild, but with recurring disturbances, relieved by appropriate measures—brief cold sitz baths, with brisk rubbing afterward of the entire body until the extremities were warm, and a bland vegetable diet. The sigmoid region now feels normal on palpation. Previous local and internal measures had proved ineffectual. In the fifth case reported a severe inflammatory process in the sigmoid flexure developed on the basis of an old persisting enteritis accompanied by recurring diarrhea.

82. **Treatment of Tuberculous Hip-Joint Disease.**—This clinical lecture by Hoffa is illustrated and presents the present status of treatment in detail. Even at the best it is very long and tedious with exclusively conservative measures, but his extensive experience has conclusively demonstrated that the ultimate results are much better, functionally, than with operative measures. Prolonged supervision of patients has shown that much greater functional capacity is the rule in later life among those treated conservatively. Even after operation, it is usually necessary that a support should be worn for years to ensure good results. He warns against abrupt measures in treating the contractures and luxations left after the coxitis has apparently healed. They are too liable to fan the almost extinct focus into a flame again. The contracture must be very slowly and gradually corrected. He adds that the greatest progress that has been realized in the last decade is in the technic of dressings and supports.

83. **Electric Accidents.**—Jellinek has devoted many years of research and experiments to the subject of accidents from electricity. In regard to treatment he advises systematic artificial respiration, with stimulants for the heart, massage, faradization of the heart and neck regions, venesection, injection of camphor, adrenalin, etc. Lumbar puncture is also indicated, as he relates in detail, and is entirely harmless. In the cases in which no results are observed after hours of artificial respiration, it might be advisable, he says, to turn on the current again through the body; the flat, positive electrode is placed over the heart region, the rod-shaped, negative electrode, wrapped in cotton impregnated with salt solution being placed in the rectum. The current is then turned on and off, instantaneously, several times; the heart and vessels in the neck are examined after each application. He has previously reported experiments on animals which showed that it is sometimes possible to start a heart to beating by means of the same current which had previously arrested the heart action. Of course, this heroic measure is indicated only in cases otherwise given up for lost, but future research may justify its application earlier. The patient during all the maneuvers should lie with the head somewhat raised to prevent escape of blood from injured vessels. If the artificial respiration is not done according to the rules of the art it may produce conditions which doom a patient who might otherwise have been saved. An instance of this kind is related. The accident occurred soon after breakfast, and artificial respiration, venesection, lumbar puncture, etc., had all been applied. Autopsy next day revealed that the upper air passages and also parts of the lung were clogged with stomach content and also that the right ventricle was full of air. The latter was undoubtedly due to suction of air through the opening into the vein when the artificial respiration was resumed after venesection. Jellinek warns that the artificial respiration should be suspended during venesection and not be resumed until the opening in the vein has been compressed with a bandage or the vein ligated above. Artificial respiration should be kept up perseveringly

for many hours. The only limit to the time devoted to artificial respiration is the appearance of unmistakable signs of actual death. Many a life might have been saved, he adds, if artificial respiration had been kept up longer. Much and perhaps everything depends on how soon after the accident artificial respiration is commenced. Expectant, symptomatic treatment with strict supervision should be the rule after resuscitation, especially on account of the possibility of sudden development of mental disturbances. Prolonged warm baths with cold applications to the head have been found useful, with bromids in case of agitation. The tendency to retention of urine and feces and to chilliness should be combated, and the skin lesions should be treated conservatively. They may be several months in healing.

86. **Intravenous Administration of Strophanthin.**—Starck announces that intravenous injection of strophanthin allows the drug to act almost exclusively on the heart, while the dosage can be mathematically exact, and the effect on the heart is always amazingly prompt and powerful. Tests with it on animals and in the clinic have shown that this technic far surpasses all other methods in its rapid and energetic tonic action on the heart. He gives the details in 7 cases in which it was used. No by-effects were ever noted, although as much as 2.25 mg. was injected in one case in the course of three days. The average dose was 1 mg., never more than 1.25 mg., at a time. The pulse changes almost at once after the injection, approximating normal characteristics, as also the heart and lung action. One patient was in such an advanced stage of pulmonary edema that the strophanthin was injected as the last resort for an apparently moribund patient, but the injection of 1 mg. of strophanthin induced prompt relief, freeing the lungs and raising the output of urine from 700 to 3,000 c.c. in twelve hours. In another case the urine increased from 300 to 3,000 c.c. in twelve hours. The results were better in the chronic cases. He affirms that his experiences seem to indicate that strophanthin is less toxic than has been hitherto supposed.

Virchow's Archiv, Berlin.

Last indexed, page 653.

92 (CLXXXVII, No. 2, pp. 197-349.) *Acromegaly and Connection with Tumors of Hypophysis. (Akromegalie.) G. Cagnetto.
93 Adeno-rhabdomyoma of Left Lung in Eight-month, Still-born Infant. (Adeno-Rhabdomyom, etc.) R. Zipkin.
94 Myoblastic Sarcoma. (Myoblastisches Sarkom.) H. Kathe.
95 Elastic Tissue in Neoplasms. (Elastische Gewebe in Neubildungen.) G. A. Waljaschko.
96 *Morphology, Appearance and Significance of Lymphocytes and Mononuclear Leucocytes in Gonorrheal Urethral Secretion and the "Ball Nuclei." (Gon. Urethralsekret und Kugelkerne.) J. Neuberger.
97 *Differentiation of Pneumococci and Streptococci. (Dif.-diagnostische Studien über Pn. und Strept.) R. Levy.
98 *Gummatous Pleurisy. (Pleuritis gummosa.) M. Lissauer.

92. **Relation of Acromegaly and Tumors of the Hypophysis.**—Cagnetto writes from Padua to report 5 cases of acromegaly with concomitant tumors in the hypophysis. He also reviews the recent literature on the subject of the connection between the disease and the tumor. The evidence thus accumulated testifies against the assumption that acromegaly is due to excessive functioning of the hypophysis. Cases of acromegaly are known in which there is no hyperplasia of the glandular lobe of the hypophysis, as also cases in which the gland has actually no functioning elements. Tumors of the hypophysis have been encountered which contained abundance of functioning cells, and yet no acromegaly was observed.

96. **Morphology of Cells in Gonorrheal Secretions.**—Neuberger's extensive study of the morphology of lymphocytes, mononuclear leucocytes, etc., in the urethral secretion in numerous cases of gonorrhea demonstrated among other findings that the mononuclear leucocytes were exceptionally active as phagocytes under these conditions, incorporating especially the multinuclear leucocytes which assumed a spherical shape. Gonococci were frequently found in them also.

97. **Differentiation of Pneumococcus and Streptococcus.**—Tests with sodium taurocholate proved the most reliable in Levy's differentiating research on these micro-organisms. Blood-agar and the other media gave contradictory results. He announces that the variety known as *Streptococcus mucosus* is in reality a pneumococcus, and should be designated *Pneumococcus var. mucosus.*

98. **Gummatous Pleurisy.**—In Lissauer's case the numerous signs of constitutional syphilis observed at autopsy and the total absence of tubercle bacilli or tuberculous lesions, confirmed the gummatous nature of the nodular pleural affection.

Sei-i-kwai Medical Journal, Tokio.

99 (XXV, Nos. 8-9, pp. 75-92.) Rat Poisoning: Aortic Aneurism for 17 Years. S. Hara.
100 Two Cases of Epidemic Cerebrospinal Meningitis. Id.
101 (Nos. 10-12, pp. 93-122.) 245 Cases of Typhoid Fever. S. Isasakl.
102 *Carcinoma Among the Formosan People. M. Matsuo.
103 Spontaneous Fracture. T. Mlwa.
104 (XXVI, No. 1, pp. 133-134.) Acute Yellow Atrophy in an Infant. M. Karasawa.
105 Results of Vaccination in Japan.

102. **Cancer on the Island of Formosa.**—Matsuo comments on Pagel's statement that he never observed a case of cancer during his ten years of residence in North Borneo; some writers doubt whether cancer occurs in the tropic zone. In Matsuo's own experience on the Island of Formosa he encountered a number of cases of cancer among the natives, and reports of the details of 4 typical carcinomata. The patients were all over 40; none had ever had malaria, or recognizable enlargement of the spleen. In one instance the carcinoma occurred on the foot, starting in an unhealed abrasion of a toe; in 2 cases the breast was the seat of the lesion.

Norsk Magazin f. Lægevidenskaben, Christiania.

Last indexed page 654.

106 (LXVIII, No. 1, pp. 1-104.) Radium. (Om. radium.) E. Poulsson.
107 Pneumotomy. (Pneumotomi.-Helbredelse.) E. Bull.
108 *Fatal Hemoptysis in Pulmonary Tuberculosis. (Dødsfald under hæmoptyse.) K. Thue.
109 *Intentional Subconjunctival Fistula in the Anterior Chamber in Treatment of Glaucoma. (Et nyt princip for glaukomets op. behandling.) S. Holth.
110 Physiologic Test of Digitalis Leaves. (Fysiol. prove af digitalisblade.) E. Wang.
111 *Books in Transmission of Epidemic Disease. (En kusmaepidemii.) A. Hanson.

108. **Fatal Hemoptysis in Tuberculosis.**—Thue states that out of 795 phthisical patients in the public hospital, about one-third had hemoptysis; 447 died in the hospital, death being due to hemoptysis in 13 cases. In 7 of these patients no source for the hemorrhage could be detected. In 8 instances the fatal hemorrhage was the first hemoptysis that had occurred during the sickness.

109. **Intentional Subconjunctival Fistula in Treatment of Glaucoma.**—Holth noticed that the cases of glaucoma in which the classical operative measures had been done with apparently defective technic—leaving a fistula—presented much better functional results later than those cases in which the operation had been done with such perfection that no fistula resulted. He reasoned that the subconjunctival fistula must contribute to this result, and now intentionally makes a fistula in operating for glaucoma. He here describes his technic in detail, with 25 illustrations, and announces that the results of its application in 40 cases have been most encouraging. Vollert's favorable experiences with 4 cases were mentioned recently in these columns.

111. **Transmission of Infectious Disease by School Books.**—Hanson gives the details of a small epidemic of an infectious disease among the pupils in a military school. He noticed that the infection occurred in bunches with certain intervals—corresponding to the return of the sick from the hospital. The lad first infected had been spending a vacation at home where his sister had the disease. No other cases developed until from 3 to 6 days after his return from the hospital to his schoolroom. Then 10 lads became infected and were sent to the hospital; no further cases occurred until about a week after they had been dismissed from the hospital, when another bunch of 5 cases developed. Every precaution in regard to disinfection before dismissal from the hospital and disinfection of the sleeping rooms had been taken with extreme care, but the return of a group from the hospital was always followed by the development of new cases. After this had been noted four times it was found that the lads had taken their schoolbooks with them to the hospital and had used them there and brought them back, without submitting them for disinfection. As soon as this was stopped the epidemic was arrested at once.

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Original Articles

OBSERVATIONS RELATING TO THE NATURE OF ATROPHY OF INTESTINAL ORIGIN.

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General atrophy that is associated with, and apparently stands in direct relation to, a greater or lesser degree of preceding intestinal disturbances occupies a position of profound importance in the pathology of infancy. Marasmus is, indeed, so common and often so intractable that the laity are almost as familiar with its general features as are physicians. Much less commonly, but still occasionally, a condition that is, in its chief clinical features, apparently the same as the atrophy of infancy, appears in early childhood. In later life, typical cases of this kind are rare; there are, however, very many instances of serious disturbance of general nutrition that seem to bear a direct relation to intestinal trouble, but are too pronounced in their general features to be satisfactorily explained by the mere loss of nutriment that occurs through lack of digestion and absorption—for these patients may still be absorbing an amount sufficient to maintain or improve nutrition, and yet they emaciate or remain about stationary in a condition of more or less profoundly depraved general nutrition. Cases of this kind have recently been studied by Roehl, who decides that the disturbance of nitrogen absorption does not suffice to explain the tissue loss; and the general absorption is at times quite sufficient to cover their needs.

THEORIES REGARDING ATHREPSIA.

An immense amount of work has been devoted to the study of the pathogenesis of infantile atrophy, particularly, but no satisfactory explanation of the nature of the condition has been furnished. It has been shown that digestion and absorption are impaired in most or all atrophic infants, but the degree of impairment is often by no means enough to explain the atrophy. I have myself, with Dr. Caspar Miller, studied the absorption in several such cases, and while it was below normal, it was not exceedingly bad and the infants still absorbed an amount sufficient to have made most of their contemporaries gain in weight and health.

The lesions found at autopsy are, too, insufficient to explain the condition. There is still a somewhat general belief that an extensive primary atrophy of the intestine occurs in these cases; but while this has repeatedly been described and has been considered the cause of the general emaciation, it has been shown by Heubner, Gerlach and Habel that the appearances on which so much stress has been laid are really due to the manner in which the intestinal wall is prepared and cut for microscopic examination. Wentworth's recent able review of the pathology of the condition leaves only a single fact undisproved—Bloch found in several cases an absence of the granules that are normally present in Paneth's cells.

The hypothesis has also been put forward (Escherich) that the disorder may depend on the ferments and other obscure biologic elements in human and animal milk. This, however, could not explain the matter, for it leaves out of consideration the fact that athrepsia occurs in only a portion of artificially fed infants and not in all.

Recently a suggestion of another kind regarding the nature of the condition has been put forward. Since the injection of animals with protein of foreign species is followed by the development, in the blood serum of the animal injected, of substances capable of precipitating the protein that was introduced, Moro and Hamburger have attempted to show that the serum of atrophic infants contains a precipitin for cows' milk—thinking that they could in this manner demonstrate that foreign protein (namely, bovine casein) reaches the circulation in such cases. If this were the case, it might be conceived that this foreign protein produces chronic toxic symptoms that lead to emaciation, even though sufficient food be absorbed. They were not successful in their work, but Moro has recently found such a precipitin in one case. He declines, however, to draw any conclusions from this as to the nature of infantile atrophy. Even if such a precipitin is frequently to be found its presence may, I think, be quite as properly, if not more properly, applied in another way, in support of my own working hypothesis regarding the nature of infantile atrophy, which hypothesis I shall describe.

RECENT VIEWS OF PROTEIN DIGESTION.

I shall first, however, in order to make the character of my conception clear, find it necessary to refer very briefly to some of the recent transformations of view concerning the nature of protein, and the manner in which it is digested and utilized by the tissues, and shall refer also to some points in regard to ferments. All these matters are well known to those that have had particular interest in such questions, but are not yet generally appreciated.

The comparatively simple teaching of a few years ago, when put into its briefest form, was that the digestion of protein consists essentially of hydrolysis into albumoses and peptones, and the formation of small amounts of some simpler bodies—chiefly amino-acids, such as leucin and tyrosin, and that the albumoses and peptones are absorbed and, in the process of absorption or very soon after this, built up again into native protein. The process as conceived at that time was, therefore, in the main part merely hydrolysis of higher protein to lower forms of protein—the major portion of the substance remaining protein all the time, and the chief apparent purpose of digestion being to transform the ingested protein into substances that are relatively very soluble and that easily pass animal membranes; that is, to get them into a form in which they can readily reach the circulation.

Throughout recent years, however, it has become increasingly evident that the change is much more fundamental than this; and the key to the understanding of the main purpose of digestion seems to have been furnished by more elaborate study of the products of digestion, and particularly by a more intimate knowledge of the composition of protein. That is, it has been shown that a protein consists of a union of numerous crystalline substances which are relatively simple in their structure as compared with protein, but still somewhat complex; these are chiefly or entirely so-called amino-acids, among the many of which leucin and tyrosin are the most popularly known representatives. Protein substances of different kinds contain varying amounts of the various amino-acids, but they differ quite as much in the quantity as in the quality of the component substances. Some forms of protein do contain some kinds of amino-acids that other protein substances do not, but the distinction between different protein substances seems to lie quite as much, if not more, in the fact that this one contains more of certain amino-acids, that one contains less of these amino-acids but more of others. To use the picturesque simile employed by the Germans to describe the matter, proteins are constructed of "buildings stones," and stones of many shapes are used in building any protein; but the ultimate structures differ in their architecture, and in giving them their proper form, sometimes more stones of one shape are employed, sometimes more of another.

Concurrently with the development of the above mentioned knowledge, it has been shown that the digestive breakdown of protein is much more complete than was previously taught. Even pepsin can carry a large part beyond the peptone stage, and trypsin does this much more quickly and extensively than pepsin. Trypsin, indeed, is capable, even in laboratory experiments, in some circumstances, of carrying the whole amount of protein beyond the peptone stage; and, hence, under the more favorable conditions that exist in the animal organism, it probably carries most, possibly nearly all, beyond that stage.

At the same time, it has been made apparent that the intestinal mucous membrane contains a proteolytic ferment which has been given the name erepsin. Whether this has the characteristics attributed to it by Cohnheim—namely, inability to attack native protein, but active powers of further fragmenting albumoses and peptones—or whether, like trypsin, it can carry on the process from the beginning, is a question that is still *sub judice*. Of the existence of a proteolytic ferment in the intestinal mucous membrane, there is, however, no question: and there is every probability that it is produced there, and is not simply pancreatic trypsin that has lodged there.

It seems at present that the purpose of digestion is to fragment the protein complex thoroughly into its constituent amino-acids, or building stones; and that the protein falls first into the hands of pepsin, then trypsin, and next the ferment of the intestinal mucous membrane, in order that with each attack the fragmentation may be made more complete. It is not yet clearly determined whether these ferments actually differ, as they have been supposed to do, in the nature of the end products that they produce. The progressive action of one after the other may be intended simply to permit each succeeding ferment to put finishing touches on the portions of unfragmented or partially fragmented protein that have escaped the preceding ferments. The prime object of this breaking-up process appears to be to yield the amino-acids themselves; in order that they may be available in free form and in proper quantities, for a complete reconstruction, which will yield protein homologous with the individual to be nourished. It is not necessary to fragment all portions completely as certain fractions will be obtained that can be reconstructed into homologous forms without complete fragmentation, but except for such fractions it must be complete. That the digestive process, together with the subsequent reconstruction process, does accomplish this transformation—that is, that it does change protein of foreign species, containing certain amino-acids in quantities peculiar to this protein, into another form of protein, apparently containing the same amino-acids in quantities peculiar to the individual that has digested and absorbed the protein—has been shown experimentally with almost final positiveness; and it has likewise been shown that the reconstructive process occurs before the absorbed digestive products reach the general circulation, almost certainly, indeed, in the intestinal wall itself.

Furthermore, physical chemists consider it to be theoretically well nigh certain that the same ferment that accomplishes fragmentation also causes the reconstruction—that the direction in which a ferment acts, whether toward the production of simpler products or toward the formation of more complex substances is determined, not by the nature of the ferment, but by the physical and chemical conditions of the medium in which it acts and by the concentration of the products of digestion. If conditions favorable to disintegration are present, the ferment hastens this; but if the conditions favor synthesis, the same ferment hastens this. This has actually been shown to occur with some ferments that act on carbohydrates and fats; and similar observations that are suggestive, though not yet conclusive, have been made regarding proteolytic ferments, the conditions of such experimentation with the latter ferments being much more difficult than those attached to carbohydrate and fat ferments. If this view that ferments are capable of reversed action is correct, as a general principle, and this now appears most probable, the same ferment in the intestinal wall that continues the process of fragmentation of the protein food also carries on the process of reconstruction of homologous protein.

This cursory statement of some of the main aspects of the present day teaching of the physiology of digestion will, I trust, suffice to make clear the hypothesis that led to the observations I am about to report. My results have not yet been sufficiently extensive or elaborate to justify, of themselves, quite so formidable a preamble as I have given, were it not that the explanation is necessary in order to make their bearing clear. So far as they go, however, they offer some support to the following hypothesis:

THE AUTHOR'S HYPOTHESIS.

Clinically, it is quite clear that most atrophic infants do well, provided they are not already far advanced toward death, if human milk can be given them; while with even the most capably conducted artificial feeding, they usually have, at best, a precarious and long struggle for existence, and very often go slowly, but persistently, toward death. It seems, then, that the difficulty consists in making use of milk of foreign species. The difficulty does not lie simply in acomplishing the absorption of the elements of the heterologous milk; for, as I have already noted, sufficient is absorbed in many of these instances to produce a gain in other infants.

It has seemed to me that the disturbance may be the result of disorder of the ferment function of the intestine. That is, when the protein of the food is progressing in the course of its breakdown the final attack by the ferment of the intestine does not occur or is ineffectual; that the protein complex is torn apart more or less completely by the pepsin and trypsin, but that fragmentation sufficiently complete, in order that the structure may be rebuilt in a new form entirely homologous with the patient's tissues, does not take place.

Granting the absence or serious reduction of this ferment in cases of atrophy, one of two things may be conceived of as occurring as a consequence: in the first place, it might be that the protein would be fragmented to various stages short of absolute completeness—to albumoses, peptones, simpler non-protein amino-acid complexes (heptides) and in more or less considerable extent, to free amino-acids—and that these would then be reconstructed; but the synthesis taking place without sufficient preceding fragmentation, the product of synthesis is not the normal one, but is more or less hybrid in character. To use again, for clearness of conception, the building stones simile, it would be like taking away the upper structure of a building, while leaving the foundation unaltered, and then making the new structure conform to the old foundation, instead of tearing out the latter completely and building anew from the start. The infant would, in such a case, have his circulation and tissues supplied with more or less markedly foreign protein, while normal infants receive homologous protein. The infant nourished with mother's milk, even though he absorbs all his protein food wholly unfragmented or only half fragmented, would not so far as we know, be crippled by this, for his food protein is already homologous. The artificially fed infant that I have postulated, however, who receives imperfectly broken down, and hence improperly reconstructed protein, has manifest difficulties in his way in carrying out metabolic processes; and the most evident difficulty would be in tissue construction. He would be able to use much, at least, of the more or less completely foreign protein in obtaining energy, that is, he would be able to disintegrate it, for it is known that animals can thus utilize considerable amounts of foreign protein when introduced subcutaneously or into the circulation. In attempting to use it to construct tissue, however, he would be obliged to go through the difficult task of disintegrating again, and then completely reconstructing it; while, when the tissues are, as is normally the case, served with homologous protein, it would seem evident that the process of construction and repair of the tissues would be comparatively easy. We have, indeed, no knowledge that the tissues are capable of building new tissue from foreign or partly foreign protein served thus directly to them, and it may readily be that they are more or less completely incapable of it. They can undoubtedly secure energy from it and can transform one variety of homologous protein into another variety of homologous protein, but this is very different from transforming a foreign protein into a homologous protein. Even if they could do the latter, to impose on them the necessity for carrying it out would be to make entirely unnatural demands of them, and they would doubtless be likely often to fall under the extra burden.

The second idea conceivable as the result of absence of the intestinal proteolytic ferment is dependent on complete acceptance of the theory of reversibility of ferment action. While this theory now appears to be probably susceptible of general application, this has not been actually demonstrated to the same extent as have the other matters that I have so far used in constructing my hypothesis. Therefore, although this theory will probably be shown to be correct, I mention its relation to the subject under discussion in only a secondary place. In case it applies in this instance, the effect would appear to be that, the intestinal ferment being reduced or absent, not only would disintegration of the protein suffer, but the especial agent that carries out the reconstruction of protein being decreased or absent, the reconstruction also would be more or less completely absent. Instead, therefore, of entering the circulation as hybrid reconstruction products, the more or less completely fragmented products would themselves go into the circulation, and use of them by the tissues, in the synthesis of new tissue, would be much the same difficult process as in case they had been made into hybrid protein.

Either of these ideas would be in harmony with the repeatedly mentioned fact that absorption in many of these cases is sufficiently good to maintain nutrition; for incomplete fragmentation would not prevent absorpiton, since digestion products, all the way from albumoses on, are readily capable of absorption—and indeed, this occurs with many unchanged albumins. The hypothesis would in either case, also, be in harmony with—indeed, it is dependent on and, if correct, explanatory of—the fact that the difficulty lies in the utilization of milk of foreign species. There is no good evidence that infants ever fail to assimilate human milk, unless they are already desperately ill; provided that the milk is not so rich in some of its constituents as to upset digestion or so poor as to be insufficient; and provided, also, that the mother or nurse supplying the milk is not the subject of physical or emotional disturbances that presumably cause the quality of the milk to be disordered. In other words, there is no evidence that an infant, not desperately ill, that is taking normal human milk of such composition that it does not disturb digestion, ever fails to be able to utilize this milk on account of the character of its constituents. On the other hand, large numbers of infants, when fed on foreign (that is, usually cows') milk, even when the constituents are of wholly normal quality, do badly or die, however one may vary the proportion of the constituents in deference to difficulties in digestion; often, indeed, even when no noteworthy difficulties in digestion are present. The experience of Westcott, Holt and others, shows that many malnourished or even severely atrophic infants that do badly on cows' milk mixtures exhibit remarkable improvement if, while their diet still consists chiefly of the same mixture, small quantities of human milk are added. This suggests strongly that they can secure from the artificial food the energy that they need, if only the essential moiety absolutely demanded for tissue-building and repair is given them in normal form.

The hypothesis also conforms with the fact that infantile atrophy, as well as the malnutrition of older children and adults, is not a clearly delimitable condition. There is no definite boundary line on one side of which cases are simply malnourished, while on the other side they are the subjects of persistently progressive atrophy; nor are there any cases that can be labeled essentially fatal. The worst of them almost may get well if only one can secure a food that is especially suitable in the particular case. If in such cases human milk is used improvement is often remarkably rapid, while on other foods it is, as a rule, slow and laborious at best. The hypothesis that I have described does not conflict with these facts, but is rather supported by them. Such variations in the severity of atrophy may be chiefly a question of a larger or smaller degree of reduction of the ferment action of the intestine. It is not to be expected that the ferment or ferments would often be entirely and persistently absent; it is rather to be expected that various degrees of reduction of the amount of the activity of the ferments would occur in different cases, and that there would correspondingly be more or less severe results. Since there would be no essential structural change in the intestine, but simply more or less complete failure of a function—a function, however, that would seem to occupy a critically important position in the process of homologizing protein—any little increments added to the powers of the patient to carry on functions properly (such increments as would be secured through better feeding and better hygiene, and the consequent better general nutrition) would improve the manufacture of ferments, as well as other functions, except in cases so badly damaged that the recuperative powers were lost.

The general line of thought that I have indicated, whether my hypothesis is correct or not, would also offer a reasonable explanation of the fact that extreme grades of atrophy are so much more common in very early life than in older persons. After growth is completed, synthesis of tissues is necessary only in so far as repair is required; while in the young not only is repair required also, but there is, in addition to this, a relatively enormous amount of synthesis necessary in manufacturing new tissue. Any disorder that makes synthesis of tissue more difficult would consequently fall particularly heavily on the young.

I would likewise note that the one point regarding the pathology of infantile atrophy that is as yet unassailed (Bloch's observation that granules are absent from Paneth's cells) seems to me to suggest of itself that the ferment functions of the intestine may be at fault. Similar granulations are observed in other digestive organs, when they functionate normally, at those times when they are preparing their digestive secretions; while after the secretions are discharged the granules become much reduced in number or entirely absent. Lack of granules from the cells in the intestines of atrophic infants may, therefore, readily mean that these cells are not producing digestive secretions, while the same cells do produce them in other infants.

I have previously mentioned the possible presence of precipitins for bovine casein in the blood serum of atrophic infants. This matter is not of much importance in this connection, as there is little evidence as yet that such precipitins exist. If they do exist it is apparent that their presence is quite as directly in conformity with the view that I have outlined as with the suggestion that a chronic toxic state results from the presence of the foreign casein in the circulation. Those that have experimented on the effect of subcutaneous injections of unaltered foreign protein differ in their conclusions; but it may, I think, be said fairly, so far as this concerns the question immediately under discussion, that atrophic infants show absolutely no clinical evidences of any such actively toxic state as has been described by some authors as consequent on the subcutaneous administration of very small amounts of foreign protein. Yet if such infants do have casein-precipitins in their blood, they must absorb directly quite as large amounts of casein as are used in injection experiments. This point seems to me to rob the theory of a foreign-protein intoxication of its chief established basis, so far as infantile atrophy is concerned; although I, of course, do not deny the possibility that such an intoxication may have something to do with the condition.

CASES STUDIED.

Up to the present, my studies regarding the defensibility of my hypothesis have consisted of investigation of the proteolytic power of the intestines obtained at autopsy in eight cases. Three of these cases were characteristic instances of progressively fatal atrophy (two in infants and one in a child of two years); three were cases of advanced emaciation that was known to be due to other causes than simple atrophy, these cases serving as controls; and the other two cases were instances in older persons of continuous and finally extreme emaciation for which autopsy showed no cause.

Although I have been working on the question, as opportunity offered, for a year past, the number of cases that I have to report is small, because I have, in order to avoid confusion, limited my observations relating to the atrophic cases carefully to those in which the clinical conditions and the autopsy findings showed an entire absence of evidence of infection of the digestive tract, and in which, also, there was absence of evidence of poor absorption or of a noteworthy degree of gastroenteritis. I have found it difficult to secure such material from entirely reliable sources. The three cases of infantile atrophy that I report were, however, of this kind. All showed at autopsy merely the lesions of simple, uncomplicated atrophy, and clinically, all had shown merely progressive wasting, with no gastric symptoms. Intestinal symptoms, also, were absent in all except Cases 2 and 3, in which two or three bowel movements occurred at times in the 24 hours. The movements, however, were not large, appeared well digested, were of good color, and did not contain visible mucus.

Case 1 was under the care of Dr. Howard Hill, who did the autopsy. Cases 2 and 3 were under Dr. J. P. Crozer Griffith's care at the Children's Hospital, and Dr. C. Y. White and Dr. Howard Carpenter made the pathologic studies in them. For the material from the other cases, I am indebted to Dr. Longcope and Dr. Lavenson. I wish, also, to acknowledge my especial indebtedness to Dr. Ralph Pemberton for aiding me in the studies of the cases. The details of the methods used will be given later with the figures obtained. Meanwhile, I shall briefly discuss the results.

In the first of the three cases of infantile atrophy, the proteolytic ferment in the intestinal mucous membrane was present in extremely small amount, if at all; in the second it was greatly reduced as compared with the three control cases; in the third case, which was the most rapid in its progress, the infant dying at five months, no ferment-action was demonstrable. In the first of the two cases of emaciation of undetermined cause in older persons, ferment-action was exceedingly slight, in the second of these cases it practically could not be demonstrated at all. Indeed, in the whole group of five atrophic cases, all those that show slight ferment-action provide, to indicate this, figures so small as to be almost or quite within the range of error. Since, however, in all instances, two nitrogen-estimations were, as is usual, made for the purpose of controlling the results; and since, in all instances (except case 5, in which the control was lost), the two estimations corresponded practically exactly, I think that the figures are accurate, and do not indicate slight ferment-action.

The figures from the three control cases that had not simple atrophy do not, to be sure, indicate the digestion of large absolute amounts of protein; but they do show relatively large amounts as compared with the atrophic cases, and it must be remembered that I was dealing with small figures in all cases, since, as may be seen in the protocols of the experiments, only 10 c. c. of milk was introduced in each instance for the ferment to act upon, in addition to the small amount of protein present in the extract which contained the ferment; and the amount of milk mentioned represents only about 0.05 grams of nitrogen. Considering that the period of digestion was purposely made short (only four hours), in order to be more certain of excluding bacterial action, the figures in the non-atrophic cases really show a very considerable degree of digestion, while the atrophic cases, at best, show almost none.

The objection may be offered that the differences were due to bacterial action. Toluol was used freely, however; the experiments were made so short that there was little opportunity for bacteria to act; and, more important than this, there are no irregularities in the results to suggest that bacteria had been active. It is, perhaps, impossible in experiments carried out as these were with an extract of the mucous membrane, to exclude bacterial action absolutely. I used this method, however, instead of attempting to isolate the ferment by means of precipitation and dialysis, because I believe that it is possible only by means of the method followed to secure quantitative comparisons in different cases; and bacterial action cannot be said to have produced the results obtained, unless one assumes the rather strained position of considering that bacterial proteolysis occurred regularly in the non-atrophic cases, while it was regularly absent or almost absent in the atrophic.

Leaving aside the two cases in older persons for the present, the bearing of the results in the three of infantile atrophy seems to me to be the following: So far as these cases go, they harmonize with the hypothesis that I have stated, since they demonstrate that in these cases there was great reduction or entire loss of proteolytic power in the intestinal mucous membrane. It may readily be thought that this was a mere secondary effect of the profound emaciation, but this appears decidedly improbable, when one considers the three control cases, all of which were extremely emaciated, but as the result of definite causes other than simple atrophy. These cases show very much greater proteolytic action than do the atrophic cases. It might be considered, also, that there was simply a general reduction in the ferments of the digestive tract. I attempted to exclude this objection by testing for pepsin in extracts of the gastric mucous membrane of the atrophic cases, and in all three instances I got a markedly positive result; hence pepsin was present in all.

Beyond what I have said, I do not think I can speak decidedly as to the meaning of my results. If continued studies shall show similar results consistently, this will demonstrate definitely a marked disturbance of the ferment-function of the intestine, and will indicate strongly that this has an important primary relation to the atrophy. Further studies are necessary, however, in order to show that this is a constant condition in atrophy, and a condition that is usually absent in other cases. Furthermore, in addition to the line of observation that I have been following, it is important to determine whether the intestine does or does not, in these cases, retain its power to produce secretin and enterokinase, and thereby to excite secretory activity in the pancreas and to activate the pancreatic trypsin. It is likewise important to determine, if possible, to what extent the pancreas retains its functional capacity in these cases; although this is extremely difficult to do satisfactorily with postmortem material, because in extracts of the pancreas the trypsin becomes, to some extent, activated, and it is difficult to determine to what extent this occurs, and therefore difficult to secure reliable results in comparing different cases.

In spite of the fact, which I have repeatedly mentioned, that absorption in these cases often does not suffer enough to explain the atrophy, it may be that the pancreas, as well as the intestine, shows reduction, and perhaps, entire loss of ferment-function. We know now quite clearly that fat-absorption is sometimes good in the entire absence of pancreatic secretion; and it is quite possible that this is more largely true of protein than we have thought. Indeed, in many cases, with severe lesions of the pancreas, the nitrogen-absorption is known to be not bad. This possibility of disordered pancreatic function is of particular interest in infants; for there is some testimony, though not based on very good evidence, that in the first three months or so of life the pancreas has only a subordinate rôle in carrying on digestion and absorption, while after this it becomes increasingly important. Athrepsia in infants is particularly likely to begin about the third month of life; and, hence, if the above-mentioned view is correct, it becomes possible that the difficulty in athrepsia may be partly, at least, the result of failure of the pancreas to take up the large function that it should assume. If the pancreas fails to do its duty, fragmentation of the protein-molecule will be still more incomplete than if the intestinal ferment only were absent. In this case, pepsin alone would be left to digest the protein sufficiently for its absorption; but in infants, at any rate, with their simple milk diet, it is probable that pepsin is capable of doing at least a very large part of this. If there is any truth in the view that I have just noted concerning the development of the pancreatic function in early life, pepsin must, in even normal infants, in the very early weeks of their existence, do most of the work except that carried out by erepsin.

In addition to what I have mentioned, it is desirable to attempt to determine whether amino-acids or peptides do escape into the circulation in these cases; or whether, on the other hand, the circulating protein of atrophic cases shows differences from the circulating protein of other cases. These last points are very difficult to determine with our present methods, particularly with the paucity of material provided by the cadaver of an athreptic infant. They may be possible of solution in cases of atrophy that occur in older persons, perhaps even during life.

Furthermore, it is desirable to determine whether there are alterations in the ferments in the tissues that lie beyond the digestive tract.

Finally, I would, with an equal consideration of the criticisms that I have put upon my previously-mentioned results, refer to the two cases in older persons, as they need brief separate description. The first of these, Case 4 in the protocol, was an instance of dementia præcox in a man of 27, who was under the care of Dr. Charles W. Burr at the Philadelphia General Hospital. The only noteworthy points in his history were that, after prolonged overwork, he had developed delusions of persecution; and this had been followed by a stuporous state. He was admitted in the latter condition; and for eight months afterwards, remained in a state of complete apathy, or negativism, physically and mentally. Throughout this time, he was unresponsive and practically motionless. He was fed continuously through a stomach-tube, on about three quarts of milk and eight eggs a day; but in spite of this he emaciated constantly and finally to an extreme degree. He then came out of his stupor rather suddenly, took an interest in his surroundings and ate with appetite. Though he then took no food beyond the ordinary ward diet (and this is certainly not more than what had been given him before, but rather less), and though he was in this period moving about and doing a little work, while previously he had been absolutely quiet, during the next three months, he gained flesh rapidly and became actually fat. He then went into stupor again, and remained so for two years and ten months, until he died. Throughout this entire time, he had been fed on the previously mentioned amounts of milk and eggs, through the stomach-tube, and during this period he again emaciated progressively, and ultimately to the last degree.

Case 5 was a patient of 25 years, who had meningitis followed by hydrocephalus, lasting seven weeks. During this time he was stuporous and during the last three weeks he was fed through a stomach tube. He emaciated rapidly and finally to an extreme degree, in spite of the subsidence of any evidences of infection.

Both these cases, as I have stated, had practically no evidence of the presence of proteolytic action in extracts of the intestinal mucous membrane. I would note also that in both, contrary to the conditions in the infantile-atrophy cases, there was but faint, if any, evidence of the presence of pepsin in the extracts from the gastric mucous membrane. Neither case had shown any digestive disturbance during life, and neither had any lesions of the alimentary tract at autopsy. There was no direct occasion, therefore, for considering that the intestine was at fault in any way in these cases, but I studied them in this connection for two reasons: First, because they were instances of unexplained progressive emaciation; and second, because Pawlow, in discussing his celebrated work on the influence of psychic factors upon the secretion of digestive juices, suggests that the more or less profound disturbances of nutrition often seen in depressive forms of insanity may be, to some extent at least, due to the entire lack of psychic stimulus to the production of digestive ferments.

Two cases do not justify much comment. I would say only that they may, on the one hand, be evidence merely that my hypothesis is incorrect; that is, reduction or loss of the ferment functions of the intestine may occur in a variety of conditions and may have no primary relation to any disease or symptoms, and these cases are, perhaps, merely examples of that possibility. On the other hand, they may prove to have importance in explaining such conditions. In Case 4, especially, there was a striking succession of events, which appeared to show that the emaciation was closely related to the stupor. This may mean simply that some intoxication or other obscure condition was the cause of both stupor and emaciation, but it may be that the whole disorder was nutritional—that depraved nutrition from overwork produced psychic depression, and the latter so largely depressed physical functions, among which is the function of elaborating ferments, as to cause the progressive general atrophy. The sudden alterations in both mental and physical condition that occurred in this patient and are common in similar cases is certainly quite as much in harmony with this view as with the theory of intoxication, for every one is familiar with the extremely sudden changes in the gastric secretion that are known to occur at times in cases of purely neurotic achylia gastrica.

I believe, therefore, that the emaciation occurring in depressed and stuporous states, and also other obscure forms of emaciation, are suitable subjects of study from the standpoint that I have indicated. I do not, of course, mean to suggest in the most distant way that emaciation in general is dependent simply and solely upon failure of intestinal ferments. I mean merely that lack of these and of other ferments may be an important element in cases of this sort, and since the proteolytic ferment of the intestinal mucous membrane, according to prevailing views, seems to occupy a conspicuously important position in the process of utilizing protein, it is possible that more or less complete absence of this ferment, owing to the disordered chain of events that would probably ensue upon its absence, may be one of the important elements in explaining some instances of progressive emaciation, and, too, of chronic, but stationary, depraved nutrition. It is also possible that at times lack of this ferment is the chief and, indeed, of itself a sufficient, explanation of the nutritional disorder.

THE AUTHOR'S METHODS.

The methods used in my work were as follows: The whole of the stomach and small intestine was secured directly after the autopsy. This means from 12 to 18 hours after death, but a delay of this length appears from Vernon's observations to cause no decrease in the amount of erepsin. There was some difference in the time that elapsed in the individual cases between death and autopsy, but this was, at most, a few hours, and the average time in the atrophic and non-atrophic cases was just about the same. As soon as they had been secured, the stomachs and intestines were very thoroughly washed with running water. In obtaining the extracts the mucous membrane was scraped off the entire surface of the stomach or small intestine, whichever was being worked with; the whole amount obtained was thoroughly mixed and weighed portions were taken. Scrapings from the entire mucous membrane were used because the amounts of pepsin and erepsin, respectively, in different portions of the stomach and bowel differ largely; and in using organs from subjects of different ages and sizes, it would be impossible to be certain that exactly similar portions had been taken if one simply cut out especially chosen parts and took the scrapings from these.

Of these mixed scrapings from the intestine, a weighed portion was each time taken and ground for 10 minutes in a mortar with sand. The ground scrapings and sand were then washed into a flask with Ringer's solution, using always 30 parts of the solution to one part of the scrapings. Toluol was then added; and the flask was stood aside for four hours, shaking it every 20 minutes to half an hour. The contents were then strained, each time in the same manner, and 50 c. c. of the strained fluid was introduced into each of two flasks. That in one of these flasks was immediately boiled for a moment and then cooled, and to each flask was added 10 c. c. of previously-neutralized milk, the milk being from a supply that is constantly under chemical supervision, and that I know from a large number of personal estimations to vary extremely little in its nitrogen-content. Toluol was then added to each flask and thoroughly shaken with the fluid, and both flasks were placed in the thermostat at body-temperature for four hours. Following Cohnheim's procedure, I then added 10 c. c. of saturated sodium chloride solution; boiled a moment; added 10 drops of acetic acid; boiled again; filtered and tested the filtrate to see that it was biuret-free. If it were not, or if it were not perfectly clear, it was filtered again, when it always became perfectly clear and biuret-free. The nitrogen in the filtrate was then estimated. The results gave the "uncoagulable" nitrogen, and the excess in the specimen that was not boiled in the beginning over that in the boiled specimen showed the amount digested. The figures given are for the whole amount in the flask.

At the same time that these flasks were prepared, two other flasks, each containing 25 c. c. of the extract from the intestinal mucous membrane (boiled in one; unboiled in the other) and 10 c. c. of a 1 per cent. solution of Witte's peptone, together with toluol, were placed in the thermostat for four hours, and afterwards coagulated in the manner mentioned, and the strength of the biuret-reaction in the filtrate was noted. The degree of reduction in the intensity of the biuret-reaction in the unboiled specimen, as compared with the boiled specimen, provided qualitative evidence of the activity with which the "peptone" had been digested beyond those bodies that yield a biuret-reaction.

I used cows' milk as the substance to be digested, because it is the food upon which artificially-fed infants depend. Even if Cohnheim be correct in claiming that erepsin can not digest most unchanged albumins, and that it is necessary that albumins be previously digested at least as far as the albumose-stage, casein is, nevertheless, an entirely appropriate substance to use in testing the activity of erepsin; for Cohnheim himself states that casein constitutes an exception to the above-mentioned rule, since, unlike most other undigested albumins, it is acted upon by erepsin. In case Cohnheim is right in stating that erepsin acts upon casein but not upon most other unchanged albumins, this of itself strongly suggests that the ferment may be especially important in infants whose diet is limited to milk. It was, indeed, this statement in Cohnheim's article that first brought to my mind the possible relation of this ferment to infantile atrophy. I have not, however, considered that the proof that erepsin can not act upon other albumins is sufficiently definite to make it justifiable to use this point in my argument, in the earlier part of this paper, in favor of my hypothesis.

The pepsin tests were qualitative only. The scrapings of the gastric mucosa were placed in one-twentieth normal hydrochloric acid, in the proportion of three parts scrapings to 200 of hydrochloric-acid solution, and allowed to stand until the next day, when the fluid was strained off. Of the strained fluid, 25 c. c. was introduced into each of two flasks, one of which was boiled and then cooled. To each flask I then added 10 c. c. of a mixture of one part of fresh white of egg in 10 parts of one-twentieth normal hydrochloric acid. These were then put in the thermostat for four hours. They were then neutralized, 10 c.c. saturated sodium-chloride solution was added, the mixture was then boiled, rendered slightly acid with acetic acid, boiled again, then rendered slightly alkaline with sodium hydroxid, boiled again and filtered perfectly clear. The filtrate was then tested by the biuret-test and by precipitation with phosphotungstic acid. The bulk of the precipitate to the latter indicated the amount of digestion-products, and the intensity of the biuret-test indicated the same.

RESULTS.

CASE 1.—Atrophic child of 2 years, had been emaciating for a year after preceding digestive disorder. The filtrate from the two flasks containing intestinal extract gave, after digestion, the following figures for nitrogen:

Unboiled specimen	0.0200
Boiled	0.0191
Increase	0.0009

Witte peptone digestion: Boiled and unboiled indistinguishable in biuret test.

Pepsin Test.—Biuret entirely absent in the boiled specimen; decided in the unboiled. A slight precipitate to phosphotungstic acid in the boiled specimen; much more marked in the unboiled.

CASE 2.—Atrophic infant of six months; weaned at four months; very ill-nourished then and had grown progressively worse since: Erepsin digestion experiment.

Unboiled	0.0117
Boiled	0.0088
Increase	0.0029

Witte peptone digestion: Boiled slightly more marked than unboiled.

Pepsin Test.—A trace of biuret in the boiled specimen; marked reaction in the unboiled. Phosphotungstic precipitate slight in boiled; marked in unboiled specimen.

CASE 3.—Atrophic infant of five months; weaned at three months; emaciating continuously since: Erepsin digestion experiment.

Unboiled	0.0144
Boiled	0.0144
Increase	0.0000

Witte peptone digestion: Boiled and unboiled indistinguishable.

Pepsin Test.—Biuret absent in boiled specimen, distinct, but not very marked in the unboiled. Phosphotungstic precipitate very slight in the boiled; more bulky in the unboiled, but less marked than in the other cases.

CASE 4.—Dementia præcox: Erepsin digestion experiment.

Unboiled	0.0156
Boiled	0.0137
Increase	0.0019

Witte peptone digestion: Boiled and unboiled indistinguishable.

Pepsin Test.—A trace of biuret in both the boiled and the unboiled specimen; very slight in both, and no difference observable. Slight phosphotungstic precipitate in both; no marked difference.

CASE 5.—Hydrocephalus: Erepsin digestion experiment.

Unboiled	0.0182
Boiled	0.0179
Increase	0.0003

Witte peptone digestion: Boiled and unboiled indistinguishable.

Pepsin Test.—Faint trace of biuret in both the unboiled and the boiled specimen, and a very slight phosphotungstic precipitate in each.

CONTROL CASES.

Case 6.—Infant of nine months, dead of general tuberculosis: Erepsin digestion experiment.

Unboiled	0.0306
Boiled	0.0112
Increase	0.0194

Witte peptone digestion: Boiled pronounced biuret, unboiled very slight.

Case 7.—Infant of five and a half months, dead of slow starvation. (Extremely insufficient feeding by an ignorant mother; admitted moribund): Erepsin digestion experiment.

Unboiled	0.0215
Boiled	0.0147
Increase	0.0068

Witte peptone digestion: Boiled very distinctly more marked than unboiled.

Case 8.—Adult, died in convalescence from typhoid fever, after a long illness and extreme emaciation: Erepsin digestion experiment.

Unboiled	0.0229
Boiled	0.0117
Increase	0.0112

Witte peptone digestion: Boiled marked, unboiled slight.

HEMOLYSIS IN PERNICIOUS ANEMIA, AUGMENTED BY URINARY RETENTION.

REPORT OF CASE.

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An article on "Recurrent Intermittent Retention of Urine Occurring with Remissions in a Case of Pernicious Anemia"[1] attracted my attention and led me to compare it with a similar case lately observed in the medical clinic of Professor George Dock. Dr. Cunningham's case was a male, aged 47, who had well-marked symptoms, physical features and a typical blood picture of pernicious anemia. In addition he had a history of retention of urine four years before, after which he was regularly catheterized for three months. At the time of his admission he urinated every two hours and was up more often during the night. In addition, difficulty in starting his urine and dribbling were complained of. Examination revealed a hypertrophied prostate, sufficient to cause frequent attacks of retention. Cystoscopic examination showed a chronic cystitis, and on draining the bladder as much as thirty-six ounces of residual urine were obtained. Bottini's operation was performed under cocain anesthesia. In three months the patient had no urinary symptoms and his blood was in good condition. He returned because of the reappearance of the anemia one month later, and complained at the same time of urinary symptoms—namely, dribbling and difficult micturition. The residual urine had again increased. The bladder symptoms were relieved, and along with the improvement in his blood his urinary symptoms became better. In six months he had a similar attack and again recovered. Finally two years and two months after the onset, another attack came on from which the patient never recovered, dying from "uremia." In these numerous attacks the lowest blood count was 472,000, hemoglobin 10 per cent.; the highest 3,500,000, hemoglobin 45 per cent. The postmortem of the urinary system revealed chronic cystitis, hypertrophied prostate, dilatation of the ureters, kidneys, pelves and calices. Urinary findings at each examination were practically the same. The urine was pale, of low specific gravity and acid or neutral. There was a trace of albumin, but no sugar. There was always sediment consisting of pus, blood, and hyaline and granular casts.

In many respects the case I purpose to report herein resembles the one just outlined.

Patient.—M. L., aged 56, stonemason, American and single, came into the medical clinic on Jan. 4, 1907, complaining of numbness, stiffness of the hands and feet, diarrhea and loss of appetite.

History.—There was nothing notable in the family history. He had had typhoid at 15. He denied venereal diseases. Drank beer in moderation and smoked six pipefuls of tobacco daily. Five years previously, following exposure to cold and dampness, both shoulders became stiff, and there was some loss of power in his legs. The weakness persisted and this he noticed was more apparent on the least exertion. Diarrhea began two weeks before coming to the clinic, with from four to six stools per day. At this time he had grown dizzy and stumbled occasionally. His hands were numb and he found it impossible to button his clothes. He had had difficulty with urination for some time, but could not definitely remember the time of onset. In the early part of October he began to find it necessary to get up at night to urinate. Soon after this a burning pain at the beginning of urination and dribbling annoyed him. These symptoms became more pronounced so that when seen the patient urinated about every two hours and found it necessary to rise at least three times every night to empty his bladder. The urine was small in amount, pale yellow, and slightly turbid.

Examination.—Patient was of medium frame, skin dry, very pale, freckled and inelastic. There was a small amount of panniculus. The hair was scanty and gray. Height five feet eleven inches, weight 122 pounds. The pupils were equal and reacted to light and accommodation. The teeth were very poor, the gums were red and spongy, the tongue fissured, moist, glossy and tremulous. The mucous membranes were pale. The neck was symmetrical and the thorax of good length, breadth and depth. The clavicles were prominent. The apex of the right lung was lower than that of the left and there was relative dulness on the right. Over the dull area there was weakened vesicular breathing with prolonged and slightly blowing expiration. No adventitious sounds. Remainder of the lungs negative. The apex of the heart could neither be seen nor felt. The cardiac dulness was not enlarged. The first sound at the apex was weak but clear. The second sound was relatively louder and more abrupt. The second pulmonic was weak, distant and impure, and the second aortic was clearly heard. The pulse was full, quick, of good tension, and regular. Examination of the abdomen showed it to be pale, inelastic, walls lax and ribs and crests of the ilia prominent. Palpation negative. The prostate was enlarged, the right lobe being somewhat larger than the left.

Blood Examination.—Red blood cells, 2,220,000; white blood cells, 6,800; hemoglobin, 42 per cent (Miescher). Differential count of 500 cells. Small lymphocytes, 40.4 per cent.; large lymphocytes, 2 per cent.; polynuclear neutrophiles, 50 per cent.; polynuclear eosinophiles, 5.4 per cent.; mast cells, 0.6 per cent.; degenerates, 1.6 per cent. Many macrocytes, microcytes, poikilocytes and oval cells. No nucleated forms seen.

Urinary Findings: 24 hour specimen, 1025 c.c.; specific gravity, 1.017. Acid. Color pale yellow. Tests for albumin and sugar negative. The small sediment contained a few leucocytes, epithelial cells, and a few round granule cells. No casts.

Fecal Findings: The stools were small, thin and watery, brown, containing mucus in small flakes. No occult blood. Microscopically a few undigested meat fibers and starch were seen. No cells and no parasites found.

Test Meals: These showed an absence of hydrochloric acid. Total acidity low. Rapid motility. Low peptic digestion. No lactic acid. Microscopically a few short motile rods with curved ends.

Treatment.—The patient was put on "anemic diet," consisting of eggs, raw beef and two-hour liquid feeding. He was given 10 grains of tannigen after each evacuation; a mild diuretic; Blaud's pills in increasing doses, which was soon changed to Fowler's solution. He soon began to improve and progressed steadily. His blood became better so that at the end of a month the count was as follows: (February 11.) Red blood cells, 3,000,000; white blood cells, 3,600; hemoglobin, 56 per cent. The differential count showed small lymphocytes, 50 per cent.; large lymphocytes, 2.5 per cent.; polynuclear neutrophiles, 32.5 per cent.; polynuclear eosinophiles, 10 per cent.; mast cells, 0.5 per cent.; degenerates, 4.5 per cent. Though no nucleated cells had been found before this, they were now quite numerous. Normoblasts 13, megaloblasts 111. Many polychrome cells and a few stipple cells. A few days later the patient noted difficulty in urination. Burning sensation on passing and having to pass small amounts at frequent intervals were complained of. This continued for two days, when, on February 15, it was found necessary to catheterize the patient and withdraw a considerable amount of residual urine. Rectal examination at this time revealed, as has been previously described, an enlarged prostate, the right lobe particularly in this instance feeling soft. Immediately after withdrawing the urine the blood count was made. Red blood cells 1,710,000, hemoglobin 22 per cent. This was the first instance that we had in this case of an exacerbation of the anemia, associated with retention of the urine. The only marked change in the differential count was an increase in the eosinophiles, which rose to 15 per cent., the neutrophiles falling correspondingly. Nucleated forms were about the same as on the previous examination. The patient improved during the next few days, urinated freely, and except for weakness occasioned by the anemia, felt as well as previously. His blood remained about the same. The red count did not rise above that made on the 15th and the hemoglobin persisted at 22 per cent. The lowest red cell count was 1,040,000. On the evening of February 19, he again complained of severe pains in the lower part of his abdomen. He was restless, picked at the bed clothes, attempted to get out of bed, talked continuously, and showed other signs of active delirium. He had not urinated for eight hours. An examination of the abdomen revealed a distended bladder extending a hand's breadth above the pubis. The patient was catheterized at this time and 400 c.c. of dark yellowish-red urine was withdrawn. Examination of this urine was as follows: Specific gravity, 1.017, clear and acid. No albumin, no sugar, no bile-coloring matter. Strong test for urobilin. Sediment contained blood cells, some leucocytes, and a few round granular cells. Unfortunately a spectroscopic examination was not made. A blood count made immediately after the catheterization showed the second enormous drop that had occurred in the course of the disease. The red cells were 740,000, and the hemoglobin was 19 per cent. From this time on until his death, February 23, the count remained practically the same.

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[1] Cunningham (John H.): Ann. of Surg., February, 1907.

Dr. Cunningham, in his conclusions, argues that the relapses of the anemia brought about the "weakness of the general muscular system of the bladder wall," which "lost its contractile power and retention of urine resulted." To my mind another factor was at work in both of our cases influencing both the exacerbations of the anemia and causing in part the retention. Prostatic hypertrophy brought about retention of the urine in both his and my own case, following this an absorption of the hemolysins occurred and remissions in the blood count resulted.

Sudden and rapid variations in pernicious anemia have been noted under many conditions. Not alone alterations in the differential count and the occurrence of nucleated showers, but changes in the red cell count and hemoglobin content frequently occur. Physiologic influence and secondary infections are the most usual causes in the daily variations in proportion between mono- and polynuclear white elements. Megaloblastic showers are regarded as an attempt on the part of the bone-marrow cells toward regeneration of the red cells. At the same time the clinician has looked on these floods of megaloblasts as a signal, prognostic of dissolution soon to follow. Diminution of the red cells and hemoglobin, slowly and with no attempt at regeneration, with slight but appreciable daily decline, marks the progressive pernicious case. And *vice versa,* gradually increasing count after the ebb has been reached, with no other features than a steady rise in the count and a tendency on the part of the red elements to assume uniform shapes, signifies regeneration and convalescence. Remarkable increases in the hemoglobin and gains in the red cell count are so rare that their occurrence due to bone-marrow activity must be regarded with suspicion. Usually circulatory disturbances or faulty technic explain them. Sudden and distinct reduction in hemoglobin and drops in the red cell count are not so uncommon. They result from a variety of influences. Secondary infections cause the largest and most sudden drop in the red count. Especially is this effect seen resulting from septic infections. Excitement, increased mental activity or excessive physical exercise is followed at times by such remissions. There are times, however, when rapid fall in the blood content of the body can no more be accounted for than the disease itself. These idiopathic changes must be closely related to the primary causes of the anemia, for it seems reasonable that a rapid hemolysis can occur only when an excess of those hemolysins that produce the blood changes are in circulation.

Morris examined the urine of several cases of pernicious anemia along with the urines of other chronic and a few acute infectious diseases for hemolysins. He used 10 c.c. of urine and 10 drops of a 5 per cent. solution of blood (rabbit) which had been defibrinated and washed free from serum. After incubation for two hours at 37 C. and then standing at 0 C. for 24 hours the specimens were examined macroscopically and spectroscopically. There was positive hemolysis in all cases of pernicious anemia at various times during the examinations; also hemolysis in hypnotic urines. In all other cases hemolysis was negative. It is evident from this that certain substances are excreted by the kidneys in pernicious anemia that have some hemolytic action on the blood. That these substances also circulate in the vessels of patients with pernicious anemia is evident from the work of Niesser,[2] Ascoli,[3] Halpern,[4] Ford and Halsey[5] and others.

McCaskey[6] found in a case of typical pernicious anemia a large amount of xanthin bases which "held in a one-twentieth of 1 per cent. solution made isotonic for blood exerted a positive but slow destructive effect *in vitro* on normal erythrocytes." These, he thought, were in much greater concentration in the urine than in the blood.

It has been disputed whether or not hemolysins were a part of the blood serum. Maragliano,[7] in 1892, showed that hemolysis in anemia was due to isolysins of the serum rather than disease of the blood-forming organs themselves. Ford and Halsey[5] have shown that hemolysis takes place when normal blood is subjected to laked blood.

Warthin[8] maintained that the "hemolytic poison does not confine its effects to the portal areas, as claimed by Hunter, but is present in the general circulation. . . . The hemolysin of pernicious anemia does not differ in kind from that occurring normally or in certain diseased conditions. The difference is one of degree only." It seems evident from the above that when a retention of urine occurs in pernicious anemia that those substances or hemolysins which fail to be excreted are, in part, retained in the general circulation and, in part, reabsorbed into the body from the urinary tract. That these substances may cause a hemolysis, such as was observed in this case, is plausible, and that their continued retention may give rise to frequent remissions in the course of the disease is a logical conclusion.

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[2] Berl. Klin. Wochschr., 1901, 593.
[3] Münch. Med. Wochschr., 1901, 1239.
[4] Berl. Klin. Wochschr., 1902, xxxix, 1121.
[5] Jour. of Med. Research, May, 1904.
[6] New York Med. Jour., Nov. 24, 1906, p. 1030.
[7] Cong. f. Innere Med., 1892, p. 152.
[8] American Jour. of Med. Sci., 1902.

Intermittent or cyclical hemolysis is the rule in pernicious anemia. Consequently when the poison that is normally being excreted from the kidneys is added to those already active in the circulation increased hemolysis is to be expected.

Whether this substance is a part of the serum itself or a toxin circulating in the blood requires further investigation. As mentioned above, there are many diseases in which a higher degree of hemolysis can be demonstrated in the blood serum than in pernicious anemia. In none of these, however, could Morris[9] find hemolytic properties in the urine, unless there was a hypotonicity in the urine. This is interesting in the light of certain theories that are advanced as to the cause of pernicious anemia. The view of Hunter[10] as to the cause of pernicious anemia—that the small intestine is the site of a specific infection whose toxin acting in the portal system alone causes hemolysis—needs further explanation. The recent work of McCaskey,[6] though alluring, is inconclusive, in that only one case of the kind has been examined. Moreover, we do not know the amount of xanthin bases that may be present in other diseased states, nor the amounts that may be excreted by a healthy individual.

Another question that presents itself is whether or not all the erythrocytes that are destroyed at the periods when the cyclical hemolysis occurs undergo dissolution in the spleen and other hemolymphatic structures? It would seem as if hemolysis could occur in any vascular channel of the body, providing a hemolysin or toxin were present. This would liberate blood-coloring matter and, as stated above, the laked blood could exert an additional hemolytic action. Whether the hemoglobin from the blood cells, that could be broken down in this manner in the general circulation, is first carried to the liver, spleen and lymph glands, and then excreted as urobilin or whether it is excreted directly after having been changed to hemochromogen, has been investigated, but without uniform results. If the hemolysins act in the general circulation, it is probable that the red cells are disposed of in both ways. It must be remembered in this connection that the larger part of the blood passes through the portal system, and then through the liver and spleen, before it reaches the kidneys through the systemic circulation.

These two cases have suggested new problems that might be undertaken with profit—the constancy of hemolysins in the blood in pernicious anemia and in the urine, together with their relation both qualitatively and quantitatively; the absorbability of these substances, and the presence of products of hemolysis in the urine. There is need also of a method for estimating hemolysins whereby uniform results may be obtained.

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[9] Morris: American Jour. of Med. Sci., 1904, p. 1026.

[10] Pernicious Anemia.

THE FIELD WHEREIN THE WORK OF THE SURGEON APPROACHES THAT OF THE PHYSICIAN.

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Cases in which a reasonable doubt exists as to the propriety of an operation are met sufficiently often to warrant their consideration.

THE SURGEON AND THE PHYSICIAN.

The training, character of practice and experience of the general surgeon differ in a measure from those of the internist—their observations being made from a different point of view, but their conclusions, when based on all of the evidence, should agree.

The experienced surgeon possesses an advantage from his opportunities to inspect and to palpate the living tissues and to study the pathology in its various degrees of severity and stages of progress and to compare such findings with the pre-operative symptoms. Repeatedly thus to study the symptoms before operation, and to check up the findings revealed by the exploration, contributes in the most practical way to the development of his judgment.

The relatively greater experience of the internist in his study of chest lesions is an aid to his interpretation of upper abdominal diseases, and from greater refinement in percussion, more accuracy in estimating blood pressure, and more experience in making blood examinations there accrues valuable clinical data for his consideration.

Beyond the question of diagnosis there is room for team work in planning the treatment. Some good surgeons develop into therapeutic nihilists, and some good physicians are tardy in recognizing the limits of medical therapy. Their combined efforts toward reaching a humanly correct diagnosis in the obscure case needs to be supplemented when an operation is begun by the utmost exercise of judgment in deciding on how much to do and in determining what supplementary aids will be most valuable in the after management.

AIDS TO SURGERY.

At this period it is not necessary to refer to certain scholastic clinical pictures in illustration, but they afford a good opportunity to introduce borderline cases; for example, plastic repair in gynecology, when done for the more minor lesions, must not be expected to correct an existing gastroptosia or to benefit an atonica gastrica or to cure what is often the major feature of the case, malnutrition depending on secretory deficiencies or mechanical displacements of the digestive organs, with a pretty generally co-existing mucous colitis.

If lacerations need repair, and the proper anatomic position of the uterus requires surgical restoration, let this be accomplished neatly, selecting that form of surgical replacement indicated in the particular case, but the aid of an abdominal support, and particularly a study of the feeding of the patient, will probably outweigh the operative steps in contributing to complete convalescence in this class.

The wishes of the patient or of the family must be final in deciding on an operation, but ours is the duty to mold opinion, and particularly must there be reserved abundant latitude to exercise our judgment as to the extent of surgery done, based on the exigencies of the case and their relation to the powers of resistance.

A promise to do everything that is necesary in order to avoid a second operation should not be made, as this might clearly invoke unjustifiable risks to life, but permission should be given the surgeon to correct a co-existing lesion uncovered by the exploration when the risk of such procedure is but reasonable in degree. In weighing these problems, the surgeon will have much satisfaction if the support of the attending physician has been expressed in council.

UNUSUAL CLINICAL TYPES.

Unusual expressions of pain often require most faithful efforts for correct interpretation, e. g., a condition so remote from the pelvis as a weakened anterior arch of the foot may produce lumbar or pelvic distress from faulty habits of walking or standing. In verification complete relief has been seen to follow an appropriate support for the transverse or for the posterior arch of the foot.

On the other hand it was once my experience to investigate carefully the cause of a persistent and practically disabling pain radiating from a point near the middle of the crest of the ilium, for which the patient was wearing an elevated shoe. The local symptoms, however, were so impressive of an abscess, probably having origin from a deeply situated appendix, that an operation was advised and tardily accepted. A small abscess with thick protecting walls surrounded the tip of an appendix which lay almost entirely behind the peritoneum. It was clear that this abscess had existed for a considerable period. The high shoe has given no relief. In relating this case to a well-known orthopedic surgeon, he rejoined that he had once been called on to treat a case of sacroiliac disease, for the relief of which an ovary had been previously removed by a gynecologist.

Recently the surgeon has been given greater latitude by the physician in dealing with cases wherein the sufficiency of the kidney has been in question, but this lesson, however useful for the future, has been learned at the expense of overdoing decapsulation.

THE REAL BATTLE GROUND.

It is in the proximal right quadrant of the abdomen that the greatest difficulties in diagnosis are encountered. The anatomy is complex, functional activity is great, and a pathology beginning in one organ involves the contiguous tissues producing interdependent symptoms difficult to analyze, and the costal arch interferes in a measure with the usefulness of the surgeon's most reliable sense—palpation.

The outlines of the stomach are easily demonstrated, its mobility readily tested, and constrictions at the pylorus are easy to interpret—ulceration recognizable from fairly definite symptoms or by repeated examinations of the dejecta for blood; but infections extending through the duct of Wirsung to the pancreas or through the common duct to the liver cell and gall bladder are responsible for a pathology so variable in extent and degree that, in my opinion, there is opportunity for the exercise of the best talents of both the physician and the surgeon in making a diagnosis, and there is need for supplementing the surgical treatment with therapeutic aid of a medical and dietary type.

Gallstones are incident to long-standing, low-grade infections. They become recognizable from influences which are mechanical, and their removal is generally called for by a condition so excited. The removal of the gallstones is essential for relief when they have become mechanically troublesome, but the real benefit comes from the drainage of the bile ducts and liver cells. If we admit that drainage may be influenced favorably by dietary and medical aid by acting on the gastroduodenal mucosa, there remains at least a preventive field for the internist.

The final word concerning gallstones is yet to be spoken. That they are common, that they may exist without symptoms, that they may develop, be evacuated through the ducts and bowel and not re-form, at least for a period of years, is accepted. The last analysis, however, as to their bearings in heightening an infection, their relation to malignant disease, the amount of pancreatic disease secondary to their existence, and particularly their differentiation from diseases in contiguous organs, are the problems remaining for further investigation and more complete solution.

ILLUSTRATIONS.

In 1900, during convalescence from an operation for pelvic repair, Mrs. C. suffered from an acute biliary attack, with rigor, fever and jaundice. An examination of the stools revealed gallstones and an operation for drainage of the gall bladder was considered, but not thought to be urgent. No further attack was experienced, and about the middle of 1906 it became necessary to remove an acutely inflamed appendix, at which time the gall bladder and ducts were carefully examined. There was an adhesion of omentum to the fundus of the gall bladder, but the gall bladder was normal in size, easily emptied on pressure, no stones existing in the ducts. This case illustrates immunity for six years after a clear attack of gallstone colic and their recognition in the stools.

In 1902, at the termination of a difficult removal of a large, adherent multilocular ovarian cyst, the gallstones were detected in the gall bladder. The condition of the patient did not warrant their immediate removal. This patient has been under observation since that time and has had no symptoms referable to the bile tract.

In disease of the upper right quadrant of the abdomen four conditions, primarily and in a major degree, require the care of the diagnostician (Richardson). These are gallstones, gastric or duodenal ulcer, cancer of the stomach and functional diseases. Of these, functional diseases represent by far the greater number of cases. Chronologically, malignant diseases will appear latest and gallstones next, but the age can not be regarded as important in determining the probabilities, at least between functional diseases, gallstones and ulcer. More important is the character and degree of pain, the period of its occurence, the amount of constitutional disturbance and its amenability to medical and dietetic treatment.

In gallstone pain, as in the pain of extra-uterine pregnancy, there is a wide range as to degree, but it is usually found that some particular attack has been sufficiently severe as to call for some prompt measure of relief, and while these attacks of pain are thought to be provoked by dietetic indiscretion, yet the pain will be found less rhythmic in its relation to the ingestion of food than is the rule in functional diseases.

JAUNDICE.

In gallstones it is well to remember that jaundice is present in a minority of cases, probably in about one-fifth, and it is usually important to observe that while its presence strongly suggests gallstones, yet the color in pernicious anemia, in hypertrophic cirrhosis and in syphilis of the liver, not to mention that found in primary malignant disease of the ducts, must account for a number of cases of apparent jaundice, even though the tint in these diseases is, in a measure, characteristic.

CANCER.

Unfortunately, malignant disease of the stomach has no early pathognomonic symptoms. The usual location for the early development of the malignant disease is the cicatrix of an old ulcer, but its extension involves the submucosa primarily, and there is no ulcer to produce pain, and insufficient deposit to produce stricture or to impair the mobility of the organ in the early stages; therefore, recurrent spasm is not an early symptom. It is a disease, therefore, which we must diagnose largely from symptoms that are unobtrusive, but which fail to yield to the treatment which would favorably influence functional diseases or ulcerative changes in a reasonable time. Pain is not an early symptom, and to wait for vomiting of blood, great loss of weight, palpable tumor and cachexia or for the eyelet of the stomach tube or the test meal to reveal characteristic cells or, finally, to place any substantial dependence on the presence or absence of acid, is to clearly pass the period when curative treatment is possible.

Among the less frequent affections in the upper right quadrant of the abdomen, it has been my experience twice to encounter tubercular peritonitis, locally and primarily involving the peritoneum about the pylorus and gall bladder. In one the symptoms resembled malignant disease of the pylorus on account of the mechanical obstruction and loss of weight. In the other the symptoms were those of cholecystitis, which recovered after drainage of the infected peritoneum about the gall bladder.

Supra-umbilical hernia as a cause of pain, referable in my experience to the neighborhood of the left costal arch and uninfluenced by a treatment directed toward the digestive organs, yet sufficiently severe as to be at times disabling on account of the increased pain following physical exercise, is frequently overlooked. This doubtless is due to the fact that it is comparatively uncommon, it may exist without causing any symptoms, and hence might be regarded as an innocent lesion, and the protrusion may be so small as to escape any except the most painstaking research. In the majority of cases it requires operative treatment for its relief. Occasionally it will yield to the accurate pressure of the adhesive plaster-cork support.

In the consideration of these diseases the degree of pain, the period of its occurrence, the direction of its radiation, its amenability to treatment, the amount of constitutional symptoms, the feel of the overlying muscles in the hand of the surgeon, the question of probability, and the ability to think of the unusual diseases which might resemble the clinical picture before us, must be weighed. At the same time the individual must be studied and his method of narrating his symptoms analyzed for the purpose of eliminating what is unimportant, yet to cross-examine on what is important, recognizing the symptoms to be typical or atypical before the final analysis is made.

Naming of Carbon Compounds.—Esters are compounds in which the hydrogen ions of acids, organic or inorganic, have been replaced by organic radicles, thus acetic acid, CH_3COOH, and ethyl alcohol, C_2H_5OH, form $CH_3COO\ (C_2H_5)$, acetic-acid-ethyl-ester or ethyl acetate.—*Pharm. Rev.*, August, 1906.

THE STATE BOARD AND THE COLLEGE DIPLOMA.[*]

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One of the most interesting and significant features in the development of modern medical education is the relation between the state medical examining and licensing board and the medical school. As has been shown elsewhere,[1] there is reasonable ground for the belief that the state board sprang only from a soil mulched with the product of the decadent medical school. To put the point more bluntly, had the medical school done its full duty, there would never have been need of the state board; for the diploma of such a school would have satisfied all registration requirements. It must be conceded, therefore, at the very outset, that the state board begins its functions with a natural, not to say genetic, prejudice against the medical school *per se*.

In the prehistoric days of the profession, before the rise of the schools, its neophytes were the accredited apprentices of recognized practitioners. With the evolution of the healing art, it was found that mere empiricism was but a poor guide, that underlying all vital activities are certain fundamental laws and principles, certain necessary sequences of cause and effect, which, mastered, give man a certain more or less complete control over the ills to which he is heir. The knowledge of these fundamental laws and principles, of these sequences of cause and effect, constitutes the science of medicine. It was early apparent that no one man, busied with the claims of his patients—the more numerous, the greater his skill and fame—could impart to his student that full knowledge which would make him the worthy bearer of his preceptor's cloak. Hence it came about that two or three, or more, combined to give their students the benefit of their combined experience. Had each one but covered the same ground, the gain would have been merely quantitative, not qualitative. As elsewhere, throughout the organized world, development is marked by a differentiation of labor and a consequent specialization of function. The evolution of the physicist, the chemist, the anatomist, the physiologist, the pathologist, forms but a part of the evolution in the general history of civilization. As time went on, the medical profession came to be recognized as one of the learned professions, and its privileges and emoluments as something to be sought in themselves. The diploma, which conferred on its holder a right to these privileges and emoluments, came to have a value which tended to overshadow the duties which it imposed; and then, by easy stages of degradation, it became in many instances the mere commercial product of the diploma-mill. Then, and only then, did the public, recognizing the utter inadequacy of the diploma in itself, as a guarantee of capacity and ability, seek to protect itself by interposing between itself and the body which confers the diploma a disinterested board whose function it is to test the qualifications of the applicant for licensure.

The powers of these boards would seem to be sufficiently recognized and established; their duties are evolving with the progress of events. It will, perhaps, be universally admitted that some evidence of preliminary training should be submitted before the candidate is admitted to examination by the board; and that hitherto the diploma has been at least the most convenient form of such evidence. Owing to the conditions just outlined, it has become necessary to discriminate between these diplomas and, in some instances, against certain institutions granting them. An indication of the former need is seen in the unanimous opinion of the Supreme Court of the United States, delivered Jan. 14, 1889, in the case of Dent *versus* the State of West Virginia. Speaking of the qualifications of the physician, Mr. Justice Field said:

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[*] Read at the Sixteenth Annual Convention of the National Confederation of State Medical Examining and Licensing Boards, Boston, June 4, 1906.

[1] The Journal, June 3, 1906.

> Reliance must be placed on the assurance given by his license [not diploma] that he possesses the requisite qualifications.

Of the latter need there is evidence in the laws of the various states, wherein schools are referred to as of "good standing," "recognized," "reputable," etc. In the light of Judge Toney's significant definition (Nelson *versus* State Board of Health of Kentucky) it may be argued that the word *reputable* best suits the needs of the state board and should find its place in every licensing act. Says Judge Toney:

> The word "reputable," as used in the statute, applied to a college—an institution of learning—has a different meaning from what it has when applied to an individual. When applied to an individual, the adjective "reputable" has reference to his moral character, to his character or reputation as an honorable man, *i. e.*, to his integrity and good character; but when applied to a college, the word *reputable* has reference to the extent of its course of sessions; that is, to the period of study required for graduation—to the thoroughness of the education required at such college—to the thoroughness of the course or courses of science prescribed and taught in said college, and to the capacity and qualifications of the teachers therein, and to the standard of scholarship and proficiency in said sciences required of the students as a condition precedent to the issuing of diplomas to them as graduates thereof.

Again, said Chief Justice Strahan, of the Supreme Court of Oregon (William Barmore *versus* the State Board of Medical Examiners):

> As a part of the current history of the times, and as an aid in arriving at the legislative opinion, when there were different kinds of colleges authorized by the laws of the states in which they were located, in which there were pretended annually to be delivered full courses of lectures and instruction on the arts and sciences professed to be taught, that were not reputable, because they graduated students for money frequently without regard to scholarship, a diploma from such an institution afforded no evidence of scholarship or attainments of its holder. It was a fraud and deserves no respect from anybody, and it was against such diplomas the law was intended to protect the public, and, therefore, required the colleges to be *reputable*. Whether a college be reputable or not is not a legal question, but a question of fact.

Once more, said Judge Given ("The Eclectic College Case," Supreme Court of Iowa, May, 1893):

> The standing of the college, as contemplated by this statute, is rather what the college is in respect to the thoroughness of its courses than what it is reported to be.

Unfortunately, what a college is is not always to be learned with certainty from its official publications. In a paper read March 19, 1906, at the sixteenth annual meeting of the Association of American Medical Colleges, one of the delegate members said:

> Until the medical colleges of this country can bring themselves to tell the truth in their catalogues they must not expect to receive any great confidence.

At the same meeting another delegate said:

> The degree of doctor of medicine does not always represent what it should represent. The very existence of examining boards is evidence of the fact that all medical colleges can not be relied on. There are men engaged in educational work—in secondary education and in professional education—who must be watched. That being the case, the examining board comes into existence, and the examining board needs information.

And now a few illustrations; the data furnished are drawn from material, most of it in print, and all of it at the disposal of this conference.

Last fall the secretary of the State Board of Colorado sent a letter of inquiry as to the status of the Eastern University of Washington, D. C.; with this was enclosed a wretchedly printed announcement of the institution aforesaid, which proposed to give full courses in the arts and sciences, in theology, medicine, dentistry, pharmacy, etc. No such institution was registered in the office of the commissioners of the District of Columbia. None of the faculty was to be found in the city directory; indeed, no local habitation was mentioned in the printed announcement. The matter was at once placed in the hands of the superintendent of police, who detailed a detective to look into it. Investigation developed the fact that all mail addressed to the Eastern University of Washington, D. C., was delivered at the office of an attorney in the city who, it is understood, makes a specialty of incorporating organizations of various kinds under the laws of the district, and by him forwarded, unopened, to a postoffice box in Philadelphia. Again no local habitation was given, and the sumptuous lecture halls and well-equipped laboratories of this institution were—and still are—hidden under the ample cloak of "Uncle Sam's" mail. The next inquiry was made of the General Postoffice Department, whose inspectors chased this specter out of the City of Brotherly Love and into New York and—back to Philadelphia! Repeated inquiries have failed to bring any more definite information. The health officer of the district, who was secretary of the Board of Medical Supervisors, the police department of the National Capital and the Postoffice Department of the United States Government seem alike unable to answer questions. No doubt, more than one member of this confederation has asked where and what is the Eastern University of Washington, D. C. While there is little doubt that any but the most unsophisticated would give credence to the pretensions of such a mere paper diploma-mill, the fact that it can so freely use the mails and so easily escape detection and localization is significant.

If there be any city in the country where a night school of medicine might find a reasonable excuse for existence it is, perhaps, the city of Washington. The offices of the several governmental departments swarm with ambitious but underpaid clerks, many of whom work at their desks from 9 until 4:30, and many others seek to profit by the much-vaunted educational advantages of the National Capital from 4:30 until 9. Whether or not it is possible thus to serve two masters, without slighting the work of one or the other, it must, in sheer justice, be said that many able and capable men have entered the profession by this route. To-day, however, when the medical curriculum cries aloud for more time and for the undivided attention of its followers, it is more than doubtful whether such a combined course can be followed either with safety or with profit. Could the medical course in such a school be extended to five or six years, the last year being devoted unremittingly to clinical work and, of course, in the daytime, but little criticism could arise. Competition, however, is so keen that the medical school which could not turn out an M.D. in four years at most would have scant patronage.

On the other hand, the fiat has gone forth that the night school must be abolished, and in answer to the pressure thus brought to bear we find in one catalogue this rather unique announcement in bold face type:

> TWO COURSES OF LECTURE, LABORATORY AND CLINICAL WORK WILL BE GIVEN DURING THE YEAR, THE ONE BEGINNING DAILY AT 9:30 A. M., THE OTHER AT 4:30 P. M. THE STUDENT MAY SELECT EITHER COURSE.

It has been impossible to secure a printed schedule of these courses, for the reason, it is understood, that none has been printed! On the bulletin board, however, we may see lectures scheduled at 8 a. m. and then—a vast and significant vacuity until the mystical hour of 4:50 p. m. True, in the first year, the anatomic laboratory is open from 9 to 12; the physiologic laboratory, thrice a week, and the chemical laboratory, twice a week, from 2:20 to 4:50. In the second and third years there is pathology from 1 to 4 thrice weekly; in the third year there is physical diagnosis from 1 to 2 twice weekly, and in the third and fourth years a recitation in gynecology at 1 o'clock on Thursdays, but the bulk of the work is crowded, in each year, between 4:50 and 10:30. This school did not take kindly to the rule that preliminary education is to be passed on by the state authorities, or at least not by the faculty of the medical school. Its dean asserted with some warmth that, of course, his school would reserve the right to pass on the qualifications of its own matriculants.

In reviewing the obstacles to further progress, in the cause we here represent, the chairman of the Council on Medical Education of the American Medical Association said last year:

> A second obstacle, and one of great moment, is found in the medical colleges which are conducted as private corporations. There can be no longer any excuse for the existence of a medical school which is conducted by a body of men for profit. It is only necessary to state the demonstrated fact that it costs more to furnish a student with a medical education than he pays for fees to show conclusively that a school supported solely by the fees of the students, and which pays a profit to its owners, is doing poor work and has no warrant for existence. Fortunately, with the increase of requirements, especially for preliminary education, these medical schools will be forced either to seek endowment or absorption by universities which will enable them to do acceptable work, or else they will be condemned to extinction by the law of the survival of the fittest.

Let us consider, for a moment, a school of this type. The connection between a certain other university and its medical school might be called a *mariage de convenance*. The president of the university is, *ex officio*, president of the medical faculty, but the latter is practically autonomous; its treasurer disburses all funds on the order of the faculty or its duly authorized committees, and these committees are appointed by the vice-president, who is, of course, a medical man. There is no endowment and the dividends of the professors are determined by striking a balance between the total fees received from students and the total running expenses of the school.

In The Journal you will find what was said to be its curriculum "in force during the session of 1903-1904." A few stray items are not only illustrative but interesting. In the first year we find twenty lectures and twenty hours of laboratory work assigned to physics. There was not then, and there is not now, a physical laboratory in this medical school; nor did the class have any laboratory work at all in physics. Seventy-five lecture hours are assigned to physiology; the class actually had fifty-two recitations. Forty hours' laboratory work are assigned to physiology in both first and second years. As a matter of fact there was no physiologic apparatus worthy the name until the opening of the following session and absolutely no laboratory. The first class to have laboratory work in this school had twenty-five hours for each student during the session of 1904-1905, and the equipment consisted of two scant sets of the Harvard physiologic apparatus, increased in the summer of 1905 to eight sets.

If a committee of this confederation will take the time and trouble to compare the data given in the annual "Educational Number"[2] of The Journal with the catalogues and lecture schedules of some of these institutions, it will find some "mighty interestin' readin'."

Let us see something of the quality of the output of such a school as shown by a few extracts from examination papers:

> The red blood cells, through their property of holding in combination oxygen for the nutrition of the body, carrying it to every part of the organism from the air cell walls of the lungs and returning carbon dioxid constitute the external respiration.

On the function of the vasomotor nerves, we have this statement:

> The pressure is increased or diminished by thease nerves—the nerves are a part of the symphetic nervous system and have their center in certain ganglia situated on each side of the spinal cord in the main chain of the symphetic system.
>
> Foods may be absorpted in any portion of the alimentary canal after dijestion but the great majority enter the blood through the walls of the stomach and the small intestine. They enter as simple sugars, the starches having undergone a hydrolytic process, or as peptones and albiminoses, as inorganic salts and fats.

This is from a graduate of 1903, though you will not find his name on the printed commencement program of that year, and he is to-day unable to pass the local board of examiners.

By consulting the reports published in The Journal since Jan. 1, 1906, you will find there recorded to the discredit of this same institution four failures in Connecticut, three in the District of Columbia and one each in California and Maryland. Last spring, out of a class of twenty-seven students of this school, fourteen were haled before the faculty for cheating in one of the final examinations. The commencement program shows that there were sixteen graduates in June. The "Announcement for the Session of 1906-1907," just issued, states that the degree of M.D. was conferred on twenty-five candidates in 1905; there is no hint as to how they were distributed throughout the year.

But why go further into details, which could be multiplied *ad nauseam* and probably from a much larger number of schools? It must be apparent that, especially in the unendowed schools, this condition is practically a commercial necessity. In order to pay dividends to the members of the faculty, these schools must graduate their matriculants. It is devoutly to be hoped that the newly aroused public sentiment, which is seeking to purge the atmosphere in the financial, political and social worlds, will permeate the professional world as well. Without the aid of public opinion, which is, after all, the court of last appeal in this country, we can do little or nothing. Meantime, however, we can at least be honest among ourselves. We know that the 4,000-hour schedule, over half of which is devoted to clinical and laboratory work, requires an equipment and personnel not to be found in these institutions. We know, if from nothing else than the printed proceedings of its recent annual meeting, that even membership in the Association of American Medical Colleges is not a sufficient guarantee of good work, well and conscientiously done.

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[2] The Journal, A. M. A., Sept. 21, 1901; Sept. 6, 1902; Aug. 15, 1903; Aug. 13, 1904; Aug. 19, 1905; Aug. 25, 1906.

Better things will come, not through fear of the occasional visit of the peripatetic inspector, whose inspection must, of necessity, be hurried, superficial and all too brief. Better things will come only when the general sentiment is aroused by a general knowledge of the true state of things. We all know well where these desert spots are located on the educational map. Publicity is coming to be the very generally recognized antitoxin for the cancer of fraud. The comparative tables published in THE JOURNAL, together with the weekly reports of failures before the several state boards, can not but have a salutary influence.

But there is still another side to this question. Until the state boards be raked out of the muck of politics, until their examinations be raised above the mire of catch questions and mere memory tests, until these examinations be genuine tests, not of mere learning, but of knowledge, of capacity, of ability, of character, they will, some of them, be no more *reputable* than some of the colleges of which we have been thinking.

1841 Summit Place.

CONTRIBUTION TO THE STUDY OF ERYTHEMA INDURATUM (BAZIN).*

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Besides those dermatoses which are known to be of tuberculous origin, like lupus vulgaris, tuberculosis verrucosa cutis and scrofuloderma, there are to-day numerous other skin lesions regarded as closely related to tuberculosis, if not entirely of tuberculous origin. One of them, lichen scrofulosus, the older Hebra regarded as associated with tuberculosis. He found that 90 per cent. of patients so afflicted were youthful individuals, with cervical and other kinds of lymphadenitis, periostitis, caries, necrosis, or affected with ulcerating scrofulodermata, symptoms which are characteristic of what we call "scrofulosis," making the name of lichen scrofulosus a proper one. In some inveterate cases of this disease acne-like lesions appear with or without pus formation. Hebra called them acne cachecticorum. He found it associated with a moist or dry seborrhea, causing the so-called pityriasis tabescentium. A third affection brought by him in connection with tuberculosis is chromophytosis. It appears with predilection in those phthisical patients who are affected with seborrhea and hyperidrosis.

TUBERCULOSIS AND CUTANEOUS DISEASES.

A group of other skin affections more or less closely allied or even identical, but known under different names, have of late been brought into the domain of the octopus tuberculosis. These are: folliculitis exulcerans (Lukasiewicz) or hydroadenitis suppurativa (Pollitzer). Kaposi's acne telangiectodes, Barthelemy's acnitis and folliclis, known also as papulo-necrotic tuberculides or necrotic granuloma (Johnston's). The sarcoids of Boeck, the pityriasis rubra of Hebra, synonymous with Besnier's tuberculous erythrodermia; the extremely rare angiokeratoma, the lupus pernio and, above all, the much contested lupus erythematosus, even sclerodermia and keloid are regarded as associated with tuberculosis. The erythema induratum Bazin is in a manner a very important exponent of this group, called by Darrier *tuberculides cutanées.* The fact that the important group of erythemas is due to autotoxins of gastrointestinal or other origin has led observers to assume that the enumerated group of skin lesions may also be of endogenic origin. This hypothesis was supported by bacteriologic as well as histologic findings.

It is interesting to follow the evolution of this group of tuberculides as derived from the classical tuberculous affections of the skin. The grouping of seemingly different disease forms into a system of common etiology is at first glance surprising. While lichen scrofulosorum, acne cachecticorum, as mentioned before, were thought to be associated with scrofulotuberculous taint, the real import of such a connection could at that time only be surmised, but not determined. The histologic researches of Jacobi,[1] who found bacilli in his two patients, and later of Gilchrist,[2] who found histologic features in lichen scrofulosus identical with the structure of the miliary tubercle, also Sack,[3] Boeck's and Hutchinson's[4] investigations, finding the same element in the disseminate form of lupus erythematosus, and finally the researches of Hallopeau Darrier,[5] Brocq[6] and others gave the impetus for further studies in this line.

We must look on the tuberculous taint as a predisposing cause or, rather as a favorable culture medium for the acquisition of different skin lesions. Unfavorable circulatory conditions in their wake may produce lupus pernio or angiokeratoma. But there certainly must be a more intimate association with tuberculosis in such lesions, in which, although the bacilli have not been found, histologic examination revealed tuberculous features. These are folliclis, Boeck's sarcoids, lupus erythematosus, etc. In a series of other lesions like lichen scrofulosus, Jacobi and more recently Wolff[7] have demonstrated tubercle bacilli, while Haushalter,[7] Pellizari[7] and others have reported positive inoculation results. Again in erythema induratum, although bacilli could not be demonstrated, yet Thibierge and Ravout,[8] also Carlé,[9] succeeded in obtaining positive results by inoculations.

These different results gave rise to two kinds of hypotheses as to the origin of these lesions. They are held to be due either to the toxins of the bacilli, located somewhere in the body, or to the bacilli themselves, dead or alive, which are carried to the skin by the blood current and there act as a morbific factor. The former are aptly called toxi-tuberculides and the latter bacillituberculides.

REVIEW OF LITERATURE AND PATHOLOGY.

It would exceed the limits of this paper to analyze the abundant literature on this subject. Briefly said, the theory of toxi-tuberculides has its main representative in Klingmüller,[10] who supports his contention with the fact that injection of tuberculin has caused the appearance at the point of injection of lichen scrofulosus lesions and emphasizes his hypothesis by the lack of tubercle bacilli in the lesions, their acute onset, benignant course, discrete appearance, spontaneous involution and non-inoculability on animals.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association at the Fifty-seventh Annual Session, June. 1906.

1. Verhand. d. Deutsch. Derm. Ges., Third Congress, 1891, p. 69.
2. Johns Hopkins Hosp. Bull., 1899, p. 84.
3. Monatsch. Pract. Derm., xiv, 1892, p. 457.
4. Arch. Derm. and Syph., 1898, xlii.
5. Annal. Derm. et Syph., 1892, p. 45.
6. Annal Derm. et Syph., 1897, p. 50.
7. Cited in Mracek's Handb. d. Hautkr., 1905, p. 262.
8. Annal. Derm. et Syph., 1899, No. 6.
9. Lyon: Médicale. 1901, No. 10.

In 1890 I saw such lesions at Schwenninger's clinic while he and Buzzi were experimenting in the early days of Koch's tuberculin. At the same time I also witnessed the so-called local and general reaction take place in established cases of lichen scrofulosus, also in some cases of lupus erythematosus. Unfortunately with the disappointment at that time to find a "sure cure" in Koch's great invention for all cases of phthisis, gathered at Berlin in midwinter, these experiments were not pushed and were forgotten. In contradistinction, Mracek[11] holds tuberculides to be bacillary tuberculoses of hematogenic origin and fortifies this contention by the demonstrations of bacilli and positive inoculation results cited before. That the tuberculides as well as the classical tuberculous affections of the skin are both of hematogenic origin, with the exception of the inoculated forms *per extra,* is an attribute common to both. Neither does the inability to demonstrate the tubercle bacilli in the tuberculides vitiate against their being of tuberculous origin. Furthermore, we know how difficult of demonstration they are even in true tuberculosis and how rarely we succeed in inoculating experiments. From all these conditions common to both forms one can perceive that the class heading of tuberculide or tuberculosis of the skin is an arbitrary one. Among these tuberculides, erythema induratum Bazin stands in its relation to tuberculosis about third on the list, being preceded by lichen and acne scrofulosus and the papulonecrotic tubercle. In about more than half of the reported cases it was proven associated with tuberculosis. In extremely rare instances the bacilli were found in the lesions, especially by Wolff. In other instances inoculation on guinea-pigs proved positive (Thibierge and Ravout,[8] C. Fox,[12] Carlé[9] and Jadassohn[13]), while in other cases the tuberculin test in the patient proved positive (Mracek,[11] Mantegazza,[14] Hartung and Alexander,[15] Söllner[16] and myself). Histologic and bacteriologic examination also show different opinions. Audry[17] regards it as non-tuberculous; Leredde,[18] Thibierge and Ravout[19] hold it to be of tuberculous origin. The latter demonstrated the main changes in the vessels: endothelial proliferation almost to the point of occlusion; giant cells with peripheral nuclei and numerous epithelioid cells.

One of the most constant findings is the atrophy of the subcutaneous fat tissue into large cysts and transformation into connective tissue. The clinical picture of erythemia induratum is well characterized. Bazin[20] describes it as occurring in red hard nodes, paling at compression. tough or doughy to the touch and extending into the subcutaneous tissue. The formations do not itch and are only slightly tender on pressure. The affection is localized with predilection on the legs; anteriorly, on the calves and laterally. It is more frequent in girls than in boys. Neither Bazin or Besnier[21] nor recently Jarisch[22] alludes to any changes taking place in these nodes. They describe them as undergoing absorption.

Conditions became somewhat confused when Hallopeau and Leredde,[23] Hutchinson,[24] C. Fox,[12] White[25] and others reported ulcerating cases which greatly resembled scrofuloderma ulcerosum. Doubtless many cases of the latter have been taken as erythema induratum and *vice versa.* A non-ulcerating subcutaneous scrofuloderma occurring in young people and occupying the lower extremities is, indeed, apt to be confounded with the node of erythema induratum. I venture the opinion that these formations are so closely allied to each other that neither clinical nor histologic or bacteriologic differences can hold them apart without diagnostic artifices. Even the ulcerating form of erythema induratum has many similarities with ulcerating scrofuloderma, although I admit that the caseating undermined reactionless scrofulogummata with their extensive skin destruction will permit of some differentiation especially when it started from a lymph gland and much more so when on other parts than the lower extremities.

The localization of the lesions on the legs may be regarded as the classical feature of erythema induratum. Sluggish circulation, impaired *vis a tergo,* are the main causes of its appearance there and also of lupus pernio or simple pernio so frequently accompanying this trouble. While the disease almost exclusively affects females, yet in rare instances it has also been found in men, and, although it is most frequently met in adolescent girls and young women, yet of late it has been found in older women also. Johnston[26] found it in association of what is called to-day papulo-necrotic tubercle on the hands and forearms. He calls these affections paratuberculoses.

DIAGNOSIS.

The diagnosis of erythema induratum Bazin has in a great measure been alluded to previously, out of which the picture of the disease can be construed without marked difficulty. These are the salient points: formation of subcutaneous deep-seated nodules, more easily recognizable by touch than by sight. They develop into hard deep-seated indurated nodes, not adherent to the skin at first, but becoming so later. The skin is at first purplish, then as the nodes become larger and work toward the surface it changes into a dull violaceous hue. In size they occur from that of a cherry or even double its size. They also occur on both sides of the Achilles tendon. Their cause is eminently chronic, their development and behavior tardy and of slow activity. In those rare instances when they break down, necrosis sets in on the summit of the node in one, rarely in several places, attended by a scanty seropurulent discharge. The final scaring and pigmentation is then not so pronounced as that of an ulcerous scrofuloderma.

ETIOLOGY.

As regards their etiology, the association of erythema induratum in half of the cases with the tuberculous taint, its occurrence chiefly in women sometimes also affected with circulatory disturbances, has been alluded to. In more than 50 per cent. of cases the tuberculin test proved positive. To reconcile this etiologic discrepancy, Whitfield[27] in 1900 and again in 1905 asserted, that there exist two well characterized types of the affection: a tuberculous and a non-tuberculous. The former, attacking young women, is of an indolent character and presumably due to the living tubercle bacilli; the latter, occurring in middle-aged women affected with circulatory disturbances, is of a rheumatic nature, more painful, prone to break down and not allied to tuberculosis.

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[10] Cited in Mracek's Handb. d. Hautkr., 1905, p. 263.
[11] Handb. d. Hautkr., Wien., 1906, iv, p. 266.
[12] Brit. Jour. Derm., August, 1893, p. 225.
[13] Correspbl. f. Schweiz. Aerzt., 1899, p. 626.
[14] Annal. Derm. and Syph., 1901, No. 6.
[15] Arch. Derm., and Syph., 1902, lx; Med. Centrtg., 1904, lii; Arch. Derm. and Syph., 1904, lxxi, Nos. 2 and 3.
[16] Monatsh. pract. Derm., 1903, xxxvii, p. 545.
[17] Annal. Derm. and Syph., 1898, p. 209.
[18] Ibid., 1898, p. 893.
[19] Ibid., x, p. 513.
[20] "Leçons sur la Scrofula," 1861, p. 146, and his other "Leçons," 1862 and 1868.
[21] Annal. Derm. and Syph., 1889, p. 25.
[22] Die Hautkr., Wien Hölder, 1900, p. 115
[23] "Dermatologie," Paris, 1900.
[24] Smaller Atlas, 1896.
[25] Jour. Cut. and Gen. Urin. Dis., 1894
[26] Ibid., July, 1899, p., 311.

CASE REPORT.

The following is the history of my case:

History.—Mrs. M. M., aged 26, Russian, married, has no children, no history of lues, but has mitral trouble. A nephew has a tuberculous taint.

Nine years ago, in *winter* of 1896, she noticed a lump on the inner aspect of the left lower leg. She was given a salve, which, in the language of the patient, "took out the inflammation." The lump eventually disappeared. In the meantime, however, several others appeared, one on almost the same spot, and another on the right leg. All of them disappeared in May, 1897. In the winter of 1897 lumps appeared again in about the same region, but not in the same situation. They disappeared in the summer of 1898. For five years no recurrence took place, when in November of 1904 lumps again appeared to the right and left of the Achilles tendon of the left leg and on the calf of the right. Patient could hardly walk and had to stay at home for a week. All lesions disappeared in May, 1905.

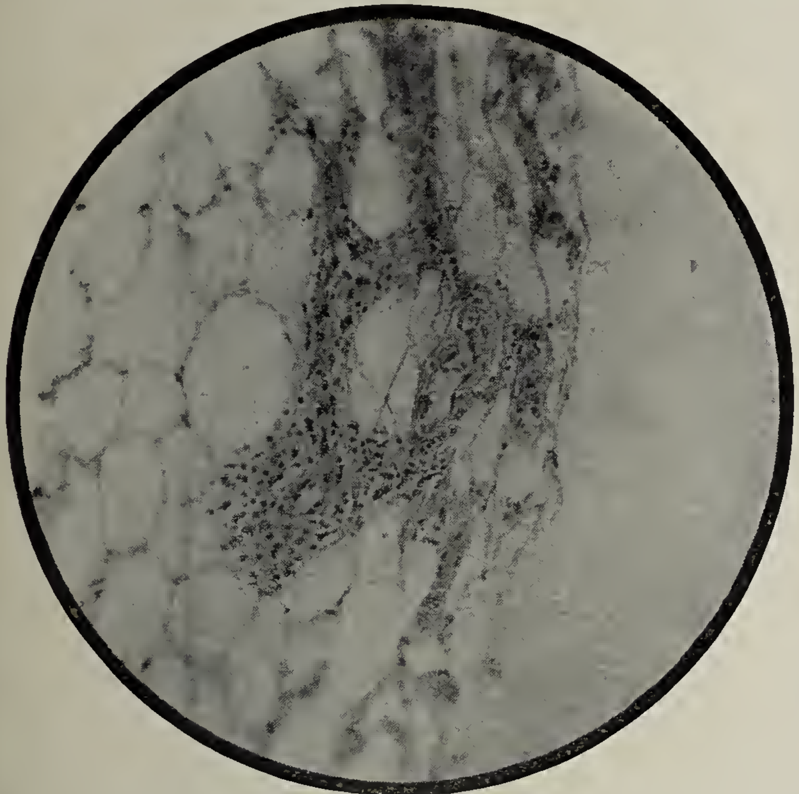

Fig. 1.—Interstitial connective tissue of the subcutaneous fat showing hyperplasia, new-formed connective tissue and new lymphatics.

In November, 1905, patient alleges she left the house well, and in walking she noticed a "rushing, painful sensation" in her right leg, and when she reached home she noticed the appearance of the lumps (?) She particularly states, that she had always had pains in her legs before the appearance of the lumps. This time they appeared on the outer aspect of the right leg, others spreading over the front and back of the thigh, over the nates, and a few over the back and over both arms. Only slight tenderness on pressure.

Examination.—On examination I counted thirteen on the right and ten on the left leg, appearing as subcutaneous consistent tumors from the size of a split pea to that of half a walnut, and situated in the direction of the long axis of the body. As those on the lower legs developed, they worked themselves toward the surface and became purplish, without, however, any one of them breaking down. Those formations which were situated on the thighs and nates were invisible and could only be determined by careful palpation as deep, shot-like, hard bodies distributed in the subcutis. They were very painful, annoying her while sitting, but did not develop further. While under observation for over five months my associates and I noticed the spontaneous disappearance of the undeveloped ones first and of the others later.

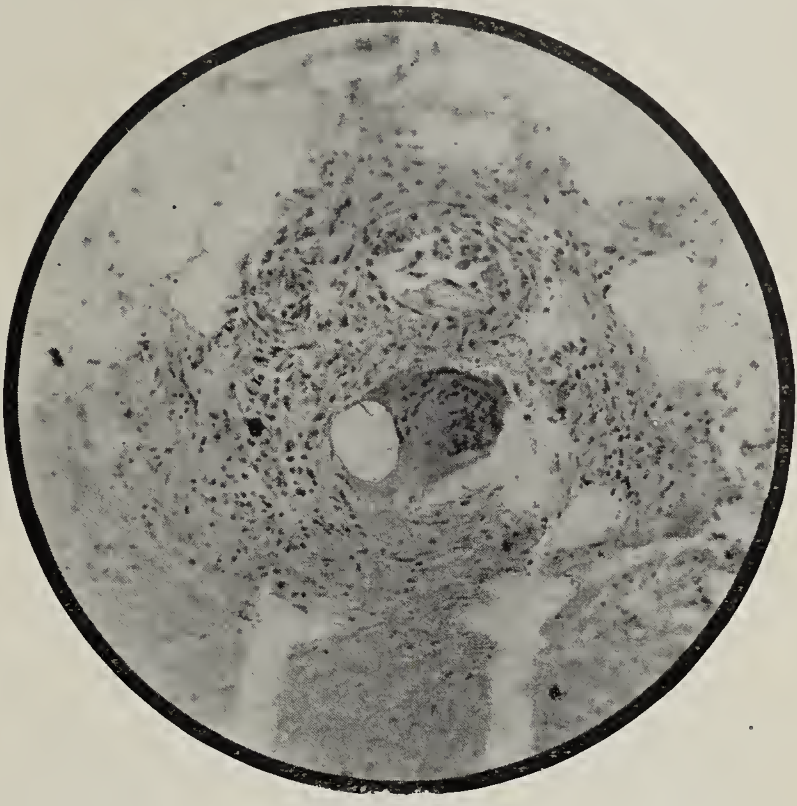

Fig. 2.—The formation of giant cells from fat cells.

A week's treatment with iodid of potash and salicylate of soda had no influence on them whatever, and as they had disappeared previously without any medication, nothing more was done. At the time of this report, May, 1906, there is no vestige of the affection left.

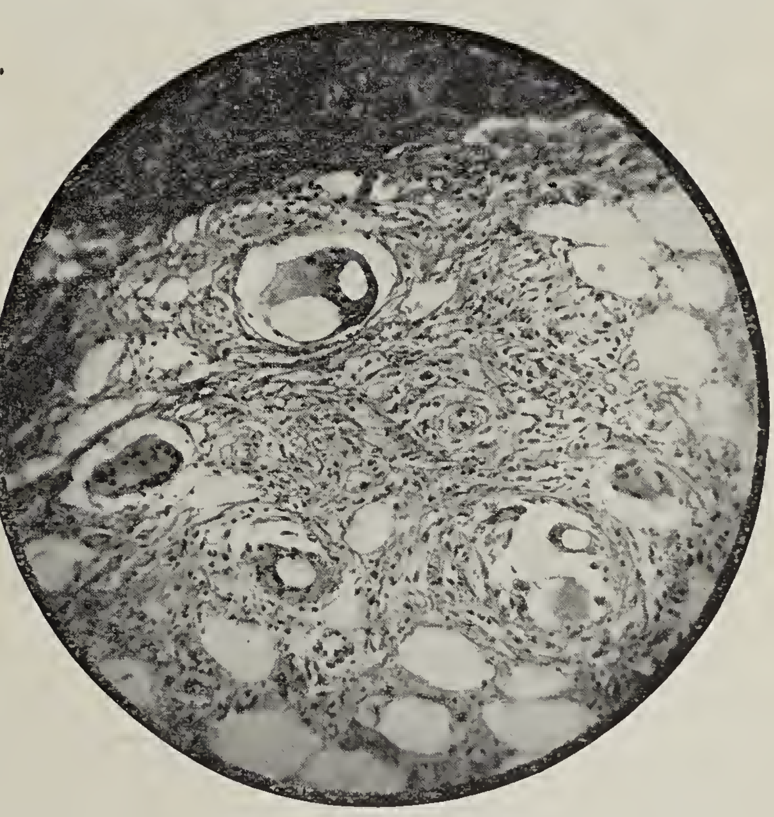

Fig. 3.—Inflammatory area resembling new growth.

A review of this case of erythema induratum Bazin will show it to be a classical, as well as an extended example of the affection. Two etiologic factors are present, each of which plays a rôle as a pathogenetic factor. A young woman of otherwise healthy appearance with a

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27. Am. Jour. of the Med. Sc., December, 1900, and September, 1901. Also Brit. Jour. Dermat., July, 1905.

congenital mitral affection, showing a slight stagnation hyperemia on both cheeks so frequent with heart affection, exhibits a sluggish chronic disease of *perennial* appearance and of the described qualities and peculiarities. The presence of a scaling lupus pernio (possessing almost the character of a lupus erythematosus) on four toes of the left and three of the right foot, extending over the metatarsal joints, is another important concomitant symptom so frequently mentioned by investigators. The *second* etiologic symptom is the positive result following the tuberculin injection. The patient had a stormy reaction; 24 hours later there was a temperature of 103 and a great deal of general disturbance. Inoculation on guinea-pigs taken from one of the excised formations proved negative.

The onset of the affection with pains, reported by Thibierge and Ravout, and Hartung[28] was present in a very marked degree. As to localization, I think this case showed a distribution of the lesions hitherto unobserved in the same patient. The occurrence of deep nodules *ad nates* has, to my knowledge, not yet been described. Close observation showed that they did not develop further and that none of the lesions broke down. The nearest approach to such a condition was a slightly doughy condition in the centers of the fully developed lesions. It is furthermore noteworthy that the formations would make their appearance in winter, then disappear and others reappear, the course of the whole process taking from four to five months ending with the approach of summer.

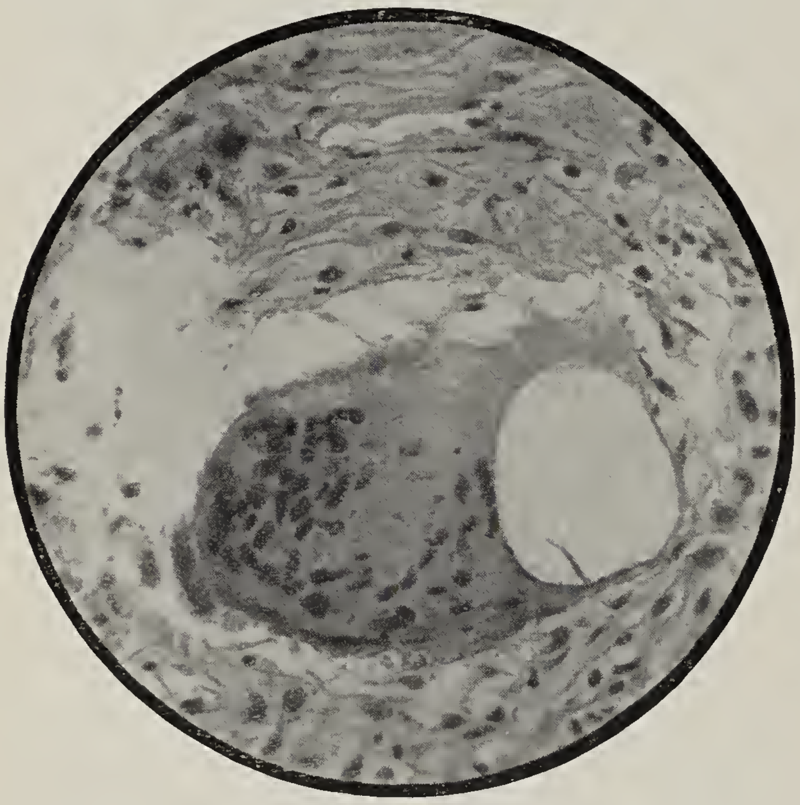
Fig. 4.—Giant cell with coarse protoplasm and vacuole.

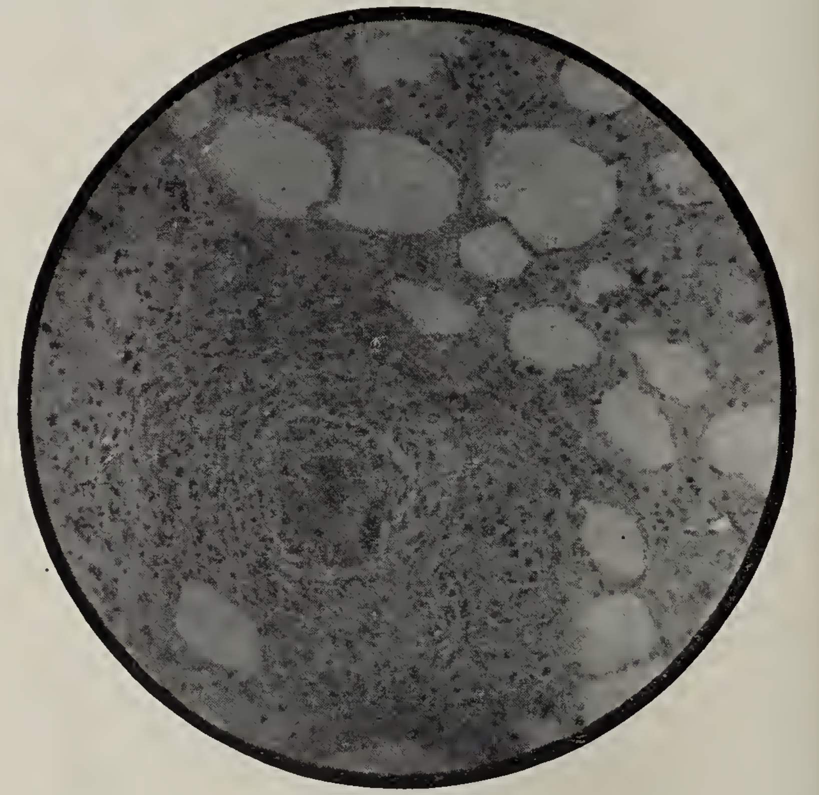
Fig. 5.—New connective tissue with epithelioid cells and giant cells resembling a tubercle.

In this respect my case resembles that of Burns,[29] as regards the unusual number and distribution which suggested erythema nodosum, except for the long period it lasted, which is incompatible with the latter. The two cases of W. Pick[30] which he calls persistent erythema nodosum, occurring in two young women with no evidences of tuberculosis, have very much in common with both forms of erythema. There are undoubtedly transition stages between the different tuberculides. Acne cachecticorum seems to be a higher development of lichen scrofulosus. Certain cases of erythema nodosum, especially those which are coexistent with the lesion of erythema exudativum multiforme, cause visceral lesions so classically described by Osler; or in turn may be the effect of such systemic infectious diseases. In tuberculous meningitis this is frequently the cause and leads one naturally to consider the assertion of Uffelman,[31] Bäumler[32] and others who believe in the association of a pernicious form of erythema nodosum with tuberculosis, the patients mostly having been descendants of tuberculous parents. It may be that erythema nodosum and erythema induratum are only different stages of the same process, with a slightly varying etiology and pathology. There is another evidence of the admissibility of such hypothesis by the occurrence of one or more of these tuberculides on one person. These tuberculides or paratuberculoses as Johnston calls them, have transition stages. Lichen scrofulosus has been seen with erythema induratum, with the papulonecrotic tubercle or necrotic granuloma of Johnston,[26] with folliclis or cutaneous tubercle described by Macleod and Ormsby,[33] etc. It is probably better not to adhere too slavishly to disease headings, which sometimes are only the result of arbitrary divisions.

The histologic features of my case are in harmony with the description of other investigators, but with slight deviations. An increase of the interstitial connective tissue framework (hyperplasia) (Fig. 1). An atrophic degeneration of the subcutaneous fat tissue (Figs. 2 and 3), and formation of giant cells (Fig. 4) with radiating nuclei and epithelioid cells (Fig. 5), and endothelial proliferation of the vessels were present. These changes in the subcutaneous fat tissue are only characteristic of tuberculosis when other concomitant symptoms bear them out. In my case the vessel changes were not so prominent as to produce thrombosis and, in a sense, this would vitiate against the theory of a hematogenic origin. But their absence could be explained by the fact that the very smallest capillaries might have been already destroyed by the fatty degeneration of the embolic plugs.

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[28] Arch. Derm. et Syph. lxxi, p. 385.
[29] General Cut. Dis. incl. Syph., April, 1905, p. 177.
[30] Arch. Derm. and Syph., lxxii, 1904, p. 360.
[31] Deutsch. Arch. f. klin. Med., 1872, p. 76.
[32] Deutsch. med. Wochschr., 1889.
[33] Brit. Jour. Derm., 1901, p. 367.

DIFFERENTIAL DIAGNOSIS.

The transition forms of erythema nodosum have been alluded to. In a general way erythema nodosum can easily be differentiated from erythema induratum by the acute character and intensive systemic disturbances. Its lesions are more superficial, more painful and appear more suddenly, are of brighter color and more inflammatory in their character. They rarely, if ever, break down and their absorption takes place in a manner resembling the color changes of a fading contusion. Hence the name dermatitis contusiformis. Again, erythema induratum has a chronic course, as a rule does not, but may break down in a small number of cases, is not connected with the stormy systemic disturbances and yields a more evanescing pigmentation.

In differentiation from syphilitic gummata, which it resembles strikingly, I may mention, that gummata will never appear so numerously, neither will their appearance be attended by systemic disturbances. Again, a gumma will not exist for months without changing. If absorbed, it will do so by local or general mercurial treatment. The confusion with lepra, to which it bears a far-away resemblance, is not very imminent.

As the question of the tuberculides is as yet in a very undecided condition, and the etiology and pathology of erythema induratum is not quite settled, the reporting of every case is a duty incumbent on the observer.

In conclusion, I regard it my pleasant duty to express my gratitude to Prof. Harlow Brooks, M.D., of the Department of Pathology, University and Bellevue Medical College, New York City, for his painstaking pathologic and bacteriologic examination of this case, and also to Henry Kreuder, M.D., New York City, for the preparation of the microphotographs.

42 West Ninety-first Street.

DISCUSSION.

Dr. A. Ravogli, Cincinnati, said that he has always been firmly convinced that erythema induratum is an expression of tuberculosis. In support of this he mentioned the case of a man who accidentally injured his finger, a splinter entering underneath the nail. This splinter carried with it the infection from the saliva of a tuberculous patient, and subsequently an ulcer developed at that point, which proved very persistent. This was followed, in the course of time, by little reddish points in the line of the lymphatics of the arm. These were hard and indicated an erythema induratum. They gradually developed into ulcers and proved to be tuberculous, and doubtless resulted from the original inoculation under the nail. The lesions were thoroughly cauterized, and the patient eventually made a perfect recovery. Another case reported by Dr. Ravogli was that of a young woman who had a number of lesions on the calf of the leg. These persisted for some time without causing any trouble. Some of them disappeared entirely, but one of them ulcerated and had the appearance of a tuberculous lesion. This patient finally died of tuberculosis. He said that since then he has become thoroughly convinced that erythema induratum is a true expression of tuberculosis. Dr. Ravogli said that the cases he has seen of erythema nodosum have led him to believe that it has no connection with tuberculosis. The lesions in erythema nodosum are only of a transient character and without serious consequences.

Dr. M. L. Heidingsfeld, Cincinnati, said that in spite of the experience of Dr. Ravogli, he still regards tuberculin as a perfectly safe drug to use, and he has never seen any deleterious effects from it. He has found the American products unreliable, he said, and he recalled cases in which their injection had failed to produce any reaction, although tuberculosis was unquestionably present. In using tuberculin, the physician should not only be assured that his preparation is reliable, but that it has not deteriorated. Dr. Heidingsfeld said that the value of tuberculin as a diagnostic factor is demonstrated by the case which Dr. Ravogli cited as an instance of erythema induratum (Bazin). Dr. Heidingsfeld saw that patient at a later stage, and was convinced that the case was one of syphilis; after four weeks of internal treatment with mercury and potassium iodid, and mercurial ointment externally, the lesions cleared up entirely. If tuberculin had been used early in that case the true character of the lesions would doubtless have been recognized. In a case of syphilis which he saw last autumn there was a double infection, with one chancre on the lip and another on the vulva. The case ran a rather severe course in spite of energetic treatment, and large indurated masses developed on the leg and other parts of the lower extremities. These were first regarded as gummatous in character, but mixed treatment had no effect on them, and they subsequently proved to be tuberculous. In that case an injection of tuberculin produced a decided reaction and helped to establish the diagnosis.

Dr. James C. White, Boston, said that he believed he was the first to describe this affection as occurring in this country. He observed a type of chronic deep, nodular induration, the lesions being of considerable size. They occurred on the lower extremities and did not run the course of those seen in erythema nodosum. On examining the literature to find a record of such instances elsewhere, he came to Bazin's description of this affection, to which they bore a close resemblance. As time has gone on he has seen cases which were apparently connective links between the typical lesions of erythema induratum, and other conditions of the skin of probably tuberculous nature. At first it was thought that the lesions were confined chiefly to the lateral and posterior surfaces of the lower extremities, but it is now admitted that similar lesions are found more widely distributed over the body; they are sometimes of smaller size and are not confined exclusively to the lateral and posterior surfaces. It is natural, Dr. White said, to associate these conditions with the so-called tuberculides, which have more recently been described.

Dr. Ludwig Weiss, New York City, said that in a recent search of the literature he found a case closely resembling that mentioned by Dr. Ravogli, which Jadassohn has reported under the name of tuberculosis multiplex subcutanea. The lesions in that case developed within a few weeks and then broke down, leaving fistulous openings. The description did not perfectly tally with that of erythema induratum. Dr. Weiss does not believe that in the classical erythema induratum of Bazin the lesions are apt to break down; the same is true of erythema nodosum, and he thinks that the cases recorded as having broken down lesions did not all belong to this type. Dr. Weiss said that it is over 10 years since Dr. White's article first appeared in the *Journal of Cutaneous and Genitourinary Diseases*. In that article Dr. White had a premonition of the discrimination that should be made between different tuberculous lesions of the skin, and warned the dermatologist not to cling too slavishly to any particular detail of the class of lesions now known as tuberculides. In this class of diseases Dr. Weiss regards tuberculin as a valuable diagnostic factor, although he recalled one instance of dormant tuberculosis in which the disease was aroused to activity by an injection of tuberculin, and rapidly caused a fatal tuberculosis of the larynx. With the minute doses used at present such an accident is not likely to occur.

Prognosis in Typhoid Fever from Temperature After Cold Baths.—Marchand gives the details of 7 cases of typhoid fever in which the temperature in the axilla was taken regularly 20 minutes after each bath. The baths were given at 26 C. (78 F.) for 15 minutes, and the number of baths ranged from 16 to 100 in the different cases. In some of the cases the temperature after the bath was found reduced by 1.17 to 1.34 degrees C. (2.4 degrees F.), and the patients in this group all succumbed to the disease. In the patients who recovered the reduction in temperature never surpassed 0.4 degrees Centigrade (0.72 degrees F.), ranging from 0.187 to 0.4. In this latter group were some very severe and protracted cases, but the slight reduction in temperature indicated a favorable prognosis, confirmed by the course of the disease. The article is published in the *Arch. Gén. de Méd.*, lxxxvii, 192, 1907.

THE PREFERABLE METHOD OF ANTERIOR FIXATION OF THE UTERUS WHEN THE ABDOMEN IS OPEN.*

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ST. LOUIS.

There has been too much laudation of particular operations as such and too little consideration of the various conditions found in the pelvis in operative cases and of how to treat those conditions.

No one operation is applicable to all cases. Even narrowing the subject down to those cases in which the abdomen has necessarily been opened, on account of tubal disease or other abnormal condition, the answer to the question as to which operation is preferable still depends on the associated conditions rather than on the displacement itself. Any one with even a moderate experience knows that intrapelvic conditions differ widely and that an operation which in one case cures retrodisplacement, in another case might prove a complete failure.

My purpose is not to describe a new operation, nor yet to take up an extended or systematic review of established procedures, but simply to mention certain practical points that have come to me in the course of my work. Taking into consideration only those cases of retrodisplacement in which it is necessary to open the abdomen, for some reason, I find, as already stated, that the preferable method of holding the uterus forward depends largely on the particular conditions present. The case may be divided into four classes:

1. Cases in which the round ligaments and adjacent tissues are freely movable.

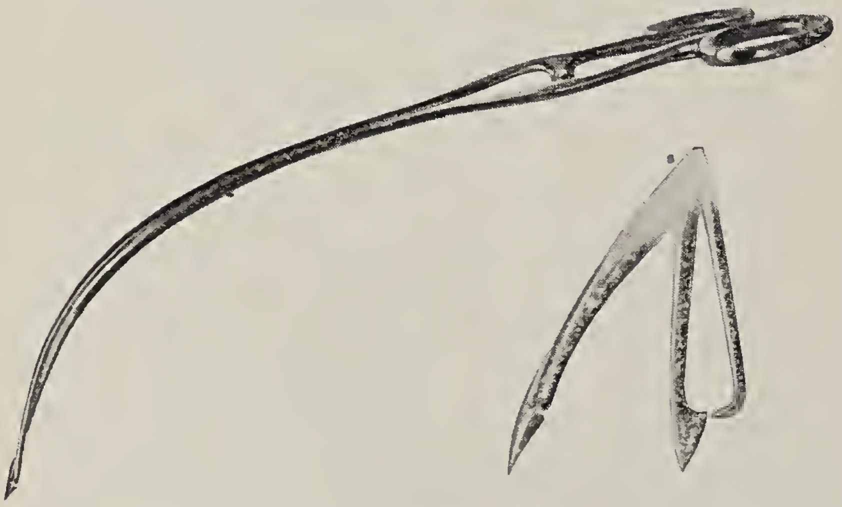

Fig. 1.—The puncturing tenaculum forceps. The instrument is strongly made and slender, and is designed to pass easily through the tissues of the abdominal wall, to penetrate the aponeurosis and peritoneum at any desired point, to grasp the round ligament firmly without bruising it, and to return through the wall, bringing the ligament along the new canal. Length, nine inches.

2. Cases in which the round ligaments and adjacent tissues are fixed by inflammatory infiltration or other condition.

3. Cases in which the cervix lies so far forward that the axis of the uterus still lacks the normal anterior direction even when the fundus is brought into the front part of the pelvis.

4. Cases in which there is so much inflammatory infiltration and contraction of the posterior part of the broad ligaments that the uterus can not be brought entirely forward, without danger of serious injury to important structures.

WHEN THE ROUND LIGAMENTS ARE MOVABLE.

In these cases the broad ligaments, or at least the anterior portions, with the round ligaments, are soft and yielding and can be stretched as desired. The uterus is freely movable after the adhesions have been broken up, and if it has been necessary to extirpate a tube the work has been carried out in such a way as not to interfere with the pliability of the tissues in the neighborhood of the round ligaments. In such a case, the uterus may easily be held forward either by drawing the round ligaments into the abdominal wall or by fastening the fundus itself to the abdominal wall. These are both good methods when properly executed. Each of them has given relief, and I see no reason for the bitter condemnatory assertions that are indulged in by writers on each side of the question as to which is preferable. I have used each of the methods with good results, that depended more on the consideration of the conditions present than on the choice of the methods. When the conditions are favorable, as they are in cases of the first class, I prefer to utilize the round ligaments for holding forward and elevating the uterus and adnexa.

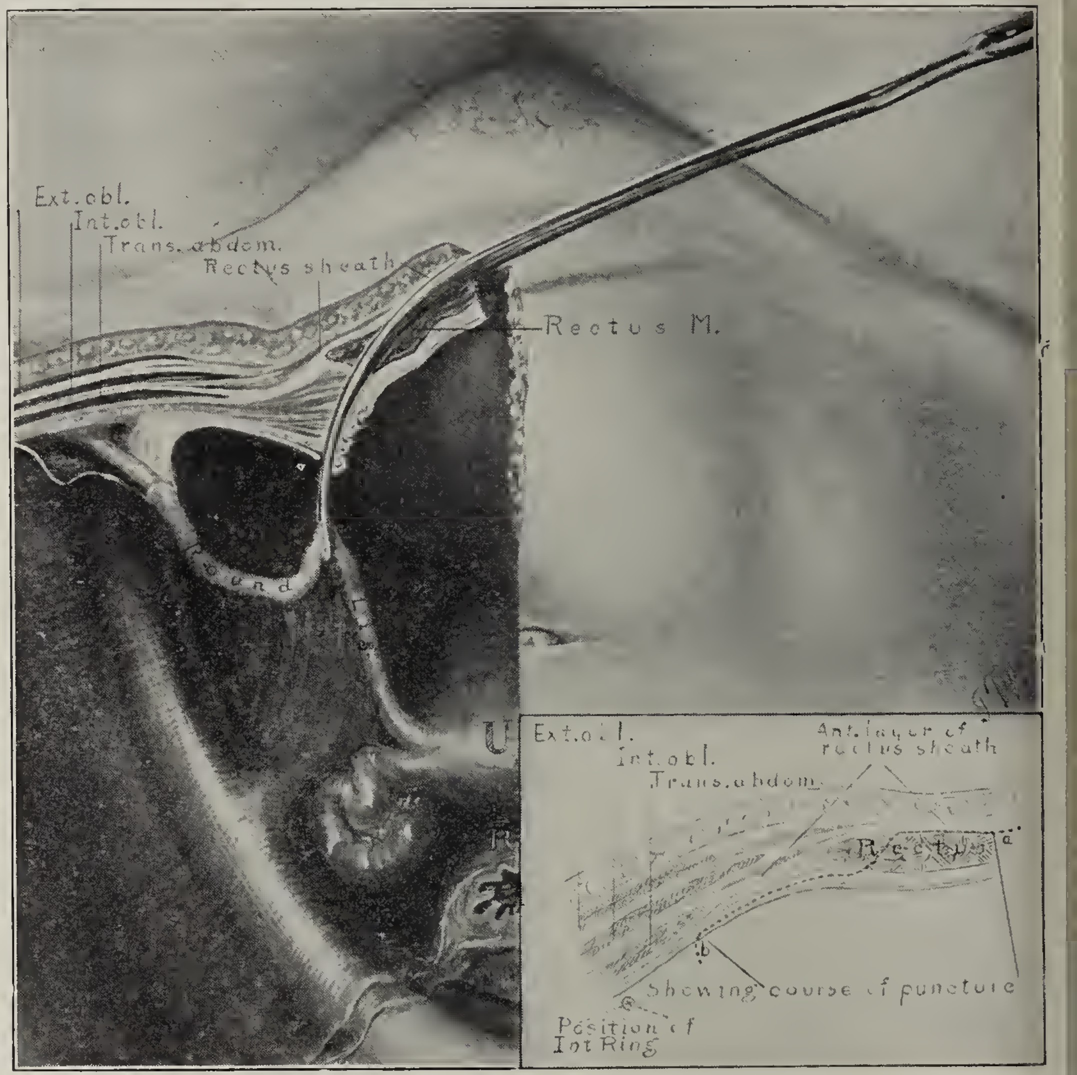

Fig. 2.—The puncturing tenaculum forceps introduced through the wall, as described, and grasping the round ligament. In introducing the forceps through the wall the point is carried along the course indicated by the dotted line *a* to *b* in the small sketch in the corner. Notice that the puncture through the strong aponeurotic wall is made near the outer margin of the rectus muscle, while the puncture through the peritoneum is made at *b*, which is near the internal inguinal ring. The distance from *b* to the internal ring is so short (about one inch) that no puckering suture is necessary. This point is further explained in Figure 3.

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*The President's Address, St. Louis Obstetrical and Gynecological Society, Nov. 8, 1906.

There are two disadvantages to the method of fastening the fundus directly to the abdominal wall:

First.—There is a decided uncertainty as to the amount of forward suspension or fixation that will be secured. The object is to form a short band that is strong enough to hold the uterus forward and upward, but that will not interfere with the development of the uterus in pregnancy. From this ideal the uncertainty extends in both directions, i. e., the suspension band may become so slight and attenuated that it fails to keep the uterus forward or, on the other hand, there may result a firm fixation of the fundus to the abdominal wall that causes serious trouble during pregnancy or labor. These undesirable results have occurred often enough to make them valid objections to the operation, but not often enough to warrant us in discarding the operation in conditions in which a better one is not applicable.

Second.—There is danger of the formation of a long slender band with which the intestines may become entangled, producing acute intestinal obstruction. This has happened a few times, but I think the frequency or probability of its occurrence has been greatly exaggerated.

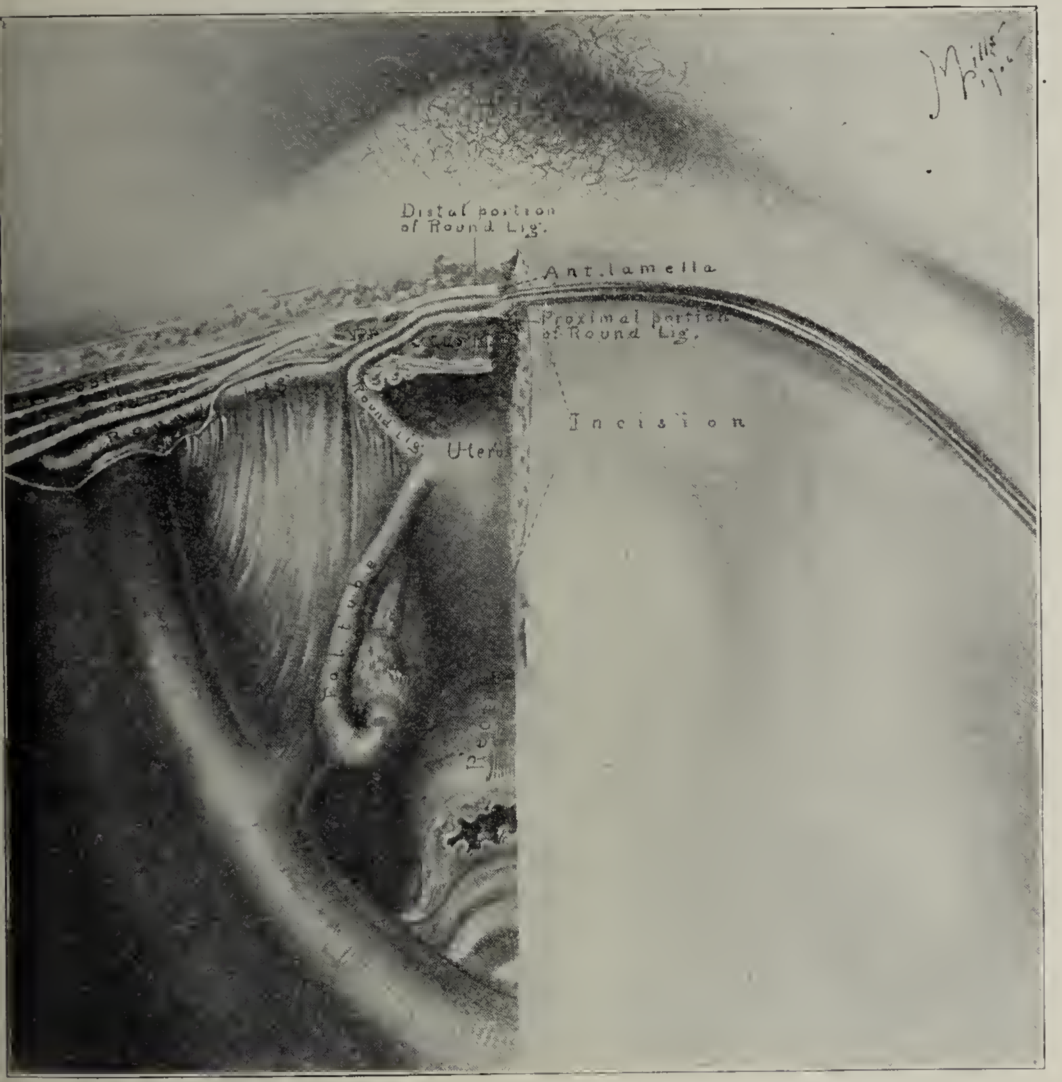

Fig. 3.—The left round ligament drawn into place. Notice that the direction of pull on the uterus is changed from lateral to anterior. At the same time there is no large opening between the distal portion of the round ligament and the anterior abdominal wall requiring a suture as in the regular Gilliam-Ferguson operation. The distance from the peritoneal exit of the new ligament to the lateral edge of the peritoneal cavity at this level is so small (represented in the corner sketch in Figure 2 by the distance from *b* to the internal inguinal ring) that it is closed by moderate traction on the distal portion of the round ligament loop appearing in the wound. If it is desired to bring the uterus farther forward the proximal portion of the ligament is pulled on. If the peritoneum becomes tense before there is sufficient tension on the round ligament to bring the uterus well forward, the peritoneum over the ligament loop may be incised and the ligament itself grasped and drawn out as desired.

Both of these disadvantages may be avoided by using the round ligaments for holding the uterus forward. For their utilization there are several methods applicable after the abdomen is open, but one point should be kept in mind, namely, that the strong part of the round ligament is that portion near the uterus, and the weak part is that portion near the abdominal wall.

Some depend on the weak part of the ligament for holding the uterus forward, while others depend on the strong part. In the former class, folding the ligament is a method which has been modified by many operators. This method with its modifications was used extensively for several years and with excellent results in many cases, but it was found that relapse occurred rather frequently, due to the stretching of the attenuated portion of ligament entering the abdominal wall at the internal ring.

Then came the method of drawing the ligament into the abdominal wall until the uterus was supported by the strong proximal portion. This was accomplished either by grasping the ligament within the inguinal canal and drawing it out through the internal inguinal ring or by drawing it through an artificial opening in the musculo-aponeurotic wall near the median line. In either case, the ligament was drawn out until the uterus was suspended by a short cord consisting of the strong part of the ligament next to the uterus. In the first method, that of drawing the ligament out through the internal inguinal ring, the effect on the uterus was the same as in the Alexander operation.

There are several variations in the method of reaching the inguinal canal. Sandberg reaches the canal from the longitudinal median incision by pulling skin and subcutaneous tissues far to the side, loosening them from the aponeurosis of the external oblique as necessary.

Peterson makes a transverse suprapubic incision and from each end reaches the inguinal canal of that side.

Montgomery puts a ligature about the round ligament some distance from the uterus, threads this ligature into a long curved pedicle needle, and through a window snipped in the anterior peritoneal layer of the broad ligament carries the point of the pedicle needle and the ligature beneath the peritoneum to a point near the inguinal ring. Here the needle is carried through the muscular and aponeurotic structures of the abdominal wall and toward the median line where it emerges in the abdominal incision beneath the skin and subcutaneous fat.

Barrett also fastens a ligature on the round ligament, but instead of carrying it outward in the broad ligament and into the abdominal wall by a pedicle needle he introduces a curved ligature carrier in the shape of a forceps from the abdominal incision, just beneath the upper sheath of the rectus muscle, outward to the internal inguinal ring, through which it enters the abdomen, then follows along the round ligament subperitoneally to the ligature. Here it is brought through a small window made in the peritoneum, and the ligature threaded into it; it is then withdrawn, bringing the ligature with it. By means of the ligature the ligament is drawn out as far as it will come.

Dudley, in order to avoid bringing the ends of the ligament into the abdominal incision lest any infection appearing in the wound might extend along the ligament to the peritoneal cavity, brings the end of the ligament into the peritoneal cavity without touching the incision. This he accomplishes by putting a temporary ligature on the ligament, threading this into a large curved blunt needle, passing the needle into the internal inguinal ring or near it through the aponeurosis, then along for some distance above the aponeurosis and then through the aponeurosis and peritoneum again into the cavity, a short distance from the median line.

In all these operations, the exit of the ligament from the abdominal cavity into the strong musculo-aponeurotic portion of the wall is through the internal inguinal ring or very close to it, i. e., the direction of the pull of the ligaments on the uterus is not changed. Consequently these have the same element of failure that has caused disappointment in certain cases following the Alexander operation and its modifications. The normal exit of the round ligament is placed too far laterally to hold the uterus well forward when there is much tendency to go back after replacement. This has been noted repeatedly by operators, and, in fact, it has long been an established fact that the function of the round ligaments is to exert forward traction on the uterus not in its normal position, but only when it is in marked backward displacement.

I am not condemning the Alexander operation nor its modifications. It is an excellent operation in certain well-selected cases. I have used it with good results and have watched it through pregnancy and labor and afterward with the utmost satisfaction. But I have found that it is not applicable in certain cases of apparently freely movable retrodisplacement, namely, in those cases in which there is a persistent backward pull, as evidenced by the tendency of the uterus to go backward as soon as the replacing fingers were removed. In such cases it is likely to result in partial failure, the uterus being found in moderate backward displacement after a time. Likewise, a shortening of the ligaments after abdominal section by drawing them through the internal inguinal rings may result in the same partial failure if there is much tendency of the uterus to go backward.

In the second general method above mentioned, that of drawing the ligament through an opening in the musculo-aponeurotic wall nearer the median line, the pull of the supporting portion of the ligament is changed from a transverse toward an anteroposterior direction, with a consequent marked increase in its ability to hold the uterus and adnexa well forward.

There are several variations in the method of changing the course of the ligaments. It will not be necessary to mention all of them. The Gilliam-Ferguson operation stands as the type of this class. Gilliam passed a temporary ligature around the ligament from 1 to 1½ inches from the uterus. The skin and subcutaneous tissues on that side of the abdominal incision were then pulled aside and a sharp-pointed artery forceps was introduced through the fascia, muscle and peritoneum into the cavity, where it grasped the ligature and brought it out. With the ligature the round ligament was then drawn out as desired and the ligament of the other side was treated in the same manner. Ferguson added a puckering suture to bring together the parietal peritoneum and the distal portion of the round ligament, thus doing away with any opening through which a knuckle of intestine might slip and be caught.

G. H. Noble succeeds in satisfactorily changing the direction of the ligament and shortening it by the following method: He enters the abdominal cavity through a transverse suprapubic incision made in the usual way and completes the intra-abdominal work. Then at one end of the transverse incision, just beyond the margin of the rectus muscle, an artery forceps is thrust through the posterior sheath of the muscle, but not through the peritoneum. The forceps is opened and withdrawn so as to make an aperture in the aponeurosis large enough to admit the finger. The finger is then introduced and carried along the peritoneum and the aponeurosis to the internal inguinal ring where the round ligament, made tense by being caught within the abdomen and pulled on, is felt. The finger is hooked about the ligament which is drawn into the wound. The ligament is then drawn out to the desired extent, its peritoneal sheath being stripped back toward the uterus. The other side is treated in the same way and the two ligaments fastened together over the rectus muscle.

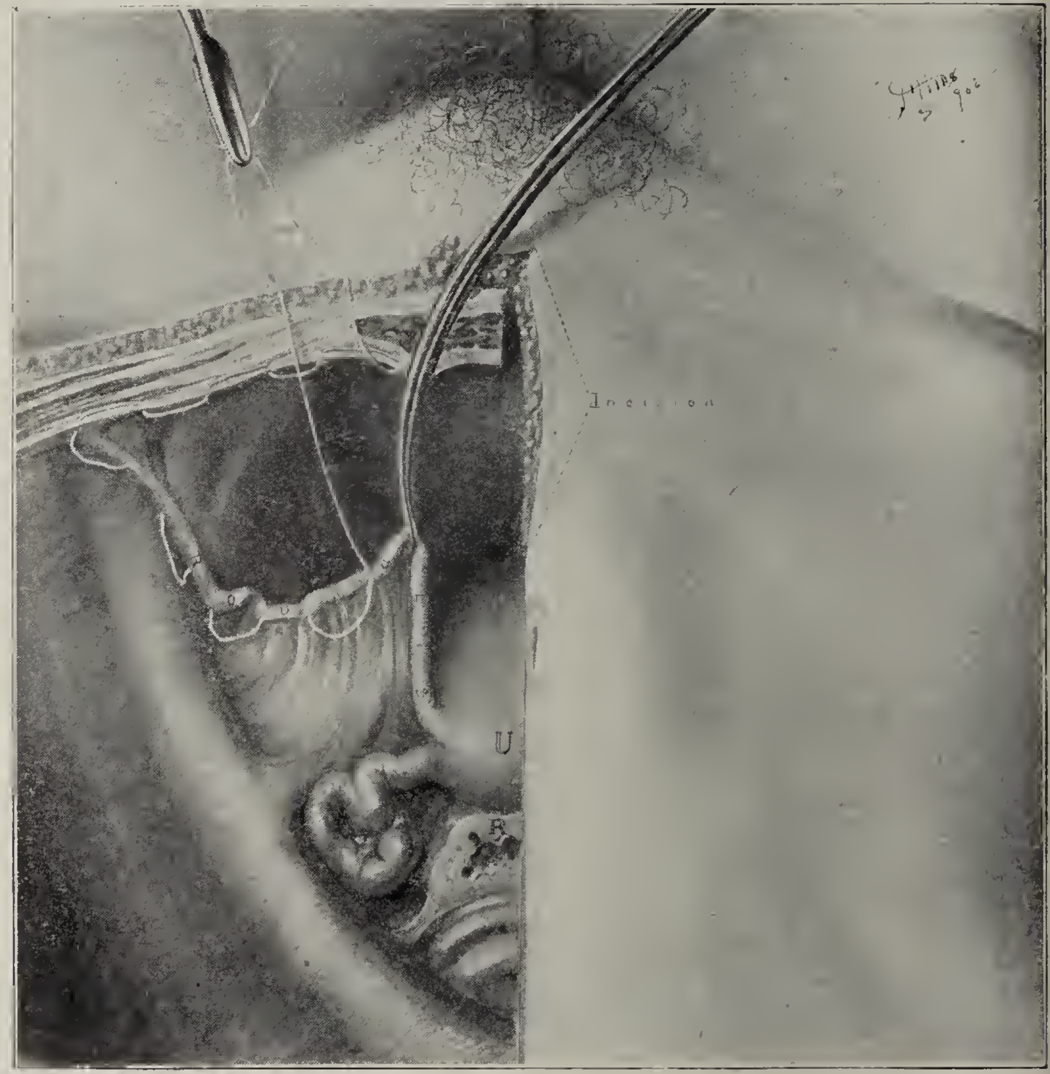

Fig. 4.—The use of the puncturing tenaculum forceps in the regular Gilliam-Ferguson operation. The puncture is made directly through the upper sheath, the rectus muscle, the lower sheath and the peritoneum, and the ligament grasped and brought out—the puckering suture having been previously passed. After the ligament is brought out as desired, the puckering suture is tied, thus closing the opening at the side between the distal portion of the round ligament and the anterior abdominal wall.

It will be noticed that in this operation the new point of entrance of the ligament into the strong aponeurotic wall is at the outer margin of the rectus muscle. The peritoneum is sufficiently movable on its underlying structures to permit this shortened ligament to extend almost directly from the angle of the uterus to the point of exit at the outer margin of the rectus muscle, thus

(*Concluded on page 1497.*)

A SERIES OF INTERESTING GYNECOLOGIC AND OBSTETRIC CASES.

I.—AN EIGHTY-NINE POUND CYSTIC MYOMA. II.—A LARGE PARASITIC MYOMA. III.—MULTIPLE PERFORATION OF THE UTERUS DUE TO A MACERATED FETUS. IV.—ABDOMINAL PREGNANCY OF FOUR YEARS' DURATION. V.—CHORIOEPITHELIOMA.

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SUCCESSFUL REMOVAL OF AN EIGHTY-NINE-POUND CYSTIC MYOMA INTACT.

As will be noted from the following history, this patient was cognizant of the fact that the tumor had existed for over 20 years. At that time she was under the care of Dr. James Bosley, the present health officer of Baltimore. Further, it will be seen that this large growth did not prevent her from looking after her household duties until recently, and less than three months before the operation she took a 180-mile trip with no ill effects. This, so far as we can learn, is the largest myoma of the uterus that has been successfully removed. The patient is now, eight months after the operation, in perfect health and is gaining rapidly in weight.

Case 1.—Mrs. McA., aged 58, was seen in consultation with Dr. Marshall Smith, June 25, 1906.

History.—Twenty years ago she noticed a tumor in the lower abdomen and later was seen in consultation with Dr. W. T. Howard, emeritus professor of gyneeology in the University of Maryland, who at that time advised an operation. Some time after this she was delivered of a healthy child, now 18 years of age. This patient, although suffering from a large abdominal tumor, was able to go around and to do her work until three weeks before I saw her. Her chief inconvenience had been her inability to lie on her back in bed. And sometimes when she would get "stalled," it was necessary for her husband to turn her over quickly, otherwise she would have suffocated. For two weeks before admission she had a temperature sometimes reaching as high as 103 F. She was admitted to the Church Home and Infirmary July 27, 1906. There was considerable edema of the lower part of the abdomen and some edema of the legs. On admission to the hospital her temperature was 100 F., pulse 105. On the morning of operation the temperature was 100 F., pulse 100, respiration normal.

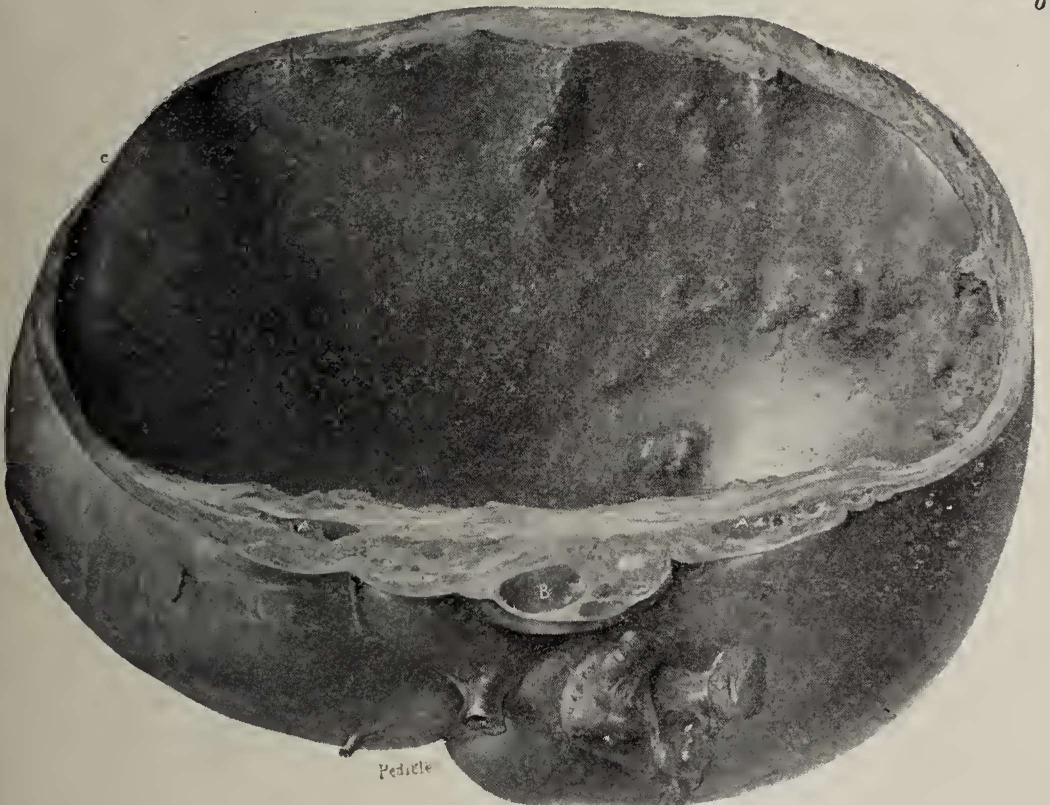

Fig. 2.—Cross-section of a cystic myoma weighing 89 pounds. The pedicle is clearly seen and in the fresh specimen is not over 1.5 cm. in diameter. Attached to the top over the pedicle are the tube and ovary and near the tube is a piece of liver substance. The tumor has been converted into one large cavity the walls of which consist of muscle. In the walls are numerous cystic spaces particularly well shown at the points indicated by *a*. There are several large cystic dilatations in the wall. The largest is indicated by *b*. The myomatous walls vary from 5 cm. to 1 or 2 mm. in thickness. At the point *c*, where the tumor lay over the vertebral column, the wall is exceedingly thin. The entire inner surface is lined by partly organized blood clots, which give the growth a very shaggy appearance. The entire tumor was filled with blood. The outer surface of the tumor is in many places covered by adhesions containing large vessels.

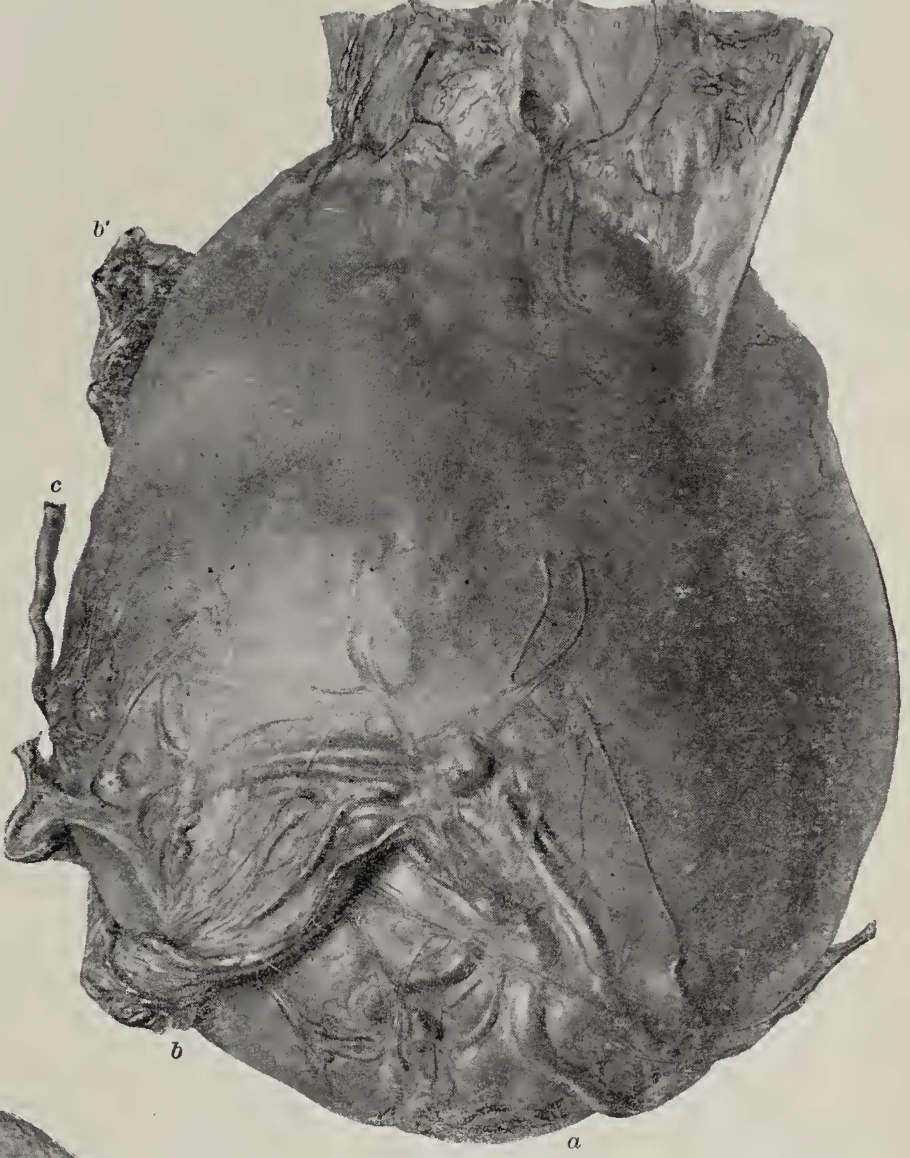

Fig. 3.—A large parasitic myoma, which weighed 18 pounds and was attached to the uterus by a pedicle 3x.5 cm. At the top is a broad omental adhesion carrying vessels to the tumor. At *b′* is a cross-section of a portion of the "rope of omental vessels." which pass down beneath the tumor to *b* and then turn upward again, plunging into the tumor, *a* represents one of the largest vessels, which stand out prominently. Crossing these large vessels are numerous adhesions. *c* is a portion of the large vessel which passed down perfectly free from the omentum to the under surface of the tumor.

Operation.—July 30, 1906. Prior to receiving the anesthetic the patient was thoroughly washed and all preparations for operation were made, so that she might remain as short a time as possible under ether. It was impossible for her to lie down, consequently she was operated on in the sitting posture. An incision was made over the most prominent part of the tumor and I attempted to puncture it; the growth, however, started to bleed and no cystic fluid escaped. I continued the incision upward, for the reason that many large veins projected into the tumor from some structure above. The incision was gradually continued upward until the xiphoid was reached (Fig. 1). We found that the large vessels going to the tumor were omental in origin and that they were spread out over the entire upper surface. Some of them were fully 7 or 8 mm. in diameter. The tumor was densely adherent to the anterior and to the lateral abdominal walls. These adhesions were gradually shelled off with the hand, but I had to use the utmost care and do all liberating under sight, as the rupture of one large vein might have caused the loss of the patient's life before the hemorrhage could have been checked. Accessory vessels also passed from the stomach and the liver to the tumor. The pedicle of the tumor was not more than 1.5 cm, in diameter and was situated directly beneath the ribs. On removal of the tumor I found that I had brought away a piece of liver tissue 3 cm. in diameter. We had no liver needles handy, so I used sharp Hagedorn needles, running the eye through instead of the sharp end. This device answered admirably and the liver bleeding was easily checked by four catgut sutures. The uterus and the right tube and ovary lay under the surface of the liver. Anticipating the possibility of great difficulty in controlling the tumor, we had prior to operation sterilized a large foot-bath and covered it over with a sterile sheet. The foot-bath held about one-third of the tumor and the person who took charge of it was able to guide the tumor in the desired direction without allowing it to slip from his grasp. The tumor was drawn downward and outward and finally delivered from the abdomen. In the lower part it was extraperitoneal. I closed the abdomen, but left a small cigarette drain in the extraperitoneal pouch just over the symphysis.

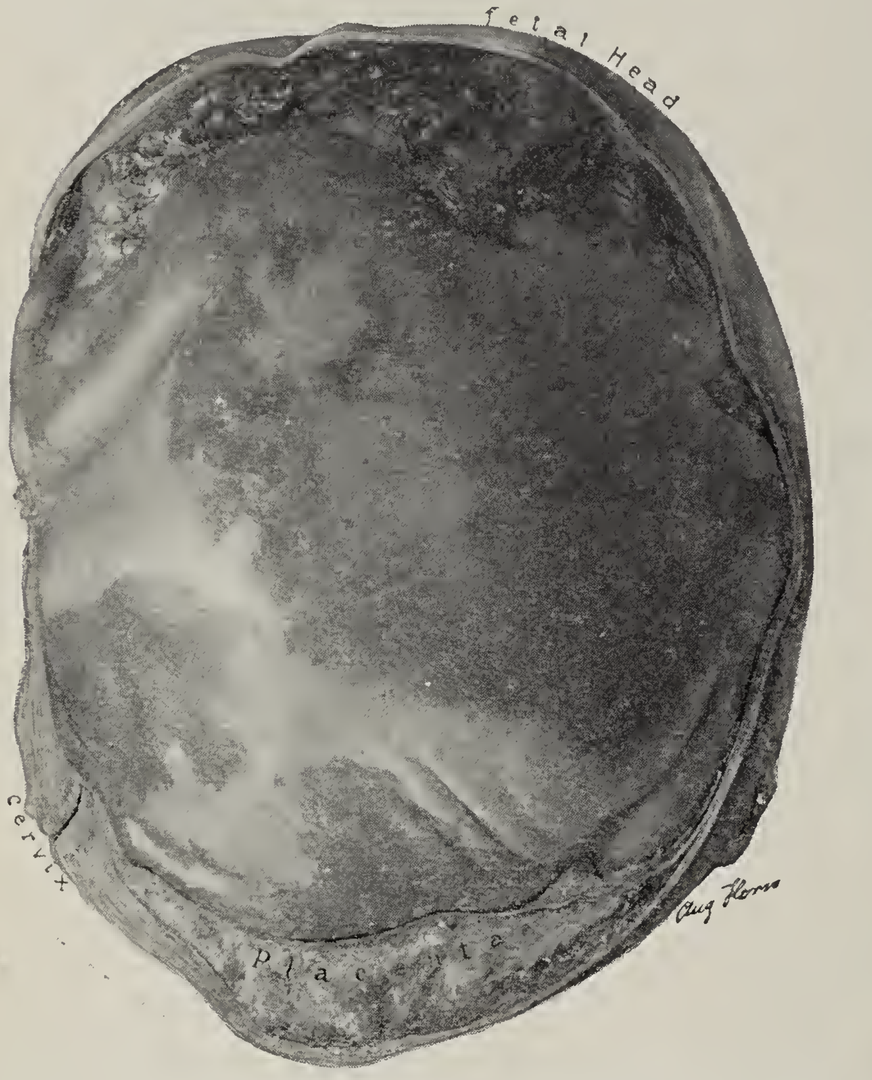

Fig. 5.—Pregnant uterus, the fetus and placenta intact. After the uterus had been well hardened the anterior surface was removed. The cervix presents the usual appearance and the uterus is firmly contracted around the fetus. The head lies in the upper portion. The left arm is firmly adherent to the left side of the chest and the skin is macerated to some extent. Situated in the lower part is the placenta which extends slightly over the internal os.

Postoperative History.—The patient stood the operation well, but was commencing to collapse by the time we finished. She was under ether for one hour and twenty minutes; 200 grams of ether were used. The operation, from the incision to complete closure, took fifty-five minutes; a much longer time would have been consumed had it not been for the combined assistance of both the Johns Hopkins and Church Home staffs. The patient's temperature rose to 102.2 F. within eight hours after operation, but dropped to 100 F. by evening. The highest pulse rate was 130. There was no postoperative vomiting. The legs were bandaged on account of the edema. The patient voided urine on the evening of the day of operation. She was catheterized only once. The usual after-treatment was employed. On the fourteenth day she had considerable discomfort from frequent stools. The diarrhea persisted off and on for a couple of weeks. At this time, however, the weather was excessively hot and diarrhea was general throughout the hospital. It affected chiefly those patients who were somewhat weak. The patient on admission to the hospital weighed 174 pounds. Twenty-three days after operation she weighed 80½ pounds. The condition of the abdomen in this case was particularly interesting. I did not even resect a portion of the abdominal wall, because we had to save as much time as possible during operation. At the first dressing it was noted that the ribs extended out fully 6 inches from the abdomen and that the recti muscles lay on the bed on either side, while there was a good deal of loose and wrinkled skin covering the abdomen. Another interesting point was that the gauze, which drained the extraperitoneal pocket just at the symphysis, now lay in the middle of the abdomen as the tissues were gradually contracting. After the lapse of two weeks the recti muscles could be felt gradually contracting and coming in and the costal arch was flattened down to some extent. When I examined her six weeks after operation the recti muscles were well up in the abdomen, being not over 10 cm. apart. The skin had contracted down wonderfully. The pendulous skin over the symphysis had retracted to a marked extent and the ribs were almost in their normal position. At the time of operation there was a good deal of edema of the abdominal walls. There was also edema of the legs and of the buttocks. Although the utmost care was used, a bedsore developed several days after the operation, there being a black slough over the sacrum 6 cm. in diameter and surrounded by a faint red halo. It had resulted from pressure on the table. The patient had marked edema of the back, but was forced to sit up during almost the entire operation. After she went home she rapidly regained her strength. The bedsore gradually diminished and in time entirely healed. It is astonishing that she had so little inconvenience after the operation.

Description of Tumor.—Miss N. Ellicott, superintendent of nurses, weighed the tumor immediately after its removal; the net weight, after deducting that of the vessel in which it lay, was exactly 89 pounds. The thin part of the tumor lay posteriorly, otherwise we might have evacuated the tumor. Had we done so, however, it would have been much more difficult to have gotten at the large vessels, which we encountered at

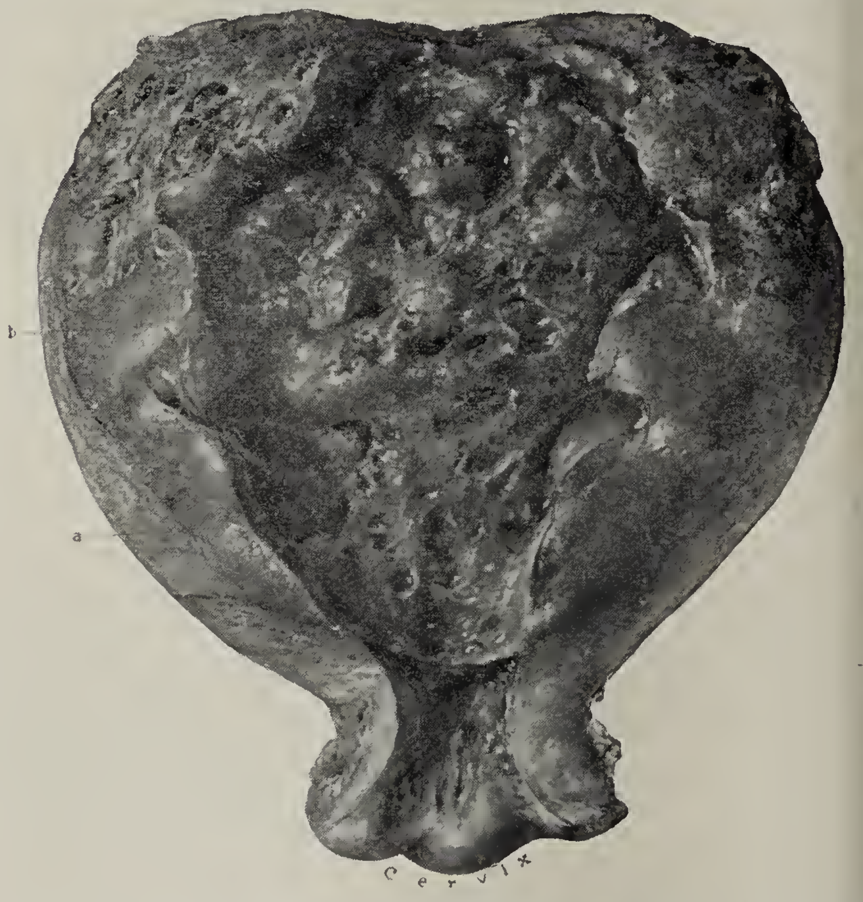

Fig. 7.—Chorioepithelioma. The specimen consists of a uniformly enlarged uterus. The cervix is perfectly normal, the body was as large as that of a five months' pregnancy. Occupying the entire body of the uterus is a new growth with many depressions and cystic spaces extending into the wall. The growth itself presents a peculiar porous appearance (*b*), and the finger-like process so characteristic of carcinoma is absent. In the lower part of the uterus the outer muscular walls are still clearly seen, but in the upper part of the cavity the growth has extended almost to the peritoneal surface. The growth could hardly be mistaken for anything else. It is remarkable to see such a uniform involvement of the entire uterine wall. *a* Indicates clearly the sharp line of demarcation between the malignant growth and the outer muscular covering.

almost every point. Had this condition persisted much longer the posterior wall of the tumor would certainly have given way and then operation would have been almost out of the question. As it was, the hardened specimen collapsed of itself when placed on the table.

Macroscopic Examination (Gyn. and Path. No. 10382).—The hardened specimen is about 50 cm. in length, 45 cm. in breadth and approximately 25 cm. in thickness. Over the entire anterior surface and laterally are numerous adhesions. Attached to the upper border is an area of omentum 20 cm. in breadth and the hardened vessels range from 5 to 6 mm. in diameter. The pedicle of the tumor is 1.5 cm. in breadth, 1 cm. in thickness and the portion removed is 1.5 cm. in length. Situated just beneath the pedicle and attached to the surface of the ovary is a piece of liver substance 3 by 2 cm. (Fig. 2). On pressure the tumor in part seems to be solid, in part cystic. At operation when I attempted to puncture the tumor, nothing but blood was encountered. The growth is, however, evidently made up of one large cystic space and numerous smaller ones, together with the semi-solid area. Over the part that is cystic the muscle fibers have been greatly stretched and thinned out and there are little hernial projections, the picture being analogous to that found in a slightly sacculated urinary bladder. On section the greater part of the tumor is found to consist of one cavity, which is approximately 42 by 35 cm. The walls vary from 2 mm. to 5 cm. in thickness. Only at one point is the wall very thin, namely, on the under surface where it lay over the vertebral column. The greater part of the wall consists of simple myomatous tissue, but at numerous points small cystic areas are visible and the tissue has undergone the characteristic hyaline transformation. One of the cysts measures 2 by 3 cm. The inner surface is covered with blood and the greater part of the tumor is filled with blood, which has undergone coagulation during the hardening.

Microscopic Examination.—On histologic examination the growth is seen to be made up of typical myomatous tissue. In many areas hyaline transformation has taken place and at some points there is typical liquefaction. The inner surface of the cyst has no epithelial lining; it is covered with blood which is faintly organized.

Dr. Herbert P. Cole, in looking over the literature for me, has found in all about 240 cases of large tumors of the uterus.

The largest authentic successful case found was that of Clarence Webster. The tumor weighed 87 pounds. This was also a cystic myoma and much of the fluid was removed before the tumor was extirpated. Among other successful cases is that of Eastman, in which the tumor weighed 60 pounds.

There are numerous instances of tumors weighing from 40 to 60 pounds. Keith, for example, reported one of 52 pounds, and in Dr. Kelly's service at Johns Hopkins we have had very large ones. Knowsley Thornton reported an instance of a fibrocystic tumor weighing 91 pounds; Tait reported one of 68 pounds, and Stockard one of 135 pounds. Stockard's patient died after tapping. McIntyre of St. Louis operated on a patient with a tumor weighing 93½ pounds. The woman died of peritonitis.

Platonoff saw a patient with a tumor weighing 90 pounds. Two unsuccessful operations were performed and the woman died of gangrene without removal of the tumor.

Hunter speaks of a 140-pound tumor seen at autopsy. Gilliam says that 200-pound tumors have been seen. Such data, however, are hardly reliable unless careful histologic examinations have been made. The tumor in Webster's case weighed just two pounds less than ours. The operation was performed Dec. 16, 1902. There were numerous adhesions, and the entire growth was removed under Schleich's solution and a few drops of chloroform.

Those wishing to get full data on this subject should read the articles by George W. Johnson,[1] G. Piquand,[2] Joseph T. Johnson,[3] McIntyre[4] and Clarence Webster.[5]

A LARGE PARASITIC MYOMA WITH MARKED DEVELOPMENT OF THE OMENTAL VESSELS, SOME REACHING 1 CM. IN DIAMETER.

At Johns Hopkins Hospital we have been studying with a great deal of interest the gradual weaning away, as it were, of pedunculated myomata from their parent blood supply in the uterus. As the pedicle becomes smaller the blood supply from the omentum becomes more vigorous until eventually the uterus forms an insignificant source of nourishment and the omentum, as in this case, sends in very large vessels. I have studied a large series of such cases, which will be published by Dr. Kelly and myself at a later date. In the more advanced cases the omental fat disappears completely and the vessels lie just between two peritoneal folds. In this case the cord of omental vessels forming a rope 6 cm. in diameter seems almost unique.

Case 2.—C., a colored patient of Dr. Scheller, of Hagerstown, was admitted to the Hagerstown Hospital, Aug. 4, 1906. She had had an abdominal tumor for five years. The tumor rose abruptly and projected fully 18 inches from the general abdominal contour. The vagina posteriorly was greatly encroached on.

Operation.—On opening the abdomen a tumor was encountered which was adherent everywhere to the anterior abdominal wall and also laterally. Running into the anterior surface of the tumor from its upper end were blood vessels, some of them nearly 1 cm. in diameter. They were spread out over an area 16 cm. in breadth. Passing down the right side of the tumor and lying beneath it was a regular rope of blood vessels (Fig. 3). These lay perfectly free from the surrounding structures, could be lifted up, were covered with peritoneum and were evidently omental; but no fat was present. These vessels formed a mass 6 cm. in diameter and looked and felt like small masses of snakes. They could be traced down to the lower end of the tumor, where they spread out over its surface and plunged into its substance. One of the vessels, 5 mm. in diameter, passed down by itself and lay absolutely free. It was isolated for a distance of 18 cm., being devoid of any attachment whatever. It originated in the omentum and extended downward and plunged into the tumor. After liberating the vascular supply we found that the tumor was attached to a small myomatous uterus. The pedicle was 3 cm. in breadth, 5 mm. in thickness and contained but one blood vessel of any size. The pedicle was cut and the tumor delivered. In the vessels passing from the omentum we encountered, as a rule, one artery and two veins. The artery was about one-third the size of a vein. As the patient's condition became rather serious, although she had not lost more than two ounces of blood, we ceased the operation, the patient still retaining her myomatous uterus and a second myoma fully 25 cm. across. This also had vessels from the omentum plunging into its upper part and was attached to the uterus by a pedicle 2 cm. in diameter. As soon as the patient regains her strength thoroughly I hope to remove the uterus and the large parasitic myoma.

Result.—The patient made a satisfactory recovery and left the hospital about six weeks after her admission.

Description of Specimen.—On examination of the hardened specimen, it is found to be 23 cm. in length, 25 cm. in breadth and 20 cm. in its anteroposterior diameter. It is markedly nodular, exceedingly hard and weighs 18 pounds. The upper omental attachment still clinging to the tumor is 15 cm. in width and 8 cm. in length. The omental attachment that ran down the side of the tumor consists almost entirely of blood vessels. Its attachment at the lower border is 20 cm. broad. Even in the hardened state some of the blood vessels are nearly 1 cm. in diameter.

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[1] Johnson (G. W.): Collected Cases of Fibromata of the Uterus with Tables. Amer. Jour. Obst., 1885, 1272

[2] Piquand (G.): Les Tumeurs Fibro-Kystiques de L'Uterus. Rev. de Chir., 1906, xxxiii, 462.

[3] Johnson (Joseph T.): Amer. Jour. Obst., December, 1891, 1420.

[4] McIntyre: The Journal A. M. A., 1891, xvii, 13.

[5] Webster (Clarence): Jour. Obst. and Gyn., Brit. Empire, August, 1903, 135.

DEATH OF FETUS WITH SUPPURATION; PERFORATION OF UTERINE WALLS; SUPRAVAGINAL HYSTERECTOMY; RECOVERY.

This case demonstrates how Nature, if left alone, may successfully ward off an attack of general peritonitis. Here there was suppuration in the uterine cavity, numerous perforations of the uterus—fortunately situated entirely in the anterior wall—and then successful walling off by the abdominal wall becoming adherent to the uterus.

Case 3.—A. P., colored, aged 21, was admitted to the Cambridge Hospital, March 4, 1906. The patient had been thought to be pregnant one year before. She had been carefully watched for some time, but no further developments had taken place. She had had some slight fever. Nothing more definite could be learned, however. When I examined her the cervix was soft; the uterus was globular and lay half way between the umbilicus and the xiphoid. The growth was apparently somewhat movable.

Operation.—I made an incision over the growth and immediately came in contact with what looked like grumous material, which suggested a suppurating ovarian cyst. As the tissues were densely adherent, I continued the incision upward and opened up the general peritoneal cavity. On loosening the other adhesions I found the omentum adherent. This was clamped and cut. The tumor was intimately blended with the thickened abdominal peritoneum. It was shelled out as rapidly as possible, but pus oozed from the surface in various directions (Fig. 4). I thought that I was dealing with an ovarian cyst, but was surprised to find on releasing it from the adhesions that it was the enlarged and globular uterus. I amputated through the cervix. The tubes and ovaries were covered by a few slight adhesions, but were otherwise normal and were left behind. It was with the greatest difficulty that enough peritoneum was obtained to close the abdomen, as so many raw areas had been left where the uterus had been adherent to the abdominal wall. A gauze drain was introduced into the lower part of the incision. The patient improved rapidly and left the hospital feeling perfectly well.

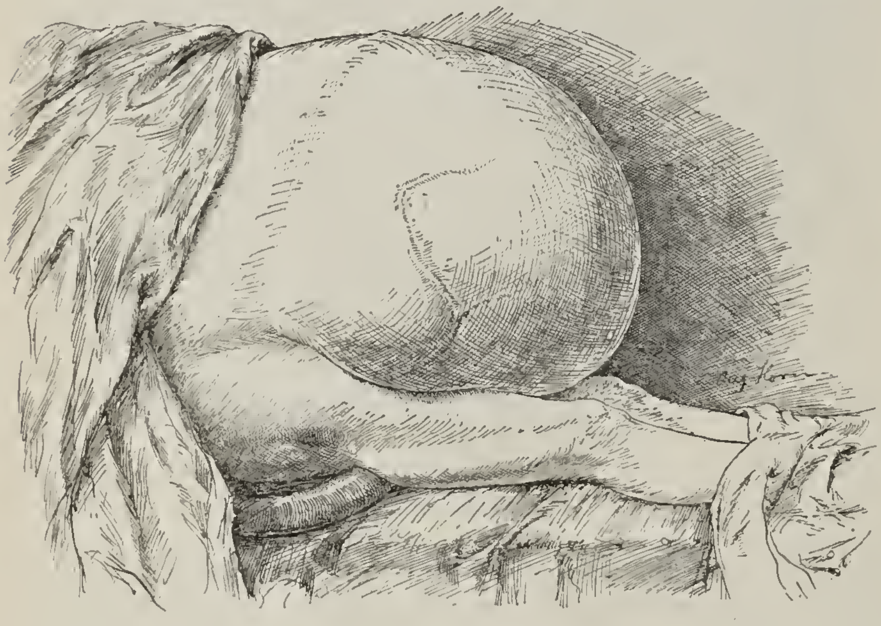

Fig. 1.—Tremendous abdominal enlargement due to a cystic myoma. The abdomen is markedly and uniformly distended and the growth extends down almost to the knees. It will be noted that there is no sagging in the flanks. Coursing over the surface were very large vessels. When it is realized that the abdominal incision extended from the xiphoid cartilage down over the entire length of the tumor and then back to the symphysis it is readily seen that the incision was nearly 4 feet in length.

Description of the Uterus (Gyn. and Path. No. 9810).—The specimen consisted of an irregular and globular mass approximately 18x17x15 cm. in diameter. Its surface was everywhere covered by adhesions, and at numerous points were openings irregular in shape and varying from 3 mm. to 5 mm. or more in diameter. Through these openings quantities of pus welled out during the operation. The pedicle or cut surface was 4 cm. in breadth, 3 cm. across and in the central portion of this was what looked like the cervical canal. On opening the specimen after it had been hardened we found that this tumor was the uterus (Fig. 5). The walls varied from 1.5 mm. to 4 mm. in thickness.

Fetus: Snugly filling the entire cavity was a fetus (Fig 5). The length of this fetus from elbow to axilla was 7 cm., from elbow to shoulder 8 cm. The breadth of the fetus in the axillary line was 13 cm. Other measurements could not be made on account of the distortion of the child, but it appeared to be an eight-month fetus. The skin was somewhat macerated. The child had evidently been a mulatto, as in many places the mottled appearance was still present. At other points, however, the outer skin had been rubbed off and the surface had the pale appearance of a white child. The hair which was matted up against the uterine wall was curly and black and several centimeters in length.

Placenta: The placenta occupied the lower quadrant of the uterus and projected over the cervix; there had been a partial placenta prævia. The placenta at the thickest portion was 2 cm in thickness. Attached to the surface of the child, especially in the vicinity of the hair, was much friable, yellowish material. This looked very much like inspissated pus. It was from the surface of the uterus at points of perforation that the purulent discharge came during the operation.

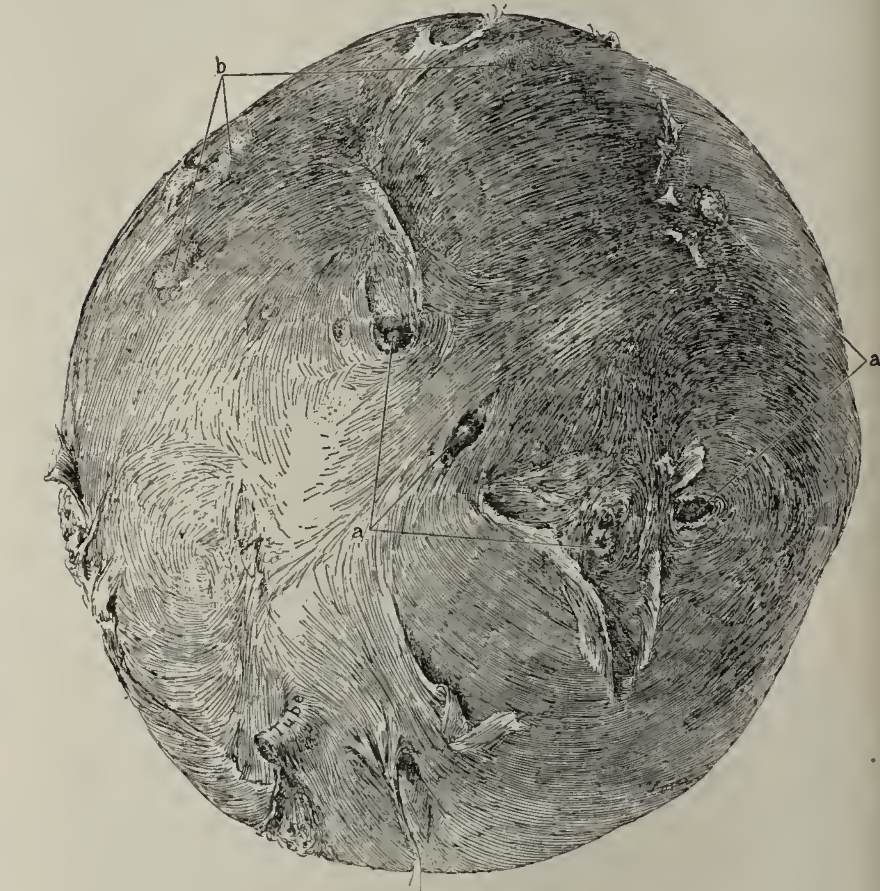

Fig. 4.—The perforated pregnant uterus as seen on removal. It is everywhere rough and covered by adhesions. In the lower part of the field is seen the stump of one tube. At points *a*, *a* are perforations of the uterus, whence pus was seen oozing out; at *b*, *b* the walls are exceedingly thin, there have been many adhesions and pus is lying on the surface. One would not for a moment take this to be the uterus except for the presence of the tube.

Sections of Uterine Wall: Sections from the uterine wall showed that the outer surface, at certain points, particularly where it was adherent to the abdominal wall, was covered by numerous adhesions. On the protected side cuboidal cells were visible. The muscle at such areas showed a great deal of small round celled infiltration. The inner lining of the uterus was much altered. There was a good deal of canalized fibrin and also regular ribbons of hyaline and canalized fibrin. Just beneath the surface and on both sides of this were numerous small round cells and polymorphonuclear leucocytes. At a few points calcified villi could be made out. Decidual cells were still in evidence, but they had become smaller.

Remarks.—There had evidently been a chronic inflammation of the inner surface of the uterus coupled with an inflammatory process on the outer surface at the points where the uterus was adherent to the abdominal wall. In this case there had been death of the fetus for some cause or other and discharge or absorption of the liquor amnii. Suppuration had taken place in the uterine cavity. At some points the uterine walls had become perforated and the pus had trickled out over the surface. Fortunately, no intestines lay in the way and the pus had glued the uterus to the anterior abdominal wall. This is certainly one of the rarest conditions to be met in the literature.

ABDOMINAL PREGNANCY OF FOUR YEARS' DURATION; OPERATION; RECOVERY.

In this case there was a typical history of a pregnancy going on apparently to term. Labor pains developed and soon ceased and the patient retained a tumor for between three and four years without any marked discomfort. It is certainly remarkable that this abdominal tumor persisted so long without giving rise to any alarming symptoms. The nourishment of the abdominal pregnancy was, of course to a great extent furnished by the omentum.

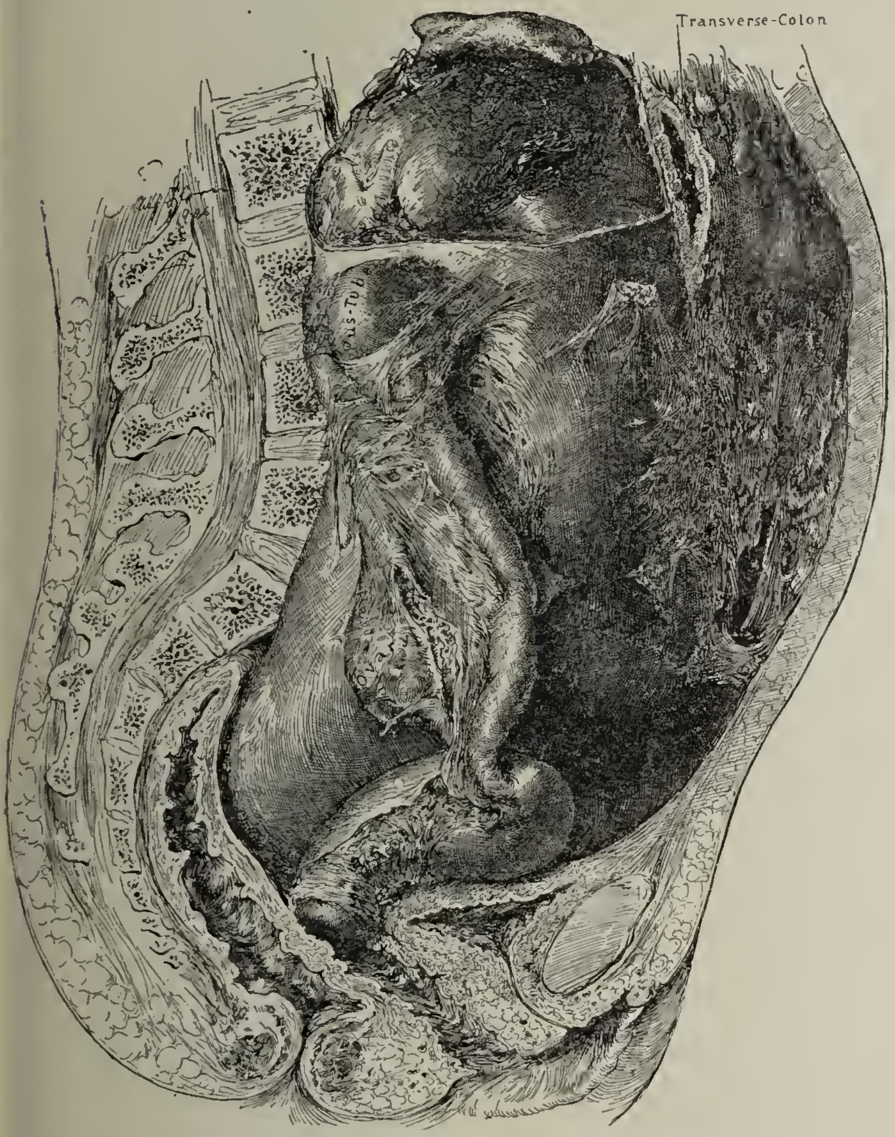

Fig. 6.—Abdominal pregnancy of four years' duration.—The illustration is an exact reproduction of the abdominal contents and has been drawn from the specimen. The uterus is normal in size, normal in position. Attached to its right side is a large pus tube which is densely adherent to the sac. On the left side the structures are not clearly outlined, as the broad ligament was intimately attached to the pregnant sac. Passing over the anterior surface of the sac in its upper portion, and considerably flattened, is the transverse colon. Densely matted to the surface of the sac is the omentum. In the upper part of the sac a window has been cut out and to the left a hand, at the top a foot, and between these two and lying in the vicinity numerous tufts of hair represented in black may be seen. The sac passes down and almost completely fills Douglas' pouch. This tumor had lain in the abdomen nearly four years. Apart from the adhesions to the transverse colon the intestines were perfectly free.

Case 4, Gyn. No. 13272.—J. A., colored, married, aged 28, was admitted to the Johns Hopkins Hospital from the dispensary, Sept. 27, 1906.

History.—She complained of pain and swelling in the abdomen. Her general health had always been good and she had never consulted a physician before. Her menstrual history was unimportant. She had been married fifteen years and had had four children, the eldest nearly 15 years old. The second child was deficient mentally but lived five years. The third was 10 years and the youngest 8 years of age. Her labors had all been normal; there had never been any miscarriages. For some years she had had a slight amount of thick, white, foul-smelling discharge, more marked before and after her menstrual periods than at any other time. For several years she had been constipated, the bowels not moving for two or three days at a time. She had passed no blood nor mucus.

Present Illness.—About four years ago she noticed a small lump in the lower part of the abdomen. This was the size of a baseball situated below and to the left of the umbilicus. The tumor increased in size at a uniform rate and the patient thought she was pregnant. At the end of nine months the tumor reached above the umbilicus. The breasts were enlarged and contained colostrum. The patient had had no nausea or vomiting. Her menstrual periods had been regular, although she had had a very scanty flow. She was certain that she had felt movements of the child. About the time that labor should have come on she had bearing-down pains beginning in the evening and lasting until early morning. The pains ceased then and never returned. The patient thinks that she has never had any other signs or symptoms since that night. The breasts gradually became soft and dried up. The tumor seemed to decrease slightly in size. No movements were felt and the patient suffered no discomfort. She became convinced that she had a tumor.

Symptoms: Until about a year ago she could go about her work without difficulty, but then she began to notice a little soreness and the "tumor began bothering her."

Within the few months previous to admission she had felt an increase in the amount of soreness. She had had headaches at times, her tongue had been coated, she had frequently felt nauseated but had not vomited. After walking a good deal there was a burning sensation in the lower part of the abdomen, and during the last two months the headaches had been quite severe. The patient had to stop work on account of the burning pain that would come and go. This pain was eased by lying down. She slept well, but her appetite was poor and she said she did not gain in weight. There was no pain nor burning on defecation or urination.

Examination.—Dr. Hutchins, the resident gynecologist, found the patient rather emaciated. The abdomen was distended rather more on the left than the right side by a tumor which rose from the pelvis and reached 4 cm. above the umbilicus in the median line. The tumor felt cystic; it was movable, dull everywhere on percussion and no fluid wave was noted. On vaginal examination no evidence of infection could be found. The cervix was firm. There was slight bilateral laceration. The uterus was in anteposition, normal in size and apparently in no way connected with the abdominal tumor. Movement of the tumor did not draw the cervix upward. Clinically, the tumor was thought to be an ovarian cyst or a myoma, but no definite diagnosis could be made.

Operation.—Sept. 28, 1906. After making a long abdominal incision it was found that the abdominal cavity was occupied by a large "tumor of the left ovary," to which were adherent the omentum, the entire transverse colon, a portion of the sigmoid, and the ascending colon. The uterus was densely adherent to the right side. The omentum was tied and cut, a portion being left attached to the tumor, the proximal portion being reflected backward with the transverse colon. In doing this the thin wall of the tumor was ruptured and an ounce or two of thick creamy, yellowish material escaped. This was rapidly sponged up, and further escape controlled by pressure with gauze. In order to avoid infection, so far as possible, the right tube which had been converted into a pus sac and was adherent to the cystic tumor was liberated. The broad ligament on the left side was clamped and cut so that the tumor could be shelled out of the pelvis and tipped over to the left side. In this way the grumous contents of the cyst were prevented to a great extent from escaping into the abdominal cavity. After the tumor was shelled out there was a great deal of bleeding from the mesocolon. This bleeding was checked as far as possible by sutures and the transverse colon was then curved in on itself, so that the mesocolon formed a funnel. A gauze drain was introduced into this as it dropped down on the pelvic brim and was brought through the vagina. In this way we were able to check the bleeding almost completely. The abdomen was closed without drainage from above.

Result.—The patient made a very satisfactory recovery and was discharged Oct. 21, 1906.

Description of Tumor (Gyn. and Path. No. 10417).—The specimen consists of an abdominal tumor which was connected with the left broad ligament and the left tube and ovary. It was absolutely free from the uterus, which was not removed. The specimen in the hardened state measures 24 cm. in length, 18 cm. in breadth and 16 cm. in its anteroposterior diameters (Fig. 6). Attached to its right side are the right pus tube and the right ovary. To its left are the tube and ovary, which are plastered down on it. Covering almost the entire upper surface of the tumor is omentum, which is densely adherent to the mass and furnishes a large part of its blood supply. The walls of this tumor vary from the thickness of paper to two or three millimeters. From this tumor grumous material, like fat mixed with pus, escapes and at several points hair can be seen. On cutting a window out (Fig. 6) the interior is found to be filled with a fetus, which is of at least seven or eight months' growth. On account of the distorted condition it is difficult to get the exact age, but the sole of the foot measures 6.5 cm. in length and looks mature. The other parts are correspondingly large. The hair of the child is black and curly. There are several points where slight ulceration of the surface has taken place. These points correspond to the very thin areas noted in the outer covering. The right tube, which was so firmly glued down that it was thought necessary to remove it, in the hardened state, measures 10 cm. in length. It is entirely covered by adhesions, and at its fimbriated end reaches 2.5 cm. in diameter. The ovary is also covered by adhesions, but is not enlarged.

The left ovary is very much flattened and covered by adhesions. The tube runs over into the tumor mass and is lost. It is flattened out and at one point measures .8 cm. in diameter. The placenta is attached to the left side of the mass.

Histologic Examination.—The sac enclosing the fetus shows that where the omentum has been adherent it has been transformed almost entirely into new and old connective tissue; even the outer adhesions which contain islands of adipose tissue are for the most part made up of dense fibrous tissue. Passing inward the fibrous tissue looks older and then hyaline areas are seen which in size and form closely resemble placental villi. Between these are many small round cells and spindle cells. The inner portion is composed of similar hyaline areas surrounded by a zone of brown pigment that has evidently resulted from an old hemorrhage. The inner surface is lined by necrotic tissue which is especially rich in canalized fibrin, containing chiefly polymorphonuclear leucocytes. In no place is there evidence of muscle fibers and it looks as if the case was one of an abdominal pregnancy in which the sac, which was partly supported by the omentum, had gone on to new connective tissue formation.

Remarks.—As noted in the description of the operation the uterus was in no way implicated in this growth. It was situated in the center of the abdomen and gave no signs of being half of a bicornuate uterus.

Diagnosis.—Abdominal pregnancy of 4 years' standing, suppuration of the sac, dense omental adhesions.

CHORIOEPITHELIOMA WITH THE UTERUS THE SIZE OF THAT OF A FIVE MONTHS' PREGNANCY; HYSTERECTOMY; APPARENT RECOVERY.

This disease, although by no means rare, is not very common. From Baltimore only two cases have been reported. In 1895 J. Whitridge Williams,[6] under the title "Deciduoma Malignum" reported a case occurring in the University of Maryland Hospital; and in the last edition of Kelly's "Operative Gynecology" a case is cited from the Gynecological Department of the Johns Hopkins Hospital. Thus at the Johns Hopkins Hospital only two cases have been encountered in 17 years.

By a fortunate coincidence on the morning on which I operated on the patient whose history is here given, Dr. Cuthbert Lockyer of London, England—the man who has worked so much on this subject in Great Britain—was present. Even from the macroscopic examination the gross appearance was so characteristic of the placental growth that both of us at once said "chorioepithelioma." In this case the decidual-like cells, those supposed to originate from Langhan's layer, predominated, but in some places the large sinuses, the brown-staining protoplasm and the characteristic vacuoles were in evidence. The specimen is particularly interesting on account of the uniformity of the distribution of the growth throughout the entire uterine body.

Case 5, Gyn. No. 13204.—The patient was admitted to the Johns Hopkins Hospital on Aug. 31, 1906, and was discharged on Sept. 25, 1906.

Examination.—She was not very well nourished. The mucous membranes were of a fairly good color. There was no glandular enlargement. The heart and lungs were normal. On examination Dr. Rushmore found the abdomen somewhat distended by a firm mass which rose out of the pelvis and extended as high as the umbilicus, rather more prominently on the left than on the right side. The mass was slightly movable and not tender except just above Poupart's ligament on the left side. It was regular in outline and on deep inspiration its upper border was obliterated by the surrounding intestines. The vaginal outlet was moderately relaxed, the cervix was high in the vaginal vault, lying far back and pointing downward. The cervical lips were not hypertrophied: the os was slightly patulous. There was no induration suggestive of new growth. The mass in the pelvis was uniformly fixed. On examination, under ether, the tumor seemed to be freely movable, but resembled a fibroid about 6 inches in diameter with a cystic mass on the left. The breasts contained colostrum.

Operation.—September 3: On exposure of the enlarged uterus the appearance suggested pregnancy very strongly. The vessels were much dilated. No definite nodules could be made out in the fundus, but on the posterior surface was a slight prominence, with a curious yellowish discoloration of the tissue beneath, and there were numerous dilated blood vessels suggestive of a malignant new growth. As a definite diagnosis could not be made from palpation we decided to incise the uterus over the prominence, at the same time carefully walling it off, so that there would be no danger of infection and the general cavity would be protected. On incision a vascular new growth was immediately seen. This had a spongy appearance and immediately suggested a malignant growth differing entirely from carcinoma and in no way resembling sarcoma. The incision was immediately closed with silk and the uterus removed. A vaginal drain was inserted in the lower angle of the abdominal wound in order to drain down to the peritoneum. The liver was carefully examined for metastases, but none could be detected.

Result.—The patient was examined on September 24, prior to her discharge. The abdominal incision was well healed; neither induration nor tenderness could be made out in the vaginal vault. Dr. Holland, writing me on Oct. 29, 1906, says: "I received a letter from her two days ago. She was able to be about the house, is cheerful, and is gaining in strength. She still complains of pain in the right arm which developed when she was in the hospital."

Remarks.—In this case there was no positive history of a recent miscarriage, although the possibility can not be excluded. The contour of the uterus on pelvic examination strongly suggested a myomatous uterus and with the abdomen opened it was impossible for one to exclude the possibility of pregnancy.

Description of the Tumor (Gyn. and Path. No. 10278).—The specimen consists of a greatly and uniformly enlarged uterus measuring 20 cm. in length, 13 cm. in breadth and 12 cm. in thickness. The anterior surface is smooth and glistening; the posterior is covered by many adhesions, thin and fan-like. Attached near the left cornu is a tag of omentum. On section the uterine cavity is found to be 15.5 cm. in length.

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[6] Johns Hopkins Hosp. Rep., vol. iv, 1895.

The uterine walls vary from 3 to 6 cm. in thickness. The outer portion of the wall consists of muscle varying from 1 to 1.5 cm. in thickness. Lining the entire uterine cavity is a spongy, porous growth. The uterine mucosa as such is not recognized, but is represented by hills and hollows. The projections into the cavity are dome-shaped and vary from .5 to 2 cm. in depth. Here and there on the surface are cystlike depressions with narrowed bands of tissue stretching from side to side. There are also numerous cavernous spaces bridged over by bands of the growth. This growth involves the entire uterine wall, both anteriorly and posteriorly. The great thickening in the wall is due to the presence of the growth, which varies from 1 to 6 cm. in thickness. At the fundus it extends almost to the peritoneal covering. The growth in no way resembles a carcinoma, nor is there any appearance suggestive of a sarcoma. One is instantly reminded of the growths that occasionally occur after a miscarriage. The cervix is somewhat flattened, is 6 cm. in breadth, and its lips appear to be normal (Fig. 7).

Microscopic Examination.—Sections from the cervix show little alteration save for the fact that many of the glands are small and round, and that they appear to be somewhat dilated. Here and there they extend for some distance into the muscle. They do not, however, show the slightest evidence of any active process. The tissue lining the cavity has undergone almost complete necrosis. It is still represented, however, by a great deal of canalized fibrin containing polynuclear leucocytes, and here and there, especially in the vicinity of the large blood vessels, are areas where the cells are still preserved. These consist of large discrete cells containing small vesicular nuclei, nuclei of moderate size that have stained deeply, and still larger nuclei containing vacuoles and great masses of protoplasm staining very deeply. The protoplasm of many of the cells contains vacuoles or clear spaces. In the deeper portion, that is, in the vicinity of the muscle, there are large blood sinuses, and lining these are cells closely resembling decidual cells. They have for the most part vesicular nuclei, which vary considerably in size from very small ones to others very large and lobulated. Scattered throughout this decidual-like tissue are numerous vacuoles. In the vicinity is much canalized fibrin with isolated cells of a smaller character scattered throughout it. The protoplasm of these so-called decidual cells, wherever situated, is of a brownish tinge. At numerous points are isolated masses of these decidual-like cells lying perfectly free in the blood, thus showing that they are either isolated and free masses or finger-like projections cut across. In some places are large plaques of protoplasm containing six or more nuclei, and in the immediate vicinity the canalized fibrin contains collections of polymorphonuclear leucocytes. At a few points are elongated, very deeply staining masses of chromatin lying free in hyaline material. The line of demarcation between the muscle and the new growth is at some points sharply defined, but in numerous places the cells of the new growth are wandering in and completely overwhelming the muscle fibers. In the advancing margins there is a certain amount of small round-celled infiltration, and in the corresponding deeper portions there is a great tendency for the growth to undergo coagulation necrosis. This is undoubtedly a chorioepithelioma, but one in which no placenta villi are demonstrable.

Remarks.—The contour and general form of this growth before the uterus was opened corresponded almost identically with those of a myomatous uterus. There was on the left side a slightly nodular elevation which was most suggestive of myoma. Curettings, of course, in this case would have yielded nothing but necrotic tissue, but this should immediately have put us on our guard. Such a finding would exclude myoma and would also tend to rule out adenocarcinoma, as in an adenocarcinoma such extensive areas of coagulated necrosis are rarely to be found.

Histologic Examination of Scrapings Four Months Before Admission to Hospital.—These scrapings were made by Dr. Holland and fortunately had been put aside and were examined after the removal of the uterus. It will be seen that although there are a few suspicious changes no positive diagnosis could have been made.

Gyn. and Path. 10275. The greater part of the tissue is entirely necrotic; it takes the eosin stain, or when the hematoxylin is noted the cells are very cloudy. In some places there are shadows of very large nuclei and here and there the nuclei are still perfectly preserved. These, however, are elongated, some of them are irregular and stain deeply. The picture is not one that would enable a pathologist to make a satisfactory diagnosis. There are, however, islands that strongly suggest sarcoma or that, considered in conjunction with the history, suggest a malignant placental growth. The section is one that would certainly call for further examination.

THE PREFERABLE METHOD OF ANTERIOR FIXATION OF THE UTERUS WHEN THE ABDOMEN IS OPEN.

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(*Continued from page 1490.*)

affecting a decided change in the direction of traction. The operation has the disadvantage that it requires extensive dissection and handling of tissues deep in the abdominal wall.

Of the various methods of utilizing the round ligaments after the abdomen is open, the one I have found most useful is practically the Gilliam-Ferguson operation. Instead of following the usual technic, however, I find that the work can be more conveniently and expeditiously executed by passing a puncturing tenaculum forceps (Fig. 1) through the wall, grasping the ligament directly and bringing it out along the forceps track. The exact technic preferred for the class of cases under consideration is shown in detail in the following steps:

1. The special work for which the abdominal cavity was opened having been completed, the left round ligament is grasped with an ordinary tenaculum forceps about 1½ inches from the uterus. The right ligament is caught in a similar manner with another forceps and then any retractors that are in the way are removed from the abdominal wall. The grasping of the ligament of each side with the tenaculum forceps facilitates the subsequent manipulation of the ligaments, after the removal of the retractors which expose the pelvic cavity.

2. The point of the puncturing tenaculum forceps is entered in the left side of the wound just beneath the upper sheath of the rectus muscle and about one inch above the pubic bone. It is passed outward just beneath the sheath for an inch and then the point is directed downward and made to puncture the rectus muscle and posterior sheath, but not the peritoneum. Guided by the fingers in the abdomen, it is then passed outward between the peritoneum and the aponeurosis to a point about one inch from the internal inguinal ring, where it is made to penetrate the peritoneum. The handle of the instrument is then raised so as to direct the point toward the round ligament and is made to grasp the ligament and peritoneum 1½ inches from the uterus (Fig. 2).

In the class of cases under consideration, the ligament and peritoneum are usually so stretched and lax that they are easily drawn into the new canal as a small cord. If the ligament is unusually thick or if the peritoneum is so thickened that it probably will not pass easily into the forceps canal, a window may be snipped in the peritoneum in front of the ligament and the ligament alone grasped and brought into the canal.

3. The forceps is then withdrawn, bringing the ligament with it into the forceps track and out at the ab-

dominal wound (Fig. 3). The loop of ligament brought out is now caught and held by an ordinary tenaculum forceps, while the right ligament is brought out in a similar manner. After the ligaments are brought into position the tension is adjusted. It may be necessary to bring out a little more of the proximal portion or a little more of the distal portion, the former to bring the fundus well forward and the latter to close effectively any space that may exist between the distal portion and the parietal peritoneum. By paying attention to this latter point the peritoneal puncture may be made a considerable distance from the internal inguinal ring without leaving any opening through which an intestinal coil might slip. If fearful on this point, the forceps may be carried to within half an inch of the ring or even practically to the ring before puncturing. The peritoneum being freely movable on account of the loose subperitoneal tissue, is drawn inward and puckered when the proximal portion of the ligament is drawn on to bring the uterus forward. This brings the peritoneal exit near the aponeurotic exit of the new ligament, near the outer margin of the rectus muscle. The direction of the new ligament, therefore, is forward, practically the same as in the Gilliam-Ferguson operation by the regular technic.

4. The ligaments are then fastened in their new position. If long enough the loops are overlapped in the median line and fastened to each other and to the upper sheath of the rectus. If not long enough to reach to the median line, they are fastened securely in the forceps track by catgut sutures passed through the upper sheath and the ligaments beneath. The abdominal incision is then closed in the usual way.

By the method just detailed, the ligaments may be transplanted into the abdominal wall very quickly—giving a strong, reliable forward and upward traction to the uterus and adnexa and without any free bands or dangerous adventitious openings. The advantages of this particular technic in suitable cases over the usual technic of the Gilliam-Ferguson operation is that it simplifies and expedites the work by doing away with the temporary ligation of the ligament and also with the lateral puckering suture.

The puncturing tenaculum forceps here mentioned may be used with advantage in the regular Gilliam-Ferguson operation. It may be used also in those operations in which the puncture of the aponeurotic wall is made practically at the internal inguinal ring, though care must be exercised that the deep epigastric vessels be not injured.

I designed this puncturing tenaculum forceps some time ago and after considerable experimenting have about what I want. I have been using it now for a year and have found it so convenient and satisfactory that I thought it worthy of presentation as a useful addition to our armamentarium.

I have used it both with the ordinary longitudinal incision and with the transverse incision. It is strong and slender and is designed to pass easily through the tissues of the abdominal wall, to penetrate the aponeurosis and peritoneum at any desired point, to grasp the round ligament firmly without bruising it and to return through the wall, bringing the ligament along the new canal. Possibly some one has already described such a forceps; if so, it has escaped my notice. Both the Gilliam forceps and the Barrett forceps are radically different.

WHEN THE ROUND LIGAMENTS ARE FIXED.

In this class come those cases of retrodisplacement in which there is fixation of the round ligament and adjacent tissues so that it is not practicable to draw into the wall either the round ligament and adjacent peritoneum or even the round ligament alone.

Such fixation may be due to inflammatory infiltration, associated with salpingitis, peritonitis or cellulitis, or it may be due to the way the ligatures are placed in removing a damaged tube or ovary. Unless particular care is exercised in excising the damaged adnexa, the tissues are likely to be fixed by the ligatures; in fact, when mass ligatures are passed and tied before the uterus is brought well forward the organ may be so fixed by the ligatures that it can not afterward be brought forward satisfactorily. To prevent this it is well to avoid mass ligatures and to bring the uterus well forward before tying any ligatures that may interfere with its mobility.

In these cases the round ligaments are so fixed by inflammatory infiltration or other abnormal condition that the lateral implantation operation can not be satisfactorily carried out. In these cases the choice lies between ventrosuspension and the regular Gilliam-Ferguson operation with very short ligament loops. The latter, I think, is the preferable operation of the two, for the reason that the suspension cords are stronger and more enduring and there is no free band in the peritoneal cavity with which the intestines may become entangled. Also the lateral sutures may be passed so as still better to elevate the prolapsed adnexa. Furthermore, there is little or no chance of a firm fixation by scar tissue that would interfere with pregnancy.

In the execution of the regular Gilliam-Ferguson operation, the puncturing tenaculum forceps is exceedingly convenient for puncturing the rectus muscle, catching the ligament at the desired point (Fig. 4) and bringing it out through the muscle. A short one, only slightly curved, would be more convenient in this particular operation, though the long one may be used.

In the class of cases under consideration, it is seldom that the broad ligament tissue is so infiltrated that the round ligament can not be brought out the short distance required for this operation. In such an extreme case, regular ventrosuspension would be required.

Fastening the uterus forward by attaching the fundus to the vesical peritoneum seems hardly sufficient for the necessities of the case. In nearly all cases of troublesome backward displacement there is also considerable downward displacement which has an important bearing on the patient's distress. Any operation carried out for the retrodisplacement should overcome also the prolapse of the uterus and adnexa. The uterus should be held up as well as forward, and ordinarily this can not be accomplished satisfactorily by simply bringing the fundus forward and fastening it to the vesical peritoneum.

WHEN THE CERVIX IS TOO FAR FORWARD.

In the cases of this class the cervix comes so far forward that the uterus does not have the proper forward inclination even when the fundus is brought well into the front part of the pelvis. The raising of the fundus and the adnexa relieves the symptoms for a time, but the position of the uterus with the body still directed straight up or slightly backward is such that the intestines run in front of it and sooner or later it is forced backward again into a troublesome retrodisplacement.

The cause of the cervix being so far forward is the lax condition of the supporting structures, particularly the sacrouterine ligaments. Occasionally the cervix is held forward by shortening of the tissues anterior to the cervix from inflammation or other cause. When this is the case the contraction should be overcome by stretching or incision before an attempt is made to fasten the uterus forward. Generally, however, the tissues are lax all around the cervix.

In these cases, in addition to fastening the fundus forward while the abdomen is open, the cervix should be drawn backward and raised by shortening the sacrouterine ligaments. This is accomplished by means of a puckering suture. Bovée has probably done more in the development of round ligament shortening by various methods than any one else.

We are interested now only in the shortening when the abdomen is open. With good exposure of the pelvic cavity and the intestines packed out of the way there is not much difficulty in accurately placing a suture that, when tied, will effectually pucker the ligament and lift the cervix upward and backward. As Dr. E. C. Dudley has pointed out, the suture should be passed rather superficially so as to avoid injuring vessels and other structures near the pelvic wall, and the surfaces to be brought together should be roughened so that agglutination will take place and adhesions follow. Both sutures could be placed before either are tied, for when the cervix is drawn back close to the rectum it is difficult to place a suture satisfactorily in this region.

In most of these cases of relaxed sacrouterine ligaments there has been marked laceration of the pelvic floor, the repair of which is indicated as a part of the operative work. Occasionally, however, such a condition of the sacrouterine ligaments is found in patients who have borne no children and have no laceration of the pelvic floor.

In cases with laceration, repair of the pelvic floor for the purpose of holding the cervix well back in the pelvis sometimes proves insufficient, the constant pressure of the unsupported cervix causing gradual stretching of the repaired floor and finally descent of the cervix to its old position and a return of the retrodisplacement. In these cases, shortening of the sacrouterine ligaments while the abdomen is open, in addition to fastening the fundus forward, adds much to the completeness and permanency of the replacement and may make the difference between success and failure in the final result.

WHEN THERE IS CONTRACTION OF THE POSTERIOR PART OF THE BROAD LIGAMENT.

There are certain cases of retrodisplacement with extensive chronic inflammation in which, after removing a disorganized tube and breaking up the adhesions posterior to the uterus and broad ligaments, there is still so much inflammatory infiltration limiting the mobility of the uterus that it can not be brought well forward without danger of injury to important structures or such resulting tension as will cause distress. The question is: What is the best procedure in such a case? Shall we persist in trying to loosen the uterus so that it will come far forward, at the risk of an injury to the large vessels along the pelvic brim which are firmly imbedded in the infiltrated tissue, shall we fasten the fundus forward to the abdominal wall under strong tension, or shall we leave it in its perpendicular or slightly backward position?

I think that, as a rule, the last-mentioned plan is the best in these exceptional cases. The principal symptoms are due to the inflammatory mass, which has been removed. Usually the uterus can easily be brought forward to a position midway between the normal position and decided retrodisplacement, and this position, when maintained, practically never in itself causes troublesome symptoms.

Whether the uterus will stay in this elevated position or return to its former one depends on whether the tissues are pliable and the uterus movable. If they are, the uterus will not stay in this midposition; but when the tissues are fixed by infiltration, this with the scar tissue that results from the removal of the diseased tube or tubes so fixes the uterus that it is likely to be held in that position indefinitely.

To favor the maintenance of the uterus in this position, care should be taken, before closing the abdomen, to see that the intestines extend into the posterior part of the pelvis and that the omentum comes down over them and is, when long enough, tucked in back of the uterus. The intestines and omentum back of the uterus assist in holding the latter forward during the healing process and also tend to prevent adhesions which extend directly from the uterus to the posterior pelvic wall, the contraction of which would draw the uterus further back.

In certain of these cases some of the structures alongside of the uterus on one or both sides may be fastened forward, thus helping to maintain the uterus part way forward both during the healing process and afterward. In one especially troublesome case of this kind I was able to secure a satisfactory result by suturing the upper anterior margin of the broad ligament to the anterior abdominal wall for a considerable distance inward from the pelvic margin on each side.

In the after-treatment of the cases of this class, it is well to have the patient lie on her side and well forward, partially on the abdomen, most of the time, and not much on her back. If the cervix comes low, it is well also to have the patient wear a pessary that will hold it well back in the pelvis during the healing process, provided the instrument causes no severe pain.

TREATMENT OF TRAUMATIC GANGRENE.

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In this brief paper it is my intention again to call attention to a procedure which in my experience has proved of great utility in the management of these most troublesome and often fatal cases. I shall not take up the pathology of traumatic gangrene, but shall confine myself to a consideration of its treatment. By the term traumatic gangrene as herein used is to be understood that variety of gangrene following severe crushing injuries of the extremities complicated by virulent and often rapidly fatal sepsis.

On referring to the literature we find all authorities agree as to the extremely high mortality of this affection, Cheyne and Burghard giving it as high as 95 per cent. All authorities likewise agree that the only treatment of cases of this class is early amputation above the gangrenous area.

How often are we able to determine accurately the limits of the disease, particularly in those cases of rapidly spreading moist gangrene? Too often we are disappointed by the continuation of the process after amputation and are compelled to reamputate much higher, in spite of which the patient often dies.

If the gangrenous process does not involve the entire limb, the flaps frequently slough, necessitating another operation and the sacrifice of what is too often most valuable tissue so far as the future usefulness of the part is concerned. In other cases I have been convinced by subsequent events that in my effort to get well above the disease I have sacrificed tissue which might have been saved. In other words, I have amputated at a point higher than was necessary.

In casting about for the probable cause of the unsatisfactory course pursued by many of these cases, I became convinced that it was the attempt to form flaps from tissue, the vitality of which is always seriously in question, and the further impairment of that vitality by two procedures necessary to this method of operation: first, the dissection of the flaps; second, the introduction of sutures.

The dissection of the soft parts into suitable flaps necessarily interferes with their blood supply, which interference in the class of cases under consideration is often badly borne and frequently resented by sloughing of the flaps or the rapid extension of the gangrenous process up the limb. The introduction of sutures at this time has two distinct disadvantages: first, the retention within the wound of infectious elements which may have traveled up between the muscle planes or along tendon sheaths to a point higher than we may believe probable; second, the further interference with flap nutrition by the tension of the suture, for tension can not be entirely avoided, no matter how carefully the sutures may be placed. Believing the statements above made to be true, and that the bearing of these facts on the results secured in these cases was most important, in 1902 I described a method of amputation which had, in my hands, greatly reduced the mortality of traumatic gangrene. Since then I have had several opportunities to demonstrate further the value of the method.

The procedure is as follows: Being confronted with a case of traumatic gangrene of an extremity, estimate as exactly as possible the line between the diseased and healthy soft parts. Under anesthesia make a most careful and complete disinfection and cleansing of the skin, puncturing all bullæ and remove all discharges, envelop the gangrenous area in a sterile towel up to the line selected and then, at this point. make a circular amputation, cutting through soft tissues and bone at the same level. Ligate carefully all bleeding points, including none of the perivascular tissue in the bite of either the forceps or the ligature. Leave the wound open, not introducing a single suture, and apply moist dressings of gauze saturated with salt solution, these dressings to be changed from two to four times in twenty-four hours, as the circumstances of the particular case demand.

After seven to ten days, if the wound is perfectly clean and the condition of the patient favorable, the classic circular amputation may be made by dissecting up the flap already outlined and sawing the bone at the proper level. If for any reason the circular method may seem undesirable, any other procedure may be substituted, but in the class of cases under discussion a typical circular amputation will be found entirely satisfactory.

It is unnecessary to report in detail the cases treated by this method, but it may be stated that since adopting it in 1900 I have employed it nine times: twice in amputations in the subtrochanteric area, twice in the middle third of the thigh, four times in the upper third of the leg, and once in the forearm. The results were eight recoveries and one death.

The two cases of subtrochanteric amputation will be briefly described, as they presented all the difficulties common to the most severe and fatal types of traumatic gangrene.

Case 1.—A boy, aged 12, was run over by a disc harrow and the left leg frightfully mangled to condyles of femur. Brought to hospital by Dr. Evans of Emerson, Neb., on the third day after the accident, at which time gangrene had reached the lower third of the thigh and presented the usual clinical features of traumatic gangrene. The patient was delirious, having a temperature of 104 F. and a pulse of 136. Amputation as above described was made immediately at a point just below the great trochanter. Pulse and temperature reached normal within forty-eight hours, delirium had disappeared and the wound appeared clean. On the tenth day after the injury tetanus appeared and for four days death was hourly expected. Following the usual treatment, complete recovery from tetanus occurred, and two weeks later the flaps were dissected up, the head of the bone disarticulated and good union was secured. Since this time the patient has been well.

Case 2.—J. M., man, aged 40, fell under a slowly moving train and sustained a severe crushing injury of the right foot and ankle. He was brought to the hospital thirty-six hours later by Dr. Langley of Oacoma, S. Dak. At this time gangrene had extended to the malleoli and the patient's condition was good. Not realizing the gravity of the case and thinking that, owing to almost total absence of constitutional symptoms the case was one of ordinary gangrene due to thrombosis, I made a classical amputation just below the knee. Twenty-four hours later pulse was 110 and temperature 102 F. The flaps looked suspicious. Thirty-six hours later the pulse was 158, temperature 105.5 F., and the patient in a low muttering delirium. There was gangrene of the flaps and discoloration to the middle third of the thigh. Realizing that prompt separation from the gangrenous and infected leg gave the only chance of life, I decided to reamputate.

The patient's condition would not permit use of general anesthesia and, owing to the condition of the limb, local anesthesia was considered inadvisable. With no anesthesia whatever amputation through bone and soft tissues as described was rapidly made slightly below trochanter. Owing to advanced sepsis the senses of the patient were so obtunded that he gave no evidence of pain except at the moment the knife severed the sciatic nerve. Despite the fact that we expected this man to die on the table or soon after, he began to manifest improvement a few hours after the operation. In twenty-four hours his pulse was 120 and temperature 101 F. Forty-eight hours later pulse and temperature became normal and so remained. Twelve days later, the wound being clean, flaps were dissected up and the bone sawed through at the trochanter and the wound closed. Primary union was secured, stitches were removed on the eighth day and the patient was up and about the ward on crutches. Was told one day that he might leave the next morning for home and that night died suddenly of pulmonary embolism.

The stump was absolutely clear and union perfect. This was the most desperately sick patient I have ever seen recover from gangrene and one on whom I could not think of operating by any other method. His tragic death after apparently complete recovery was particularly unfortunate and should not be charged against this particular plan of operation, as it might have followed any operation.

As my results by the old method can not be compared with those secured by this, I have ventured to present the operation for consideration. Its advantages may be summarized as follows:

1. By it we may speedily and with the minimum of shock remove from an enfeebled and exhausted patient the source of infection. namely, the gangrenous tissue.

2. We may frequently make the amputation at a lower point than would be possible by the old method. because

soft tissues whose vascular connections are left undisturbed are less apt to slough.

3. The freest possible drainage is provided for a sufficiently long time.

4. If the disease stops at the line first chosen, no unnecessary sacrifice of tissue has been made, as the flaps have been defined at the lowest limit of safety, and the bone would necessarily have to be sawn at the same point as at the second operation.

5. If the limits of the disease have not been placed sufficiently high, the same procedure may be repeated with less danger to the patient than a typical reamputation.

6. Patients too weak and prostrated by sepsis to withstand a typical amputation may endure this much shorter procedure and be built up during the interval before the second operation is necessary.

IS EYESTRAIN EVER AN ETIOLOGIC FACTOR IN EPILEPSY?*

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In reporting the following four cases of epilepsy in which the active causative agent appears to have been eyestrain and in which correction of the refraction errors relieved the greater affection, I am actuated by a desire to aid in promoting the educational work that other ophthalmologists have been doing in this direction, and possibly to benefit some other sufferers, rather than to enter into the dispute regarding the relationship of eyestrain to epilepsy. My own observations convince me that an epileptic seizure may be induced by reflex action from an ocular disease. There may be some physicians who do not want to be convinced of this, there are certainly some who deny the possibility of the eyes playing any important part in connection with epilepsy, and the great mass of the profession has probably never given any consideration to the matter and would have no answer prepared for the question expressed in the title of this paper.

The primary reason for stating the question is that it may serve as the basis for a dispassionate consideration of the subject, for it is an important matter that the proper answer should be determined and, if it be in the affirmative, as many of us believe it will be, it is equally important that the general profession should be so informed and should apply that knowledge for the prevention or alleviation of human suffering. It has been estimated that there is one epileptic in every 500 inhabitants in this country; applying that to the city of Baltimore, let us say, would mean that we have nearly 1,200 victims of epilepsy; or, furthermore, about 2,000 in the state of Maryland. Surely, it is worth while to give serious consideration to any disease that afflicts so many citizens in a community. Another most excellent reason for investigating any agency that might, even remotely, contribute as a causative factor is found in the fact that, when once it is firmly established, this disease has a bad prognosis. The percentage of patients cured by any or all forms of treatment is extremely small; the reports of some institutions in which epileptics are treated would seem to indicate that less than 1 per cent. are ever restored to health. The saving of an individual, then, from the development of epilepsy or the cure of one in whom the disease had started is like snatching a brand from the burning! If only one case in 100 is found to be due to eye disease and curable by the proper treatment of that organ, it becomes possible to double the present percentage of cures.

Whenever one reports the cure of a series of cases of some disease which is admitted to have a grave prognosis and in which the percentage of cures by any treatment is exceedingly small, he may expect skepticism on the part of his hearers and perhaps some doubt as to his diagnoses. While the diagnosis in my cases was vouched for by others, I have taken pleasure in fortifying my knowledge of the disease by a recent careful reading of the latest authoritative publication on the subject, i. e., Epilepsy and Its Treatment, by William P. Spratling, superintendent of the Craig Colony for Epileptics, published in 1904.

I may be pardoned for quoting extensively from this book, for Dr. Spratling does not advocate the idea that eyestrain bears any relation to epilepsy, and probably did not dream that his book would ever be used to support such a theory. I believe, however, that he submits the best of evidence in support of that theory, and that his opposition to the theory in other writings, as well as in his book, is not only unjustified by, but is in defiance of his own observations.

What is the etiology and pathology of epilepsy? Regarding its etiology, Dr. Spratling says (page 58):

> We may assemble the causes of all epilepsies primarily under two heads: Predisposing and Exciting. Under the former will be studied the comparatively few factors that prepare the individual to acquire the disease, but which may not actually produce it; under the latter, as many as possible of the numerous factors that actually produce epilepsy with or without the aid of influences that predispose to it.
>
> In the majority of cases predisposing and exciting causes play a part and are complemental to each other. This well-known fact we may illustrate in this way: Given an individual in whom epilepsy may be induced under the influence of some irritation of which the climax—i. e., the point at which it causes the seizure to appear—is represented by 100. If there are already present 60 of these points from, we will say, a predisposition due to heredity, there will remain but 40 points to be supplied by some exciting cause to bring the disease to light; this exciting cause being, perhaps, one of the specific fevers, some kind of toxemia, an emotional shock, an acute attack of indigestion, trauma, some reflex irritation, or numerous other causes which will be fully described later on. In other words, epilepsy, etiologically considered, is often a symptom-complex dependent in the great majority of cases on two variables; either a maximum of inherited influence combined with a minimum of exciting cause, or a minimum of inherited influence combined with a maximum of exciting cause.

No one will question the importance of an hereditary predisposition in many cases, especially in those cases of direct hereditary transmission of epilepsy or in which the child acquired its predisposition from a parent who had some other nervous disease, such as alcoholism or insanity. The exciting causes are the ones bearing particularly on our question, and I would call attention to the list mentioned in the above statement regarding etiology. It will be noticed that with the exception of toxemia and trauma all of the exciting causes named must act reflexly. Just what that process of reflex action may be is not positively known, but it would seem most plausible to assume that, through the abnormal function of certain organs, toxins may be set free which will seriously injure the delicate structures of the cerebral cortex when brought into contact with them. The same author says on pages 326 and 328:

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* Read at the meeting of the Section on Clinical Medicine and Surgery, Baltimore City Medical Society, Dec. 7, 1906.

> The essential poison in epilepsy is a nuclear poison which shows a special predilection for certain delicately constituted cells of the cerebral cortex, typical of the second layer. . . .
>
> The majority of good observers in chemical pathology believe that the blood, sweat, urine and gastric contents are hypotoxic in the interparoxysmal state of epilepsy; hypertoxic just before a fit, at the time of and for a variable period just after the fit.

Whether the chemical substance, which, by its poisonous effect on the cerebral cortex produces epilepsy, be carbonate of ammonium or cholin or xanthin or some undetermined autocytotoxin, is of no consequence to us at the present moment. What is of some importance, and seems to be known definitely, is that in certain persons predisposed to the disease any agency which can induce the formation, or liberation, into the circulation, of the necessary poisonous substance in sufficient quantity to cause an epileptic explosion, by its action on the brain cells. may properly be called an exciting cause of epilepsy. That the formation or liberation of such poisonous substances may be caused by reflex action is set forth by Dr. Spratling in the above-quoted statement concerning the etiology of epilepsy and supported by numerous cases related in his book. The list of reflex exciting causes given there (pages 75-122) are dentition, emotional shock, prolonged anxiety, grief or overwork, gastrointestinal disorders, disorders of menstruation either functional or organic, the menopause and pregnancy, masturbation and stricture of the urethra. Nasal and ocular diseases are mentioned as having been claimed by some writers as the cause of epileptic attacks in some instances, but he has not seen any cases due to abnormal nasal conditions, and concerning eyestrain, says:

> I am unable to recall a case of epilepsy in all of my experience in which I felt that defective ocular conditions alone caused the disease.

Let us consider some of the above-named admitted excitants which may properly be compared with nasal or ocular affections as reflex causative factors in epilepsy.

Dentition.—Dr. Spratling says of this:

> It has long been my belief that dentition when severe, and acting on an organism that bears the impress of transmitted weakness of a necessary kind, plays an important rôle in the production of epilepsy in early life.

This view is supported by such eminent neurologists as Gowers, Feré, Hammond, Peterson, Clouston and Voisin. Surely one would be justified in asking, if dentition, why not eyestrain?

Gastrointestinal Disturbances.—Under this heading Dr. Spratling says (page 110):

> The epilepsies due to derangements of this part of the nutritional system are, in my opinion, of greater importance than they are generally supposed to be. By gastrointestinal disorders I do not mean so much to include diseases of the alimentary tract, like chronic diarrhea and ulcers of the stomach, as I do acute indigestion and intestinal toxemias. Irrespective of the absorption of poisonous matter into the blood from the alimentary canal, the irritation of the peripheral nerves (vis-ceral) in this locality may alone cause reflex convulsive phenomena that may persist as epilepsy.

Now, if irritation of the peripheral nerves of an organ like the stomach can produce epileptic attacks, why may not irritation of the ciliary nerves of the eye? It can hardly be claimed that the nerves supplying the muscles of the eyes, intraocular and extraocular, are not as constantly employed or as much abused as those of the stomach. The eye muscles, the ciliary muscles particularly, are working every waking moment of the individual's life; what an opportunity for irritation when there is an optical defect that must be constantly compensated for by muscle action in excess of that the eye was by Nature designed to endure.

Disorders of Menstruation; Onset of Menopause; Pregnancy.—The same author is responsible for the assertion that either functional or organic disorders of menstruation may be causative factors in epilepsy, and that occasionally the menopause, pregnancy or maternity marks the onset of epileptic attacks.

> The pathologic conditions within the abdomen, which may be a factor in causing or increasing the frequency of epileptic seizures, are generally those affecting the ovaries and uterus, the condition having persisted a sufficient length of time to set up reflex nervous symptoms. Anterior and posterior displacements of the uterus with the ovaries and tubes bound down by firm adhesions, also constitute conditions productive of reflex symptoms in various parts of the body and may act unfavorably on the patient's epilepsy.

I have no doubt whatever of the correctness of all this, but physicians who, by daily experience, are familiar with the serious reflex consequences of eyestrain, such as severe headaches, nausea, vomiting and vertigo, must smile at the notion that slight ovario-peritoneal adhesions or urethral strictures can produce more serious effects on the cerebrospinal system than it is possible for eyestrain to do.

Emotional Shock.—No less an authority than Gowers attributes epilepsy to shock in many instances and says: "Of all the immediate causes of epilepsy the most potent are psychic—fright, excitement and anxiety." Now, it seems to me, that if we admit all the other reflex disturbing agents, as exciting causes in epilepsy, it is perfectly ridiculous to argue against the possibility of eyestrain or nasal irritation assuming the same pathologic rôle. No one can read Dr. Spratling's report of the investigations made at Craig Colony by Drs. Gould and Bennett, and his disputes with Dr. Gould thereafter, without being convinced of his unfairness in the matter. His own figures do not bear out his conclusions and his prejudice is most strikingly shown in his refusal to consider glasses of curative value in a case which, according to his own statement, had no epileptic attacks during a period of fifteen months after beginning the use of correcting glasses and suffered a recurrence only after those glasses had been broken. It is noteworthy that in his book he says of eyestrain, that he has not seen a case in which he felt that "defective ocular conditions alone caused epilepsy." If he means by that to eliminate the predisposing factor, he is begging the question, for it has not been claimed that eyestrain or any other reflex would cause epilepsy in an individual not possessed of that weakened nervous system which predisposes to the disease. If he meant, as a casual reader of that sentence is justified in inferring, that eyestrain never produces epilepsy even in a person predisposed to the disease, he is certainly wrong. A host of competent observers, mostly ophthalmologists, have now reported cases of epilepsy cured by treatment of the eyes, either by the wearing of glasses or by the operative correction of abnormalities or defects of the eye muscles. When such reliable and conservative observers as Drs. Samuel Theobald, Myles Standish and Wendell Reber endorse the theory, or report cases of the kind observed, we can not put the question aside as hobby-riding.

Dr. Theobald very kindly permits me to relate here a case observed in his private practice several years ago. In February, 1889, a man 37 years of age, suffering with epilepsy, consulted him because of poor vision and asthenopic symptoms. The following glasses were prescribed for constant wear: Right eye, + 3.Ds = + .50 Dc. Ax. 180; left eye, + 3.50 Ds = + .62 Dc. Ax. 180, which gave perfect vision and normal muscle balance. The patient had been subject to epileptic seizures every three or four weeks and lost at least two days a month from his work. In August, 1900, he reported that the epilepsy had been greatly improved since securing the glasses, but that recently the eyes had again become weak and he had suffered a recurrent attack. Examination disclosed the necessity for a change in the lenses and in November of the same year he reported a comfortable condition, with only slight nervousness and but one-half day's loss of work in four months.

My own clinical experience is as follows:

Case 1.—Miss E. M. A., of Wheeling, W. Va., aged 18, consulted me at the Johns Hopkins Hospital dispensary in July, 1899. She had been under observation in the neurologic department of the same hospital for some weeks and Dr. Thomas, who made the diagnosis of epilepsy, referred the patient to me for an aural examination because of the peculiar aura in the case. She gave the history of having had epileptic attacks at frequent intervals for seven or eight years. The attacks occurred generally in the night or early morning and were repeated from two to four times a month. She awoke with a scream, threw her hands to her ears, attempted to run, and fell unconscious. The seizure was typical of epilepsy inasmuch as she emitted the peculiar cry, frothed at the mouth during the attack, usually bit her tongue and passed from the attack into a deep sleep. On the following day she was usually very weak and suffered a more or less severe headache. The preceding aura consisted in hearing musical sounds and, at times, she complained of tinnitus aurium between the attacks. An aural examination failed to disclose anything abnormal about the ears either in structure or function. During the examination she made some remark which caused me to suspect an abnormal condition of the eyes, and without any idea that this bore any relation to the epileptic condition, and with the notion solely of doing something to make her a trifle more comfortable, I prescribed a mydriatic and instituted a careful examination of her refraction. As a result of this the following glasses were prescribed: Right eye, + 2.50 Ds. = 1 Dc. Ax. 120; left eye, + 2.50 Ds. = + 1 Dc. Ax. 60. The patient was advised to remain in the city in order that Dr. Thomas might have the opportunity of studying her condition, but as she suffered no epileptic seizures during the next two months she was permitted to return to her home. I saw her about one year ago and have recently heard from her through a sister who was passing through Baltimore. Only once in these seven years has she had an epileptic attack, and that occurred at a time when she sent her glasses to Baltimore for repairs and was kept without them for a week.

Case 2.—W. M., aged 20, referred to me by Dr. W. T. Watson on April 12, 1902. His family history presents the following points of interest in connection with his trouble; his mother is a nervous woman, although subject to no particular affections; a brother has suffered from epileptic seizures at irregular periods. Both of these boys had disliked school life, probably finding study painful, but their eyes had never been examined. The patient stated that since 10 years of age he had found it impossible to read or write, especially at night, without great discomfort. He had adopted a trade which required pretty close application during the day and secured some recreation in the evening by attending a gymnasium, where he was fond of exercising with the punching bag, a form of exercise requiring steady and active employment of the eyes. About one week prior to his visit to my office, after a hard day's work and an unusually prolonged séance with the punching bag, he arrived home feeling rather tired, and was shortly afterward seized by an epileptiform attack. His physician, who lived but a few doors away and answered his call promptly, described this to me as of typical epileptic character. An examination under a mydriatic disclosed the existence of 4.50 diopters of hypermetropia in each eye; no astigmatism could be determined either by ophthalmometer or skiascopy and glasses (+ 4 Ds.) were prescribed for constant wear. I heard nothing more of this young man, except that he had gone west, until this summer, when he came to my office to report that he had never suffered any recurrence of the epileptic attack nor headaches, but that on several occasions when his glasses had been broken, while awaiting their repair, he had been more nervous than usual, and at such times could not read with comfort.

Case 3.—Miss E. C., of Spencer, W. Va., aged 20, consulted me Dec. 19, 1905, at the instance of her brother, a physician, who knew Miss A., the patient referred to in Case 1. She had been a victim of headaches as long as she could remember, and abandoned school work at the age of 10 years. Any effort to study or perform close work of any kind rendered her very miserable. Menstruation appeared at the age of 12 years, and shortly after that she began to have epileptic attacks. These attacks continued, occurring always during sleep, and having the character of true epilepsy; she emitted the peculiar cry, developed spasms, became unconscious, frothed at the mouth, bit her tongue, and relapsed into slumber. She would be very weak the next day and suffer intense headache. As a general rule, these attacks occurred during the week preceding or the week following her menstrual periods, but her periods were irregular and the number of attacks varied, averaging, however, more than two a month. Examination of the eyes under a mydriatic gave the following result: Right eye, + 2.50 Ds. = + .50 Dc. Ax. 90; left eye, + 1 Ds. = + 1 Dc. Ax. 90. A full correction was prescribed on December 21, and on March 20, 1906, I received a letter from her in which she says, "I did not think it necessary to write sooner as I have felt so very well since I left Baltimore. My eyes have given me very little trouble since I saw you and I have had but one very slight nervous spell, during which I was not affected as usual, but had only slight muscular twitchings, followed by headache for a few hours."

Case 4.—Miss N. B., of Henderson, N. C., aged 19, examined March 26, 1905, at the request of Mrs. H., a sister of the patient in Case 1. She was a delicate looking girl, but with no history of hereditary disease of any kind. Her mother, who accompanied her, appeared to be of a nervous temperament, and a female cousin, daughter of the mother's sister, was reported to be subject to "nervous spells" without convulsions. Miss B. had been subject to headaches all her life, aggravated by any form of close work and particularly troublesome during the period of school life. The privilege of reading or sewing was denied her because of the knowledge that sick headache would surely follow such employment; though she had never been informed that her eyes were possibly associated with this disability. For five years she had been having "nervous attacks." These began with slight emotional and muscular disturbances. In the earlier ones the face showed rapid emotional changes and the twitching of the facial muscles was followed by general restlessness, moving the arms aimlessly or walking about the room hastily, during which time she seemed to stare into vacancy; she did not completely lose consciousness at such times. The attacks became gradually more severe and more frequent during the following year, having occasionally as many as eight a day, at the end of which period the first typical *grand mal* epileptic convulsion occurred. Occurring always at night, these epileptic seizures recurred with varying frequency, but always more than once a month, for four years. The convulsion was invariably preceded by a shriek and accompanied by frothing at the mouth and biting of the tongue. On the following day she usually suffered from intense headache, accompanied by nausea.

Inasmuch as the beginning of these nervous spells was coincident with the appearance of menstruation it was thought by the family that her troubles might be of a gynecologic nature, but three capable physicians had examined her at different times and agreed in the opinion that there was nothing wrong in that region. Treatment by her family physician not proving beneficial, she was induced by the advertisements in a religious paper to try "Mrs. Converse's treatment," and for two years she had regularly taken this concoction, probably an expensive solution of potassium bromid. Making it clear to the mother that I made no pretense of ability to cure epilepsy, I informed her that, from the history of headaches I considered it important to have the eyes carefully examined, and held out in justification of this the hope of greater comfort in life even if epilepsy was not affected by eye treatment. A mydriatic was ordered, and on examination by skiascopy the following result was obtained: Right eye, + .50 Ds. = + 50 Dc. Ax. 45; left eye, + .50 Ds. = + .50 Dc. Ax. 135. An esophoria of 1 degree at infinity and 4 degrees at reading distance was converted into orthophoria by glasses giving a full correction, and with this vision equalled 20/15. I prescribed the above glasses for constant wear and told them that I believed the headaches would be relieved and that she would probably be able to read and sew with comfort, but that I could not encourage them greatly to hope for a cessation of the epileptic attacks; I was skeptical on account of the low degree of refractive error.

On May 21, 1906, this patient entered my office, and with much pleasure observed that I did not recognize her. The change in her appearance was certainly very marked, and any one might have been excused for not recalling the delicate patient I had first seen. She had been on a visit to New York and had stopped on her way home to tell me that she was perfectly well. Since she began wearing the glasses she has never had any recurrence of the headaches nor convulsions.

When I presented a part of this paper at a recent meeting of the Ophthalmologic Section of the Baltimore City Medical Society, Dr. J. Frank Crouch, in discussing the subject, related two interesting cases of his own experience, the notes of which he has kindly handed me with permission to publish herewith.

Case 5.—Clara K., aged 13, referred by Dr. G. J. Preston in April, 1905. The child for two years had been having severe chorea, for which all ordinary methods of treatment had been tried before she was taken to a specialist on diseases of the nervous system. On their first visit, Dr. Preston informed the parents that he was going to have all her organs examined in turn to try to find some causal factor, and advised them to consult an oculist first. Under atropin I found a hypermetropia of 3.5 diopters in each eye, for which full correction was ordered. The child began to improve at once, and at the end of three weeks was entirely free from choreic manifestations. I kept her under observation for six months and saw no tendency to recurrence.

Case 6.—Mrs. Emma Z., seamstress, was sent to me Nov. 2, 1898, by her physician, on account of severe headaches which occurred whenever any effort was made to use her eyes. Under a mydriatic the following defect was discovered and correction ordered: Right eye, + 1.25 Dc. Ax. 105; left eye, + 3 Ds., which glasses gave her 20/20 in the right and 20/30 in the left eye. After the mydriatic wore off a test of the muscular balance indicated an exophoria of 4 degrees for distance, which was increased to 8 degrees for near. The correction was worn for three months, at the end of which period a tenotomy of the external rectus of the left eye was performed, reducing the exophoria for near work to 1 degree. After the tenotomy the patient became entirely comfortable, using her eyes without pain the entire day.

"One month after operating she incidentally mentioned the fact that on account of her agitation she had forgotten to take a certain medicine which her physician had been giving to her because of fainting spells, and asked whether the operation could have any influence on her nerves, for she had had no recurrence since discontinuing her drugs, a thing which had not been possible for two years. I at once called up her physician, Dr. Wilmer Brinton, to learn the character of the attacks. To my inquiries he replied that the woman undoubtedly had epilepsy, having required large doses of bromids for more than two years. I kept close watch of this patient, making her report at frequent intervals, and at the end of two years, inasmuch as she had no recurrence of epilepsy, dismissed her."

It seems to me that such cases as the six here reported tend to prove that eyestrain is an exciting cause of epilepsy in persons whose constitutional weakness predisposes them to the disease. The removal of one reflex excitant does not, of course, cure the disease; the predisposition is always there, and if the patient be again subjected to eyestrain the attacks will probably recur, or, if the eyes be kept in perfect condition, some other exciting factor, like pregnancy, shock or great anxiety, may precipitate a convulsion. Every case of epilepsy certainly deserves a careful examination of all the special organs, the eyes included, by experts for the purpose of ascertaining and eliminating any possible exciting factor.

Clinical Notes

REPORT OF A CASE OF REMOVAL OF THE GANGLION OF THE FIFTH NERVE FOR TIC DOULOUREUX.

FOLLOWED BY PARALYSIS OF THE SEVENTH NERVE ON THE SAME SIDE.

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FORT WAYNE, IND.

All cases of excision of the ganglion of the fifth nerve should be reported because of the comparative rarity of the operation; but an additional interest attaches itself to the case here reported because of the motor paralysis which followed.

History.—F. P., male, aged 32, had little of note in his personal or family history, except that his father was an alcoholic. The patient lived for a time in Arkansas, but had to move on account of malaria. He was unable to take quinin for this disease, as the drug produced a severe hematuria. He commenced having attacks of pain in the spring of 1889. For these attacks he was treated medicinally and without relief. He also had most of his teeth extracted without, of course, any good resulting therefrom. In 1904 the superior maxillary branch of the fifth nerve was excised; the operation gave him relief for a few months, but the pain returned in the latter part of the same year, when the superior maxillary branch was resected for the second time. These operations were done by Dr. Ross at the Deaconess' Hospital in Indianapolis. The last operation gave relief for a short time only.

Operation and Result.—On Jan. 28, 1905, I operated on the superior maxillary branch of the nerve, removing all of that portion of the nerve lying in the infra-orbital canal, and at the same time resected more than two inches of the inferior maxillary nerve. Relief from this operation was short, and in November of the same year the patient came to Hope Hospital, where I removed the ganglion. A large opening was made in the skull, the dura was lifted, the superior and inferior maxillary nerves were grasped with forceps, pulled well out of their respective foramina and divided. The ganglion was then split from before backward between the ophthalmic and superior maxillary trunks and removed. The aim was to avoid injury to the ophthalmic division of the nerve. The middle meningeal artery was not injured. The hemorrhage, as is usual, was considerable and principally venous, and was controlled by gauze packing. After the removal of the ganglion, the wound was closed with buried catgut sutures, a few strands of catgut being used as a drain. The eyelids were not sewn together. The wound healed by first intention, recovery was prompt, and the man remains, thirteen months after the operation, free from pain. Sensation in the cornea was not completely destroyed, but was lessened by the operation. On the day after the operation, a facial paralysis was noticed on the side of the operation. This paralysis proved to be permanent.

Microscopic Examination.—The report of the pathologist, Dr. B. W. Rhamy, is as follows: "In the section of Gasserian ganglion I find a small amount of leucocytic infiltration, the evidence of a slight chronic inflammation. Also hyperplasia of the interstitial connective tissue, or fibrosis, and some degeneration of ganglion cells, probably from pressure. The condition here is probably the result of chronic hyperemia or inflammation."

Paralysis of the facial nerve, resulting from removal of the ganglion of Gasser, so far as I am aware, has not been reported before. There was no evidence of infection about the wound. There was no traumatism inflicted that could have involved the trunk of the facial, either inside or outside of the cranial cavity, provided it occupied, in this subject, its usual position. But two explanations occur to me, of this unusual sequel, either the paralysis of the facial was a mere coincidence or the course of the nerve was in this subject unusual.

Since this report was written, a third explanation of the cause of the facial paralysis was suggested to me by Mr. Harold Mouser, a medical student of mine, and I am inclined to regard it as the most probable one. He suggested that the facial nerve was traumatized by traction of the chorda-tympani.

INFECTION WITH FLY LARVÆ, *ANTHOMYIA CANALICULARIS.*

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An interesting case of infection with this larvæ was brought to my observation in May, 1906, by Dr. George E. Lyon, Toledo, Ill. With the assistance of Mr. N. C. Gilbert of the University of Wisconsin, a practical zoologist, the identification was made and a search through literature revealed but seventeen cases heretofore reported, as follows: Five in America, five in Germany, and the remainder scattered throughout France, England, Sweden and the Argentine Republic, a rather wide range of territory.

Anthomyia canalicularis is the larva of the very small black house fly so often seen on windows. The flies, which are often found parasitic in man, lay eggs on decaying vegetables, the larvæ varying in size from 1/8 to 1/4 inches in length. The body proper is long and narrow, has developed lateral branchii or gills, and is divided into segments, ten or fourteen, according to age. They are beset bilaterally with feathered bristles, two to each segment. The larvæ are light brown in color, and when passed in the stools are more or less active. They invade the intestine and produce alarming symptoms until vomited up or passed with the feces. The life of the larvæ in the human intestine is about two weeks. They are ingested as eggs and hatched out in the small intestine and are highly resistant to all forms of treatment.

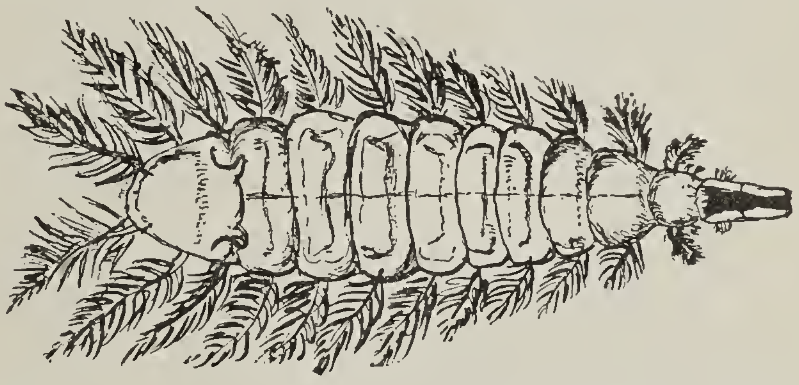
Patient.—B. B., male, aged 30, native of Illinois, single, weight 145 pounds, height 5 feet 5 inches, occupation rural mail carrier.

Personal History.—The patient's habits are good. He drank some beer last summer in hopes of gaining relief. He takes a glass only occasionally now. He lived on farm for twenty years. When six or seven years of age he was troubled with *Ascaris lumbricoides*, but vermifuges relieved all symptoms. The patient was a driver in a livery stable until 27 years old, since which time he has been a rural mail carrier. He has never been in robust health.

Present Illness.—Twelve years ago last June the present illness began. He felt drowsy for a week or two, and the day after a sixteen-mile ride on horseback was attacked with severe abdominal pains, which could not be relieved by home remedies. Treatment by a physician (the nature of which the patient does not know), resulted in a bloody diarrhea, followed by constipation. This condition existed for several months, and was followed by very severe pains in the region of the liver. A diagnosis of pleurisy was made at this time, but the pain continued more or less for about six years, during which interval the patient was markedly constipated. The constipation continued but the pain became transferred from the right hypochondrium to the head, where it existed when the patient was seen. During the past six years the patient has consulted many physicians; has been to various mineral springs and to the dispensary of a medical school; has taken great quantities of "patent medicine," all to no purpose.

Examination.—Patient's condition in April was as follows: Pulse, soft and full; eyes dull, with pupils constantly contracted; respiration normal; temperature normal; appetite indifferent; bowels sluggish; abdomen tympanitic—full even after catharsis. Urine high colored, with much uric and hippuric acid. Pain, severe; constant headache with pains radiating from lumbar region upward along the spine to base of brain.

Treatment.—In April this consisted of: Potassium citrate, saw palmetto, liquid couch grass, fluid extract corn-silk, sandalwood, and compound spirits of ether; capsules containing strychnin, arsenous acid; podophyllum, salol, monobromated camphor and pepsin. This treatment was continued for three weeks and resulted in loss of all pain except frontal headache, but the benefit was only transitory. The patient was then lost sight of until the middle of May. On Saturday, May 19, he began eating raw pumpkin seeds and continued same without food until Tuesday morning, when a saline purge was given. At noon on Tuesday he passed about a quart of fecal matter fairly alive with the larvæ of *Anthomyia*, perhaps 1,000 or 1,500 in all. He was then put on santonin, calomel and male-fern, with no further result than to empty the intestinal tract completely. The abdomen decreased five inches in circumference and patient slept during the two following nights better than for months. An examination of the urine at this time showed nothing abnormal except some spermatozoa, few in number. Three days later a few more larvæ were passed, which showed that the whole colony did not come away at once. The patient's condition since June 1, 1906, was about the same. He continued to pass a few larvæ from time to time for several weeks after the first evacuation. He was then treated for a time by one of the foremost medical men in the middle west, until he located at Colorado Springs, from which place he was reported as improving. On January 21, 1907, the patient reported that he was feeling much better and gaining flesh. He had just returned from Colorado and engaged in business. He reported he was free from headache, but not entirely well, although no reference was made to the larvæ.



Drawing of the larva of *Anthomyia canalicularis* (enlarged) (Braun).

The Evolution of Medical Thought.—Medical science is constantly in a process of evolution. The apparent truths of to-day are the fallacies of to-morrow, and too often the results of the researches of many years are quickly forgotten.—E. B. Young, M.D., in the *Bull. of Am. Acad. of Med.*

AN AMPUTATION RETRACTOR.

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HINTON, W. VA.

For years in doing amputations I have felt the need of some sort of efficient retractor to take the place of the two-tailed or three-tailed cloth retractor commonly used. The cloth sometimes holds the soft parts away from the saw, but frequently does not, the consequence being that the muscles are shredded or bruised enough to cause sloughing, or, on the other hand, the bone is not sawed off high enough the first time.

No instrument catalogue that I know of shows an amputation retractor of any sort, and the surgeons I meet have not heard of such a device, so, as far as I know, I have the only pair of amputation retractors in existence. At first I used two kidney-shaped pieces of sheet copper cut out by hand. By overlapping these around the bone and bending them a little at the periphery to keep one's fingers away from the saw the success of the idea has been demonstrated in numerous amputations. Recently I asked Max Woeher & Son, Cincinnati, to follow up my idea and make me a pair of retractors with convenient handles. The cuts show the result of their efforts, with which I am well pleased.

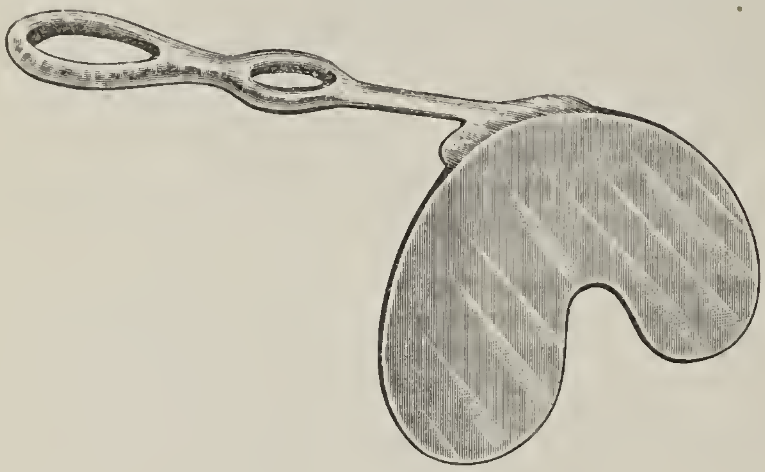

Fig. 1.—The amputation retractor.

The instruments are used in pairs and each consists of a blade to which a handle is rigidly attached at right angles. The convex edge of the blade is a part of a circle six or seven inches in diameter. The concave edge is part of a circle one and a half inches in diameter, gradually widening. The handles are six and a half inches long and attached to the stump side of the blade so as to leave the saw side of the blade smooth. In use, the blades are applied around the bone opposite each other and then overlapped until they fit the bone snugly, when the desired retraction can be made. They will fit a bone of any size, or two bones of different sizes, as in the leg or forearm. By overlapping the blades at various angles the shape of the opening can be modified at will.

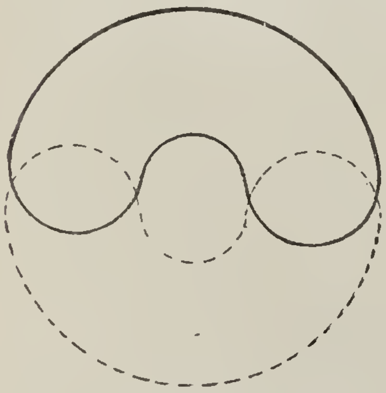

Fig. 2.—The overlapping of blades and the opening left for the bone.

The Safe Kind of Whisky.—Dr. Wiley, of the Department of Agriculture, according to *Harper's Weekly*, says that the safe kind of whisky is that which is bottled; "the records show that whisky left in a bottle has never injured any one seriously."

BITE OF A POISONOUS SPIDER, *LATRODECTUS MACTANS*.

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PEARSON, MD.

The toxic qualities of the spider that is known as *Latrodectus mactans* are not, I believe, generally known. An appropriate name for the spider would be the "T and dot" spider, as the specimen I have seen was coal black with a red T and red dot.

Some weeks ago I was called to see a man who, pulling on his boot, had pressed on one of these spiders with the side of his foot. The spider's bite at the time caused him but little pain or inconvenience. About twenty-five minutes after being bitten, however, acute and agonizing pains occurred all over the body, being particularly severe in the region of the chest. Aqua ammoniæ was applied locally and also administered, well diluted, internally, and previous to my arrival the patient had taken considerable whisky. Morphin sulphate, strychnin sulphate and nitroglycerin were administered hypodermically, and while the latter two drugs may have helped his condition I believe the morphin was of much greater benefit. For about forty-eight hours the symptoms were most severe, the most acute pains lasting for about eight hours; the man did not feel entirely well for about ten days.

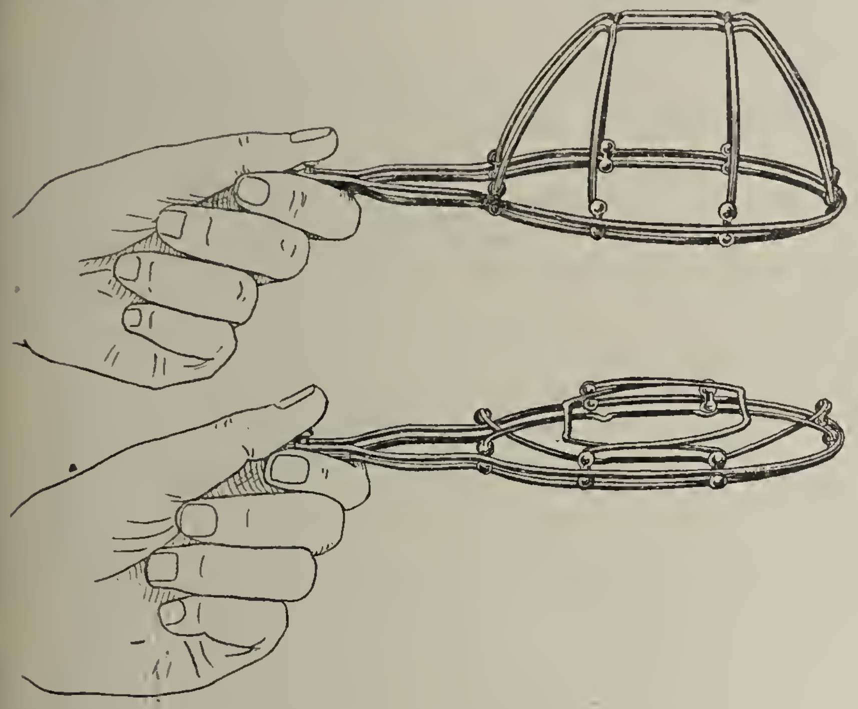
It would seem from this case that the *Latrodectus mactans* must secrete a very concentrated poison which acts, when absorbed, as a direct irritant to the sensory nerves. I am interested to know just what the active principles of this poison are.

[COMMENT: The group of animals referred to belongs in the same subkingdom as the insects, from which they differ, however, in important characters. Several species have gained considerable reputation in medicine. Probably the most noted spider in this respect is *Tarantula fasciventris* of Italy, the bite of which was popularly supposed to cause the disease tarantismus or tarantula dance. Another noted spider is *Latrodectus malmignatus,* which is reported to have produced such fear in Spain in 1830 and 1833 that farmers hardly dared to leave their houses. An American species, *Phydippus tripunctatus,* is reported as causing, by its bite, a swelling, accompanied by great pain, itching and inflammation; chilliness and fever succeed each other in rapid succession and in children and in weak persons convulsions may result; the pain is said to last several days and to disappear only after free perspiration. The so-called "bird spiders" of the tropics are nocturnal animals feared because of their poisonous bites, which are very painful, but probably not so dangerous as claimed. *Aname hentzii* is a bird spider or tarantula sometimes found in the eastern states, and *A. rileyi* is a California species with a still less savory reputation. In 1902 Dr. H. W. Crause published in the Transactions of the State Medical Association of Texas accounts of a number of cases of spider bites observed in Texas. *Latrodectus mactans* has been charged with numerous serious bites in this country, and while some cases have been alleged to end fatally, many of the accounts lack sufficient details to justify any valid judgment. Dr. L. O. Howard has shown that at least some of the cases may have been due to bites of the piratine bugs. Some cases of very severe bites due to *L. mactans* seem, however, to be well established. It is particularly on the glans penis that persons are bitten, when in box privies. —ED.]

FOLDING ESMARCH ANESTHESIA MASK.

VICTOR F. MARSHALL, M.D.
APPLETON, WIS.

The accompanying illustrations show a modification I have made of Esmarch's anesthetic mask. The hoop wires are supplied with joints at the ring base, thus allowing the hoops to be folded on each other. This gives a flat instrument, which lends itself easily to packing into small compass. The modification was worked out owing to the fact that the ordinary surgical and obstetric bags contain too little room. Our modern armamentarium is bulky and economy of space is desirable. The instrument is simple, durable and compact.



A SIMPLE STERILIZER FOR EMERGENCY AND COUNTRY WORK.*

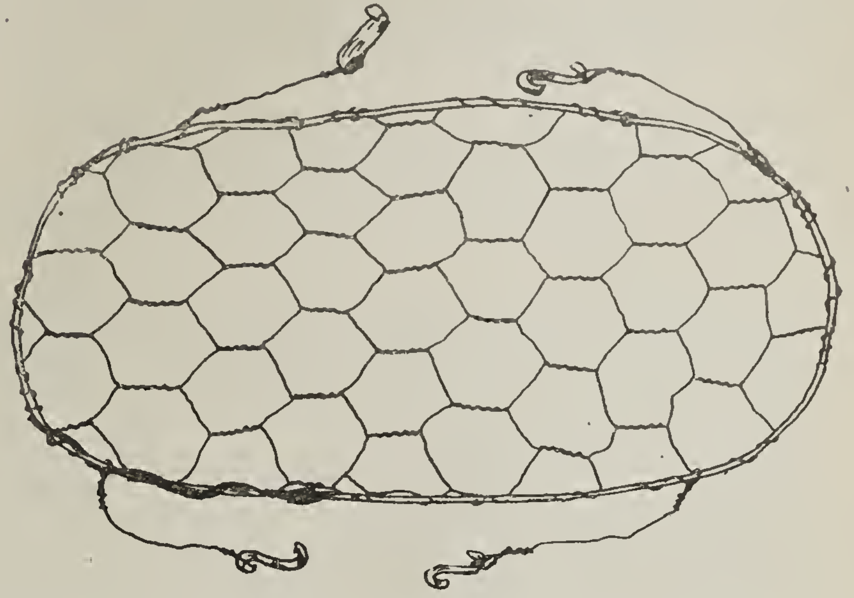
EDWARD S. STEVENS, M.D.
LEBANON, OHIO.

It is one thing to prepare for operative work with the modern pressure sterilizer and other conveniences of the hospital; it is quite another thing to prepare for the same work in a private home, perhaps on a farm at a distance from the operator's office. The device offered is purposely presented in a crude form to show what may be done under such circumstances when the element of time is important. An instrument maker could give us a more sightly instrument. All that is required is a piece of No. 9 or 10 wire, a sheet of wire netting, four cords for suspension and an equal number of metal hooks. In this case poultry netting was used, the cords were wire picture-cord, and the hooks were ordinary picture hooks. But any strong cord will answer and a hook may be speedily fashioned from sheet tin or iron.

The wire is shaped to fit loosely the inside of the house wash-boiler. The wire netting is bent and fastened over this frame, the cords are attached near the ends of the straight sides and are of such length as to let the apparatus into the boiler to within a few inches of the bottom; the hooks attached to the upper ends of the cords are placed over the upper rim of the boiler. This gives a steam sterilizer with considerable space. Boilers are usually found in one of three sizes—most commonly the No. 8.

In using this simple apparatus a few inches of boiling water are placed in the boiler, the sterilizer is hooked over the rim of the boiler, and dressings, bedding and towels may then be steamed as long as may be desired. To prevent the condensation of the steam in the sterilized articles they may be placed for a few minutes in the oven, when they will be found to be dry enough for use.

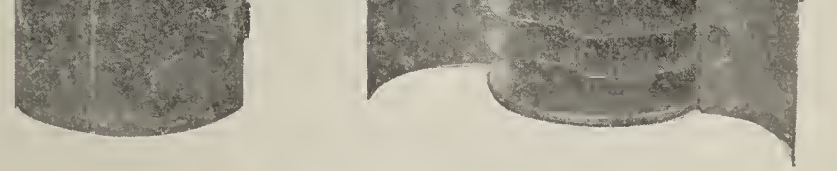
I have found this little apparatus a great time-saver when called on for work which allowed little time for preparation. It is also a convenient article for the nurse who is sent ahead to prepare for the coming of the surgeon. By folding the cords and hooks over the wire netting it may be packed flat and is easily carried.



AN IMPROVED PETRI DISH HOLDER.*

HAROLD O. RUH.
Assistant in Pathology, Indiana University.
BLOOMINGTON, IND.

Any one who has attempted bacteriologic work, involving the use of a large number of Petri dishes, has regretted the lack of a satisfactory Petri dish holder. No holder, satisfactory for the various procedures of sterilization, storage, plating and incubation is on the market. To supply this defect there has been designed the holder here presented.



The figure is self-explanatory. The instrument is made of heavy tin, galvanized iron, or other material that will withstand an ordinary amount of heat and moisture, and is made with pressed joints, without solder. The apparatus has been found satisfactory, so far as tested.

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* Presented at the January meeting of the Warren County (Ohio) Medical Society.

* From the Pathological Laboratory of Indiana University.

THE ATLANTIC CITY SESSION

American Medical Association, Fifty-Eighth Annual Session, Atlantic City, June 4-7, 1907.

OFFICIAL CALL

THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, TO BE HELD AT ATLANTIC CITY, N. J., JUNE 4-7, 1907.

To the Officers and Members of the Constituent State and Territorial Associations of the American Medical Association:

The fifty-eighth annual session of the American Medical Association will be held at Atlantic City, N. J., on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7, 1907.

THE HOUSE OF DELEGATES.

The House of Delegates of the American Medical Association will convene at Atlantic City, N. J., at 10 a. m., on Monday, June 3, 1907. The representation in the House of Delegates of the various constituent associations for the years of 1907, 1908 and 1909 will be as follows:

Alabama	3	Montana	1
Arizona	1	Nebraska	2
Arkansas	2	New Hampshire	1
California	3	New Jersey	3
Colorado	2	New Mexico	1
Connecticut	2	New York	11
Delaware	1	Nevada	1
Dist. of Columbia	1	North Carolina	3
Florida	1	North Dakota	1
Georgia	2	Oklahoma	2
Hawaii	1	Oregon	1
Idaho	1	Pennsylvania	8
Illinois	7	Rhode Island	1
Indiana	4	South Carolina	2
Iowa	3	South Dakota	1
Kansas	3	Tennessee	2
Kentucky	3	Texas	5
Louisiana	2	Utah	1
Maine	1	Vermont	1
Maryland	2	Virginia	3
Massachusetts	6	Washington	1
Michigan	4	West Virginia	1
Minnesota	2	Wisconsin	3
Mississippi	2	Wyoming	1
Missouri	4	Philippine Islands	1
Ohio	6		

The twelve sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health and Marine-Hospital Service are entitled to one delegate each.

FIRST GENERAL OR OPEN MEETING.

The first General Meeting, which constitutes the opening exercises of the scientific functions of the Association, will be held at 10:30 a. m., Tuesday, June 4.

REGISTRATION DEPARTMENT.

The Registration Department will be open from 8:30 a. m. until 5 p. m., on Monday, Tuesday, Wednesday and Thursday, June 3, 4, 5 and 6, and from 9 to 10 a. m. on Friday, June 7.

WILLIAM J. MAYO, President.
GEORGE H. SIMMONS, General Secretary.

PRELIMINARY PROGRAMS OF SECTIONS.

The Papers to be Read at Atlantic City—Announcement About the Official Program.

The following is a partial list of titles of papers to be read before the various sections at Atlantic City. Some other papers are also announced to be read, but the titles have not yet been received. The order here is not necessarily the order which will be followed in the Official Program. This Official Program will be similar to those issued in previous years and will contain the final program of each section, with abstracts of the papers, lists of committees, programs of the General Meetings and of the meetings of the House of Delegates, lists of entertainments, map of Atlantic City, etc. To prevent misunderstandings and to protect the interests of advertisers, etc., it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each member on registration.

SECTION ON PRACTICE OF MEDICINE.

CHAIRMAN, T. D. COLEMAN, AUGUSTA, GA.; SECRETARY, JOSEPH L. MILLER, CHICAGO.

The Early and Premonitory Symptoms of Progressive Pernicious Anemia. John A. Lichty, Pittsburg.

Joint Meeting with the Sections on Surgery, Pathology and Physiology.

The Physiology of the Thyroid Gland in Its Relation to Exophthalmic Goiter. S. P. Beebe.
The Pathology of Exophthalmic Goiter. W. G. MacCallum, Baltimore.
The Diagnosis of Exophthalmic Goiter. Lewellys F. Barker, Baltimore.
Passive Hyperemia of the Lungs and Tuberculosis. Wilder Tileston, Boston.
Some Observations on Digestive Condition in Pulmonary Tuberculosis. James Rae Arneill, Denver.
Investigation of the Continued Fevers of Southern Georgia. H. F. Harris, Atlanta, Ga.
Medical Treatment of Exophthalmic Goiter. Robert B. Preble, Chicago.
The Surgical Treatment of Exophthalmic Goiter. Prof. Albert Kocher, Berne, Switzerland.

The Abdominal Symptoms of Thoracic Disease. Allen A. Jones, Buffalo.
Cardiac and Vascular Accompaniments of Diabetes Mellitus. Arthur R. Elliott, Chicago.
The Venous Pulse and Some of Its Applications. L. C. Grosh, Toledo, and Arthur R. Cushny, London, Eng.
The Tone of the Respiratory Center in Tabes Dorsalis. C. F. Hoover, Cleveland.
The Study of Gastrointestinal Tract by Means of the Roentgen Rays. G. E. Pfahler, Philadelphia.

Joint Meeting with the Section on Pharmacology and Therapeutics.

The Etiology of Acute Articular Rheumatism. Rufus I. Cole, Baltimore.
Symptomatology and Diagnosis of Acute Articular Rheumatism. Philip King Brown, San Francisco.
The Cardiac Complications of Acute Articular Rheumatism. Alexander Lambert, New York City.

Observations on Plague in India Illustrated by Lantern Slides. Judson Daland, Philadelphia.
The Opsonic Theory and Therapeutic Inoculation with Bacterial Vaccines. G. W. Ross, Toronto.
A Critical Estimate of the Fermentation—Specific Gravity Method of Quantitating Sugar in Diabetes. Henry A. Christian, Boston.
Prepared and Predigested Foods. Graham Lusk, New York City.
Experimental Anemia. C. H. Bunting, Charlottesville, Va.
The Uncinarial Anemia of Porto Rico. Bailey K. Ashford and W. W. King, Washington, D. C.
Differential Diagnosis of the Various Types of Anemias. Richard Cabot, Boston.
Treatment of Anemia. S. J. Meltzer, New York.

SECTION ON SURGERY AND ANATOMY.

Chairman, A. D. Bevan, Chicago; Secretary, Harvey Cushing, 3 West Franklin Street, Baltimore.

Chairman's Address: The Responsibility and Training of the Modern Surgeon. Arthur Dean Bevan, Chicago.

Intestinal Perforation in Typhoid Fever. Its Surgical Treatment, with Report of a Case. J. E. Allaben, Rockford, Ill.

An Operation for Exstrophy of the Bladder. John T. Bottomley, Boston.

Subphrenic Abscess as a Complication of Appendicitis. D. N. Eisendrath, Chicago.

Osteoplastic Operations. Prof. E. Küster, Marburg, Germany.

How May Our Present Methods of Medical Illustration be Improved? Max Brödel, Baltimore.

Gall Duct Obstruction Caused by Movable Kidney. Martin B. Tinker, Ithaca, N. Y.

The Technic of Appendectomy. John A. Wyeth, New York.

The Operation of Gastrojejunostomy and Its Physiologic Results. Hobart J. Peterson, London, Eng.

Vaccine Therapy of Surgical Infections Controlled by the Opsonic Index; Reports of Results. L. L. McArthur, Chicago.

The Pelvic Articulations, with Reference to the Differentiation Between Lesions of These Articulations and the Many Pelvic Disorders. Joel E. Goldthwait, Boston.

The Methods of Treating Tuberculous Joint Disease. John Ridlon, Chicago.

Personal Surgical Errors; Foreign Bodies in the Peritoneal Cavity, Etc. Archibald MacLaren, St. Paul, Minn.

Local Anesthesia in General Surgery. James F. Mitchell, Washington, D. C.

Special Session on Ileus.

Colic. Prof. K. G. Lennander, Upsala, Sweden.

Experimental Studies of Intestinal Obstruction. R. D. McClure, Baltimore.

Fig. 1.—Young's Pier—Bureau of Registration and Exhibit Halls. (These illustrations are reproduced from copyrighted photographs kindly furnished by Harper B. Smith, photographer, Atlantic City.)

Bier's Treatment (Stauungs-Hyperæmie) in Chronic and Acute Surgical Infectious Diseases. Willy Meyer, New York.

Combined Section Meeting on Exophthalmic Goiter.

The Physiology of Exophthalmic Goiter. S. P. Beebe, New York.

The Pathology of Exophthalmic Goiter. W. G. MacCallum, Baltimore.

The Diagnosis of Exophthalmic Goiter. L. F. Barker, Baltimore.

Medical Treatment of Exophthalmic Goiter. Robert B. Preble, Chicago.

The Surgical Treatment of Exophthalmic Goiter. Dr. Albert Kocher, Berne, Switzerland.

Physiologic Observations on Experimentally Produced Ileus. Walter B. Cannon and F. T. Murphy, Boston.

The Relation of the General Practitioner to Strangulated Hernia. John B. Roberts, Philadelphia.

Postoperative Ileus. Frank Martin, Baltimore.

Dynamic Ileus. John C. Munro, Boston.

Resection for the Relief of Intestinal Obstruction. W. J. Mayo, Rochester, Minn.

Trigger Finger. Robert F. Weir, New York.

Excision of the Rectum, Sigmoid and Part of Descending Colon, with Implantation of the Colon into the Anus. Edward Archibald, Montreal, Canada.

The Direct Transfusion of Blood. George W. Crile, Cleveland, Ohio.

Diabetes in Surgical Relations. A. E. Halstead, Chicago.

Experimental Pathology and Surgical Treatment of Erysipelas. Ernest Laplace, Philadelphia.

Removal of a Migrating Urinary Calculus from the Concavity of the Ileum. W. D. Haggard, Nashville, Tenn.

Technic of Operation for Cancer of the Breast. Miles F. Porter, Fort Wayne, Ind.

The Paraffin Injection Treatment of Inguinal Hernia. M. L. Harris, Chicago.

A Case of Benign Melanosis. J. Clark Stewart, Minneapolis.

Anatomy of the Palate, Normal and Cleft. Truman W. Brophy, Chicago.

The Management of Dislocation at the Shoulder Joint Complicated by Fracture of the Neck of the Humerus. H. A. Royster, Raleigh, N. C.

The Treatment of Acute Articular Infections. John B. Murphy, Chicago.

The Results of the Operative Treatment of Deformed Fractures. Carl Beck, New York.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Chairman, J. Wesley Bovée, Washington; Secretary, W. P. Manton, Detroit.

Sub-total Abdominal Hysterectomy, with Total Excision of the Gland-Bearing Tissue of the Cervix and a Perfected Restoration of the Supporting Ligaments. William F. Metcalf, Detroit.

Plastic Surgery of the Pelvic Structures. Henry O. Marcy, Boston.

Buried Sutures and Ligatures, Their Material and Proper Use. Walter B. Chase, Brooklyn.

Some Advances in Ureteral and Renal Surgery. Charles Lester Leonard, Philadelphia.

The Surgical Treatment of Ureteral Calculus in the Female. Edgar Gareeau, Boston.

Cystocele. Charles P. Noble, Philadelphia.

Salpingitis Caused by Appendicitis. I. S. Stone, Washington.

A Simplified Method of Operating for Cystocele. D. Todd Gilliam, Columbus.

The Early Diagnosis of Tubal Pregnancy. Philander A. Harris, Paterson, N. J.

Constitutional Ill-Equipment of the Patient as a Factor in Determining the Performance of the Primary Cesarean Section. Edward Reynolds, Boston.

The Induction of Labor to Prevent Dystocia from Excessive Size of the Child. William S. Stone, New York.

Fig. 2.—The Marlborough-Blenheim, the million dollar pier and the City Park.

Chairman's Address: The Status of the Fight Against Cancer of the Uterus. J. Wesley Bovée, Washington.

How Can We Lessen the Mortality of Uterine Cancer? E. E. Montgomery, Philadelphia.

Parasitic Uterine Myomata. Thomas S. Cullen, Baltimore.

Prevention of Peritoneal Adhesions by Adrenal-Salt Solution with Especial Reference to the Pelvis. Emery Marvel, Atlantic City, N. J.

Postoperative Intestinal Obstruction. C. C. Frederick, Buffalo.

The Prevention and Treatment of Postoperative Intestinal Obstruction. Daniel H. Craig, Boston.

Successful Treatment of Acute Postoperative Ileus by Incision and Drainage of the Intestine, with Report of Four Cases. Francis D. Donoghue, Boston.

Ovary and Ovarian Tumors in the Inguinal Canal; Rare Condition; Report of Two Cases. J. H. Carstens, Detroit.

Prolapse of the Ovary and Its Treatment. George Gray Ward, Jr., New York.

Gonorrhea in Women. H. J. Boldt, New York.

Unrecognized Gonorrhea in the Female. S. W. Bandler, New York.

Surgical Treatment of Puerperal Infection. George H. Noble, Atlanta, Ga.

Examination of Gynecologic Patient. A. H. Goelet, New York.

The Syncytium. Laura H. Branson, Iowa City, Iowa.

Uterine Sarcoma. Ellice McDonald, New York.

SECTION ON OPHTHALMOLOGY.

Chairman, G. C. Savage, Nashville, Tenn.; Secretary, Albert E. Bulson, Jr., Fort Wayne, Ind.

Chairman's Address: G. C. Savage, Nashville, Tenn.

Address: What America Has Done for Ophthalmology. Alvin A. Hubbell, Buffalo.

Address: What Europe Has Done for Ophthalmology. R. A. Reeve, Toronto, Can.

Address: Modern Views on Physiology and Pathology of Accommodation. Prof. Carl Hess, Würzburg, Germany.

Cataract Extraction: (I) Is the Case Operable? (II) Preparation of the Patient; (III) The Anesthetic. E. E. Jack, Boston, Mass.

The Incision for the Extraction of Cataract and the Iridectomy. John E. Weeks, New York City.

The Delivery of the Lens for the Extraction of Cataract; Irrigation of the Anterior Chamber, and the First Toilet of the Wound. L. Webster Fox, Philadelphia.

The Immediate After-Treatment of Cataract Operations (with bandage). William H. Wilder, Chicago.

The Immediate After-Treatment of Cataract Operations (without bandage). J. W. Scales, Pine Bluff, Ark.

Operations for Secondary Cataract. Peter A. Callan, New York City.

Does the Opacity of Incipient Cataract Ever Regain Transparency? Leartus Connor, Detroit.

Concerning Loss of Vitreous Humor in the Operation for the Extraction of Cataract. J. M. Ray, Louisville, Ky.

Yeast Cells as a Probable Cause of Ulcerative Keratitis. George F. Keiper, Lafayette, Ind.

Ligation of the Common Carotid Artery for Malignant Recurrent Hemorrhage of the Vitreous. George S. Derby, Boston, Mass.

Neuro-Fibroma of the Orbit; Kronlein Operation. W. R. Parker, Detroit, Mich.

Metastatic Conjunctivitis in Gonorrhea. James J. Carroll, Baltimore.

The Preventive Treatment of Transferred Ophthalmitis (so-called Sympathetic Ophthalmia). Charles A. Oliver, Philadelphia.

Premiums Paid to Experience. (The Results Obtained in Private Practice from Therapeutic Measures, Compiled from a Statistical Study of 5,000 Cases.) F. T. Rogers, Providence, R. I.

The Value of Tuberculin TR as a Diagnostic and Therapeutic Agent in the Recognition and Treatment of Tuberculosis of the Eye. With Report of Cases. Charles S. Bull, New York City.

The Relation of the Circumlental Space to the Causation of Glaucoma, as Shown by the Würdemann Lamp. John A. Tenney, Boston.

Comparative Potency of Hyoscine and Scopolamin Hydrobromid in Refraction Work. Wendell Reber, Philadelphia.

The Surgical Treatment of Chronic Glaucoma. S. D. Risley, Philadelphia.

The Parabolic Reflector for Illuminating Test Charts. Mortimer Frank, Chicago.

The Treatment of Ulcers of the Cornea. H. Bert Ellis, Los Angeles.

The Treatment of Purulent Ophthalmia. George H. Price, Nashville, Tenn.

Fig. 3.—Thousands at play in the surf and on the strand. A typical bathing scene.

Some Considerations in the Treatment of Lachrymal Obstruction. Mark D. Stevenson, Akron, Ohio.

A Method of Performing Tenotomy which Enables the Operator to Limit the Effect as Required. Frank C. Todd, Minneapolis.

The Treatment of Strabismus in Young Children. A. R. Baker, Cleveland, Ohio.

The Congenital Palsies of Eye Muscles. William C. Posey, Philadelphia.

Ocular Rotations in Paresis. Francis Valk, New York City.

Ocular Neurasthenia. Hiram Woods, Baltimore.

A Protest Against the Employment of Paraffin Injections Near the Eyes. A. E. Davis, New York City.

Further Observations on Retinitis Punctata. H. Gradle, Chicago.

Myopia Associated with Opacities of the Cornea. W. L. Pyle, Philadelphia.

Indications for the Employment of Adrenalin Chlorid, in Connection with Cocain, in Operations on the Eye. Samuel Theobald, Philadelphia.

The Treatment of Iritis. E. C. Ellett, Memphis, Tenn.

The Treatment of Interstitial Keratitis. H. H. Martin, Savannah, Ga.

The Treatment of Recent Trachoma. Thomas A. Woodruff, Chicago.

The Treatment of Chronic Trachoma. A. E. Prince, Springfield, Ill.

SECTION ON LARYNGOLOGY AND OTOLOGY.

CHAIRMAN, S. MACCUEN SMITH, PHILADELPHIA; SECRETARY, W. SOHIER BRYANT, NEW YORK CITY.

Chairman's Address: S. MacCuen Smith, Philadelphia.

Address: Prof. Gustav Killian, Freiburg.

Chemistry of the Saliva and Nasal Secretions, and Its Relation to Hay Fever. D. Braden Kyle, Philadelphia.

Etiology and Recent Treatment of Hay Fever. H. Holbrook Curtis, New York.

Address: Prof. Theodore Gluck, Berlin.

Anatomy of the Middle Turbinate. Hanau W. Loeb, St. Louis.

Pathology of the Middle Turbinate. Joseph L. Goodale, Boston.

Non-operative Treatment of Middle Turbinate Diseases. Joseph A. Stucky, Lexington, Ky.

The Indications for Resection of the Middle Turbinal. William E. Casselberry, Chicago.

Technic of the Operation for Removal of the Middle Turbinate. George L. Richards, Fall River, Mass.

Pathologic Results of Operations on the Turbinates. Francis R. Packard, Philadelphia.

The Treatment of Hypertrophic and Intumescent Rhinitis with the Galvano-Cautery. E. Fletcher Ingals and Stanton A. Friedberg, Chicago.

The Larynx in Locomotor Ataxia. W. G. B. Harland, Philadelphia.

Intranasal Suture. Sidney Yankauer, New York.

Demonstrations of Gastroscope. Chevalier Jackson, Pittsburg.

A New Method for All the Ordinary Sequences of Anesthesia. Victor C. Pederson, New York.

The Indications for Operative Interference in Central Affections Due to Middle Ear Suppuration. Cullen F. Welty, San Francisco.

Phlebitis Following Middle Ear Disease. James F. McKernon, New York.

Unexpected Aural Effects of a Few Ordinary Drugs. George B. McAuliffe, New York.

SECTION ON DISEASES OF CHILDREN.

Chairman, J. R. Snyder, Birmingham, Ala.; Secretary, A. H. Wentworth, Boston.

Chairman's Address: The Status of the Child. J. Ross Snyder, Birmingham, Ala.

Some Needs of Institution Children. John Ruhräh, Baltimore.

The New Era in Pediatrics; Its Causes and Scientific Foundations. G. R. Pisek, New York.

The Relation of the Physician to Defective School Children. W. C. Hollopeter, Philadelphia.

Fig. 4.—The new Traymore and Brighton Casino.

The Pathology of Middle Ear Suppuration. Henry O. Reik, Baltimore.

Acute Middle Ear Suppuration. Norval H. Pierce, Chicago.

Conservative Treatment of Chronic Suppuration of the Middle Ear. Samuel Theobald, Baltimore.

The Cleansing Treatment of Chronic Middle Ear Suppuration. W. Sohier Bryant, New York.

Ossiculectomy in Chronic Middle Ear Suppuration. Frederick L. Jack, Boston.

Some Important Surgical Relations of the Temporal Bone. George E. Shambaugh, Chicago.

The Major Operative Treatment of Middle Ear Suppuration and the Indications for the Same. Edward B. Dench, New York.

The Furtherance of Natural Repair with Reference to the Preservation of Hearing in Suppurative Otitis Media. Clarence J. Blake, Boston.

A Preliminary Report on the Etiology of Infantile Atrophy. A. H. Wentworth, Boston.

The Greatest Menace to Whole Milk in Cities' Supply. Alexander McAllister, Camden.

Certified Milk and the General Milk Supply of Louisville. Henry Enos Tuley, Louisville.

The Ferments of Milk and Their Relation to Pasteurization. Roland G. Freeman, New York.

The Disadvantages of Low Proteids in Infant Feeding. Alfred Hand, Jr., Philadelphia.

The Relation of Pathologic Conditions of the Nasopharynx to the Dental Arches. E. A. Bogue, New York.

Adenoids in Infancy. John Lovett Morse, Boston.

The Opsonic Index in the Tuberculosis of Children: Its Relation to the Tuberculin Test. Thomas Morgan Rotch, Boston.

Prophylaxis in Cerebrospinal Meningitis. A. Seibert, New York.

The Early Recognition of Pneumonia in Infants and Young Children and Its Treatment. W. P. Northrup, New York.

Empyema in Children. Melvin W. Franklin, Philadelphia.

The Importance of the Early Recognition and Treatment of Rachitis. Thomas S. Southworth, New York.

Tardy Malnutrition; Its Treatment by Rest and Diet. Charles Gilmore Kerley, New York.

So-called Scrofula in Children. C. F. Wahrer, Fort Madison.

Symptom-Complex of a Series of Intestinal Cases in Children, with Pathologic Findings. Thomas D. Parke, Birmingham.

Four Hundred and Fifty Cases of Whooping-Cough Treated by Means of the Abdominal Belt. Theron Wendell Kilmer, New York.

Urinary Infections in Infancy. Isaac A. Abt, Chicago.

Enteroptosis in Children. W. J. Butler, Chicago.

Observations on Malformations of the Rectum and Imperforate Anus. Samuel W. Kelley, Cleveland.

Clinical Observations in the Acute Infectious Diseases, with Bedside Notes from the Willard Parker Hospital. Practical Deductions with Therapeutic Suggestions. Louis Fischer, New York.

A Case of Spasmodic Stricture of the Esophagus. Samuel S. Adams, Washington.

An Interesting Case of Incontinence of Feces in an Undersized Boy of Six Years. Maurice Ostheimer, Philadelphia.

The Percussion of the Chest in Infants and Children. S. McC. Hamill, Philadelphia.

Essential Insufficiency of the Heart in Childhood. Arthur Willard Fairbanks, Boston.

Differential Diagnosis Between Measles and Rötheln. H. M. McClanahan, Omaha.

The Diagnosis and Treatment of Convulsions in Children. H. Lowenburg, Philadelphia.

Scarlatina and Dukes' Disease. A. C. Cotton, Chicago.

SECTION ON STOMATOLOGY.

CHAIRMAN, M. I. SCHAMBERG, NEW YORK; SECRETARY, EUGENE S. TALBOT, CHICAGO.

Chairman's Address: M. I. Schamberg, New York City.

The Necessity of a Medical Education for Dentists:
- (a) From the Standpoint of the Lay Public. M. L. Rhein, New York City; H. C. Register, Philadelphia, and James McManus, Hartford, Conn.
- (b) From Standpoint of Physician. V. A. Latham, Chicago.

The Common Ground of Dentistry and Medicine. F. L. Fossume, New York City.

The Mutual Developmental Dependence of the Upper Air Tract, the Jaws, the Teeth, the Face and Their Economic Importance to the Human Race. W. Sohier Bryant, New York City.

The Relation of Upper Respiratory Obstruction to Oral Deformity; Simultaneous Treatment by Expansion of the Dental Arch. Francis A. Faught, Philadelphia.

Speech Results of Cleft Palate Operations. George V. I. Brown, Milwaukee.

Technic of Lip and Palate Operations. Thomas Fillebrown, Boston.

False Statements Concerning Causes of Pathologic Conditions. S. B. Luckie, Chester, Pa.

Acid Autointoxication, the Principle Cause of Erosion and Abrasion. Eugene S. Talbot, Chicago.

Some Results from Orthodontia on the Deciduous Teeth. E. A. Bogue, New York City.

Osteomyelitis of the Maxilla. Samuel L. Goldsmith, New York.

A Case of Epidermoid Carcinoma of the Inferior Maxilla. W. H. Potter, Boston.

Pregnancy: A Factor in the Etiology of Dental Diseases. James E. Power, Providence, R. I.

The Dentist in the United States Navy. Richard Grady, Annapolis.

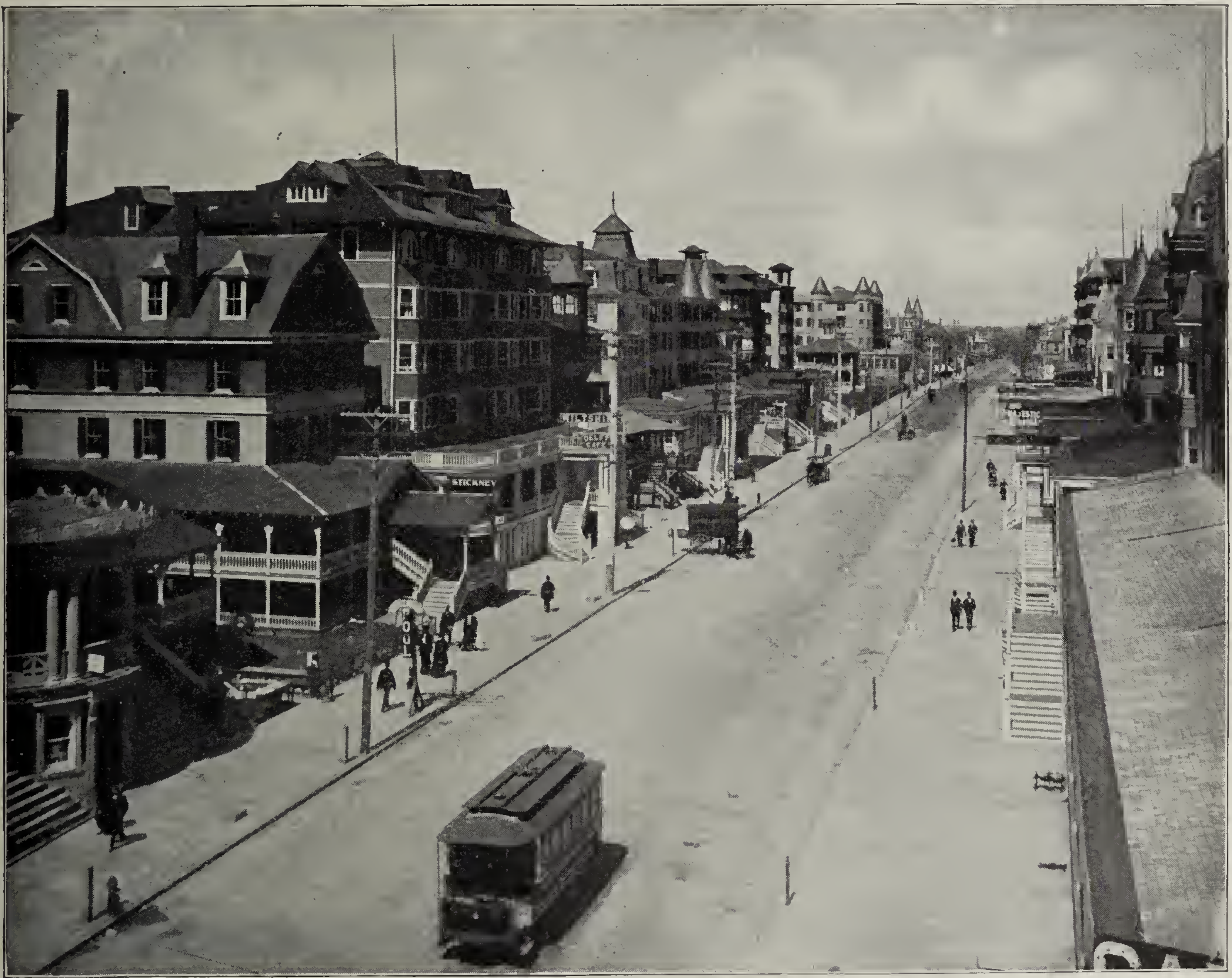


Fig. 5.—Virginia Avenue. A street of hotels and boarding-houses.

The X-Ray an Aid to the Stomatologist. R. G. Richter, Milwaukee.

Radiography in Oral Surgery, with Demonstrations of a Focus Finder and Ray Localizer. G. E. Pfahler, Philadelphia.

SECTION ON CUTANEOUS MEDICINE AND SURGERY.

Chairman, R. R. Campbell, Chicago; Secretary, M. L. Heidingsfeld, Cincinnati.

Chairman's Address: R. R. Campbell, Chicago.

Deformities of the Vulva from Early and Late Indurating Edema. R. W. Taylor, New York City.

Ten Years' Experience with the Injection Treatment of Syphilis. W. S. Gottheil, New York City.

Syphilitic Varicella. David Lieberthal, Chicago.

Blastomycosis in an Infant. J. B. Kessler, Iowa City, Iowa.

Significance and Treatment of Itching. L. Duncan Bulkley, New York City.

The Present Status of Phototherapy. Jay F. Schamberg, Philadelphia.

An Exhibition of a Case. J. V. Shoemaker, Philadelphia.

Pemphigus. Joseph Zeisler, Chicago.

Pemphigus Neonatorum. O. H. Foerster, Milwaukee.

Opsonic Therapy in Skin Diseases. H. R. Varney, Detroit.

Onychomycosis. A. Ravogli, Cincinnati.

Roentgen Ray Technic in Dermatology. M. K. Kassabian, Philadelphia.

The Therapeutics of Tuberculous Lesions of the Skin. Granville MacGowan, Los Angeles.

Treatment of Acne and Chronic Eczema. R. H. Boggs, Pittsburg.

SECTION ON PATHOLOGY AND PHYSIOLOGY.

Chairman, Walter L. Bierring, Iowa City, Iowa; Secretary, Walter B. Cannon, Boston.

Chairman's Address: The Need of Medical Cooperation in Laboratory Work. Walter L. Bierring, Iowa City, Iowa.

Fig. 6.—Inlet Yacht Wharf at the end of the Boardwalk.

Report of a Series of Cases of Small Pustular Scrofulide (Duhring). J. Frank Wallis, Norristown, Pa.

Report of a Case of Miliary Tuberculosis of the Skin. Grover William Wende, Buffalo, N. Y.

Seborrhoids of Face. M. F. Engman and W. H. Mook, St. Louis.

Lichen Scrofulosorum in America. H. G. Anthony, Chicago.

The Vessel Changes and Other Histologic Features of Cutaneous Syphilis. J. A. Fordyce, New York City.

The Differential Diagnosis of Syphilis (Illustrated by Lantern Slides). W. T. Corlett, Cleveland.

Lupus Erythematosus: Clinical and Pathologic Considerations (Demonstrated from Lantern Slides). M. L. Heidingsfeld, Cincinnati.

Trichopathophobia. A. D. Mewborn, New York City.

Liquid Air in Dermatology; Its Indications and Limitations. H. H. Whitehouse, New York City.

The Occurrence of Typhoid Bacilli in the Stools of Typhoid Patients, with a Discussion of the Pathogenesis of Typhoid Fever. J. H. Pratt, F. W. Peabody and A. D. Long, Boston.

Proteid-soap Compounds and Microchemical Reactions of Pure Fats and Lipoids with Sudan III and Scharlach R. L. K. Baldauf, Albany, N. Y.

Recent Work on the Mechanism of Urine Formation. Torald Sollmann, Cleveland, Ohio.

Observations on the Rate of Elimination of Uric Acid in Man. Lafayette B. Mendel and Ernest W. Brown, New Haven, Conn.

Further Observations Concerning Metabolism in Acute Leukemia and Purpura Hemorrhagica. David L. Edsall, Philadelphia.

Specific Nature of Opsonins. Joseph McFarland, Philadelphia.

A Demonstration of the Value of the "Nephelometer" in Making Opsonic Estimations. Joseph McFarland, Philadelphia.

The Opsonic Index in Experimental Infection. L. Hektoen.

The Determination of the Alkalinity of the Blood. H. M. Adler, Boston.

The Determination of the Molecular Concentration of Blood Plasma. J. H. Young, Boston.

A Quantitative Method for the Determination of the Acetoacetic Acid in Urine. O. F. Black, Boston.

A New Indicator for Free Mineral Acids. H. M. Adler, Boston.

Experimental and Clinical Observation on Chronic Valvular Disease in the Dog. Harvey W. Cushing, Baltimore.

Joint Meeting with the Section on Practice of Medicine.

The Physiology of the Thyroid Gland in Its Relation to Exophthalmic Goiter. S. P. Beebe, New York City.

Adenomyoma of Uterus. Thomas S. Cullen, Baltimore.

Diffuse Carcinoma of the Stomach, Esophagus and Duodenum. Henry A. Christian, Boston.

Further Study of Peptic Ulcer. Fenton B. Turck, Chicago.

Coagulation Necrosis. D. H. Bergey, Philadelphia.

Joint Meeting with the Scientific Exhibit.

The Movements of the Esophagus After Bilateral Vagotomy. W. B. Cannon, Boston.

Experiments on Gastric Secretion. L. Kast, New York.

Experiments with the Proteolytic Ferments. Joseph Sailer and C. B. Farr, Philadelphia.

Experimental Study of a Probable Internal Secretion of the Salivary Glands. John C. Hemmeter, Baltimore.

Simultaneous Sphygmomanometric Pressures as Modified by Posture. Winfield Scott Hall and A. H. Sanford, Chicago.

A Further Contribution to the Physiology of the Suprarenal. F. C. Busch, Buffalo.

Fig. 7.—The Atlantic Yacht Club.

Fig. 8.—The Boardwalk and its roller chairs.

On the Pathology of Exophthalmic Goiter. W. G. MacCallum, Baltimore.

Symptomatology and Diagnosis of Exophthalmic Goiter. Lewellys F. Barker, Baltimore.

Medical Treatment of Exophthalmic Goiter. Robert B. Preble, Chicago.

The Surgical Treatment of Exophthalmic Goiter. Prof. August Kocher, Berne, Switzerland.

The Experimental Production of Epithelial Proliferation. Guthrie McConnell, St. Louis.

Observations on the Experimental Transplantation of Tumors in Dogs. S. P. Beebe, New York City.

The Treatment of Experimental Tumors in Dogs with Bacterial Toxins. S. P. Beebe and Martha Tracy, New York City.

Observations on the Occasional Failure of the Radial Pulses When the Arms Are Elevated Above the Head. Henry Sewall, Denver.

Further Remarks on the Causative Factor in the Production of the Dermatitis of Ground Itch (Uncinariasis). Claude A. Smith, Atlanta, Ga.

The Estimation of the Dried Weight of the Total Bacteria in the Feces and Its Clinical Significance. J. Dutton Steele, Philadelphia.

Are the Intestines Able to Propel Their Contents in an Antiperistaltic Direction? Edwin Beer and Carl Eggers, New York City.

An Explanation of the Seasonal Prevalence of Typhoid. M. J. Rosenau, Washington, D. C.

Value of Opsonic Index as a Guide to Treatment and Diagnosis. William H. Park, New York.

SECTION ON NERVOUS AND MENTAL DISEASES.

Chairman, Morton Prince, Boston; Secretary, T. H. Weisenburg, Philadelphia.

Chairman's Address: Morton Prince, Boston.

Certain Affections in Children Commonly Classed as Hysteria. William N. Bullard, Boston.

Hysteria; Its Nature and Its Position in Nosology. F. X. Dercum, Philadelphia.

Psychasthenia; Its Clinical Aspects and Nosologic Status Among Mental Disorders. J. W. Courtney, Boston.

The Motor Phenomena of Chorea. Frank R. Fry, St. Louis.

A Study of 437 Cases of Alcoholie Insanities. Alfred Gordon, Philadelphia.

The Influence of the Ductless Glands Over Metabolism, with Illustrative Cases. Leo M. Crafts, Minneapolis.

Acute Unilateral Ascending Paralysis. Carl D. Camp, Philadelphia.

Landry's Paralysis; Recovery; Partial Relapse, and Complete Recovery. John K. Mitchell, Philadelphia.

Subacute Combined Cord Degeneration, with Report of 20 Cases. Julius Grinker, Chicago.

Facial Hemiatrophy. Theo. Klingmann, Ann Arbor, Mich.

Changes in the Peripheral Blood Vessels in Erythromelalgia and Raynaud's Disease. B. Sachs, New York.

The Removal of a Subcortical Cystic Tumor at Second Stage Operation Without Anesthesia. H. M. Thomas and Harvey W. Cushing, Baltimore.

Report of a Case of Intracranial Tumor Resulting from Traumatism. William M. Leszynsky, New York.

The Differential Diagnosis of Tumors of the Cerebellopontile Angle. T. H. Weisenburg, Philadelphia.

Hemicraniosis and Cure of Brain Tumor by Operation. William G. Spiller, Philadelphia.

Brain Tumor with Jacksonian Spasm and Unilateral Laryngeal Paralysis; the Growth Localized and Removed. John L. Atlee, Lancaster, and Charles K. Mills, Philadelphia.

The Significance of Changes in the Optic Nerves in Certain Affections of the Cerebrospinal System. William Campbell Posey, Philadelphia.

THE NEW JEFFERSON MEDICAL COLLEGE
THE JEFFERSON COLLEGE LABORATORIES
THE NEW JEFFERSON MEDICAL COLLEGE HOSPITAL
THE OLD JEFFERSON COLLEGE HOSPITAL

New Jefferson Medical College buildings, Philadelphia, to be dedicated June 7 (*vide infra*).

Contribution to the Clinical Study of Arteriosclerosis. George L. Walton and W. E. Paul, Boston.

The Mental State in Aphasia. C. W. Burr, Philadelphia.

The Present Status of the Clinical Study of Aphasia. James Hendrie Lloyd, Philadelphia.

An Inquiry into the Methods and Technic of Deep Alcoholic Injection for Neuralgia. D'Orsay Hecht, Chicago.

Deep Injections of Alcohol for Trifacial Neuralgia, with Report of Cases. Hugh T. Patrick, Chicago.

Surgery of the First, Second and Third Cervical Nerves. Charles H. Frazier, Philadelphia.

Unusual Forms and Relationships of Migraine. James Jackson Putnam, Boston.

A New Clinical Type of Ascending Myelitis Due to Vertebral Involvement. G. M. Hammond, New York.

Spinal Cord Changes Following a Grave Anemia, with Disappearance of All Symptoms. J. W. McConnell, Philadelphia.

The Herpetic Inflammation of the Geniculate Ganglion, with Especial Consideration of the Aural Complications. J. Ramsay Hunt, New York.

The Psychology of Dementia Præcox. Smith Ely Jelliffe, New York.

Amentia and Dementia. Philip Coombs Knapp, Boston.

Injuries of the Spinal Cord. Alfred Reginald Allen, Philadelphia.

Syringomyelia and Syringobulbia. J. H. W. Rhein, Philadelphia.

Sensory Dissociation as a Symptom. L. Harrison Mettler, Chicago.

Nervousness; Its Significance and Treatment. John Punton, Kansas City, Mo.

Psychic Treatment of Spirit and Drug Neurotics. T. D. Crothers, Hartford, Conn.

Headache as a Symptom of Local Disorders. Frederic Coggeshall and William E. MacCoy, Boston.

The Relationship Between Referred Visceral Pain, the Sympathetic System and Various Methods of Therapy. S. D. Ludlum, Philadelphia.
Senile Trepidant Abasia. E. W. Taylor, Boston.
A Remarkable Case of Jacksonian Epilepsy with Frequent Attacks, Confined for a Year and a Half to the Muscles of the Right Eyeball. W. P. Spratling, Sonyea, N. Y.
A "Functional" Change in Myeline Sheaths. E. E. Southard F. W. Gay, Boston.

SECTION ON HYGIENE AND SANITARY SCIENCE.

Chairman, Prince A. Morrow, New York City; Secretary, Elmer E. Heg, Seattle, Wash.

Chairman's Address: Hygiene in Relation to Heredity. Prince A. Morrow, New York.

Symposium on the Hygiene of the Family in Relation to the Productive Energy and Health of the Offspring.

- The Influence of Gonorrhea as a Factor of Depopulation. Joseph Tabor Johnson, Washington, D. C.
- Syphilis as a Cause of Depopulation and Race Deterioration. Edward L. Keyes, Jr., New York.
- Gonococcus Infection as a Cause of Blindness—Vulvovaginitis and Arthritis. J. Clifton Edgar, New York.
- Artificial Childlessness and Race Suicide. J. Newton Hunsberger, Skippack, Pa.

Symposium on Pure Water Supply and Sewage Purification.

- Necessity of State Control of Inland Waters. H. M. Bracken, Minneapolis.
- Stream Pollution and Its Prevention. Methods of Obtaining Water. Quality and Quantity of Water from Different Sources. Variations. X. G. Goodnough, Boston.
- Filtration of Water. Harry C. Clark, Boston.
- Modern Methods of Sewage Purification and the Relative Applicability. George C. Whipple, New York.
- Sewage Purification by Septic Tanks and Chemical Precipitation. George T. Moore, Washington, D. C.
- The Relation Between Bacteria in Ice and Typhoid Fever, Based on Bacteriologic and Clinical Investigation. William H. Park.

Symposium on Pure Milk Supply, Municipal Regulations, Etc., by Charles Harrington, Boston; Thomas Darlington, New York; John S. Fulton, Baltimore, and G. W. Goler, Rochester, N. Y.

Symposium on Tuberculosis.

- State's Province in the Study and Prevention of Tuberculosis. J. B. Ransom, Dannemora, N. Y.
- Public Provision for Advanced Cases of Tuberculosis. Edward O. Otis, Boston.
- Public Provision for Incipient Tuberculosis. Sanatoria and Dispensaries. C. C. Browning, Monrovia, Cal.
- Educational Propaganda for the Prevention of Tuberculosis. Livingston Farrand, New York.
- The Question of Climate in the Treatment of Pulmonary Tuberculosis. Paul Paquin, Asheville, N. C.

Modern Hospital Construction. Illustrated with Lantern Slides. W. Gilman Thompson, New York.
Hospital Construction. Albert J. Ochsner, Chicago.
Smoke in Relation to Health. Abraham Jacobi, New York.
What Should be the Attitude of the Profession Toward the Hygiene of School Life? Richard C. Newton, Montclair, N. J.

SECTION ON PHARMACOLOGY AND THERAPEUTICS.

Chairman, H. C. Wood, Jr., Philadelphia; Secretary, C. S. N. Hallberg, Chicago.

Address of the Chairman. H. C. Wood, Jr., Philadelphia.
Address of Prof. J. Remington, Philadelphia, Chairman of Delegation from American Pharmaceutical Association.
Report of the Secretary. C. S. N. Hallberg, Chicago.
Report of Committee on the U. S. Pharmacopeia. Oliver T. Osborne, New Haven, Conn., Chairman.
The U. S. Pharmacopeia. Robert Hatcher, New York.

Symposium on Gallstones.

Medical Treatment of Cholelithiasis. George Dock, Ann Arbor.
- The Indications for Surgical Treatment of Cholelithiasis. Charles H. Frazier, Philadelphia.

The Treatment of Diabetes Mellitus. James Tyson, Philadelphia.
The Relations of Iodin to the Thyroid Gland. Reid Hunt, Washington, D. C.
Pathophysiology and Therapeutics. George F. Butler, Chicago.
A Study of the Effect of Drugs on Coagulation of the Blood. William Egbert Robertson, G. Morton Illman and Harry A. Duncan, Philadelphia.
The Effects of Hydrastis and Its Alkaloids on Blood Pressure. William Whitridge Williams, Cleveland, Ohio.
A Study of the Bromin Compounds, with Especial Reference to Strontium Bromid. William J. Robinson, New York.

Joint Session with the Section on Practice of Medicine. Symposium on Acute Rheumatism.

- The Prophylaxis and General Management of Acute Rheumatic Fever. Solomon Solis-Cohen, Philadelphia.
- Specific Treatment of Acute Articular Rheumatism or Treatment with Salicylates. N. S. Davis, Chicago.

The Connection of "M.D." with Proprietary Remedies. H. W. Wiley, Washington, D. C.
Materia Medica and Pharmacy in Hospital Practice. Martin I. Wilbert, Philadelphia.
A Plea for a More Thorough Course in Practical Pharmacy and Prescription Dispensing in Our Medical Schools. M. Clayton Thrush, Philadelphia.

SCIENTIFIC EXHIBIT.

Frank B. Wynn, Indianapolis, Director.

The Scientific Exhibit consists of two parts:

1. Continuous Demonstrations.

These are of gross and microscopic specimens; of apparatus, models, charts, photographs, etc., and are conducted by those personally in charge of the respective exhibits. The exhibits represent great variety and many are noteworthy in character.

2. Amphitheater Demonstrations.

These formal demonstrations will occur on Wednesday and Thursday afternoons from 2 o'clock to 5, and will be participated in by W. M. L. Coplin, Charles H. Frazier, W. S. Halsted, Ludvig Hektoen, F. Robert Zeit, W. G. MacCallum, M. P. Ravenel, Richard C. Cabot, Lawrence F. Flick, J. M. McCarthy, J. E. Greiwe, W. S. Hall and others.

REGISTRATION.

Suggestions and Rules for the Guidance of All Who Will Attend the Session.

The Registration Department will be on Young's Pier. For admission to the different section meetings, exhibits and entertainments, it will be necessary for every member of the Association to register his name, and those of his guests, and to obtain the official badges provided by the Committee of Arrangements. No one will be admitted to any meeting or entertainment without a badge.

The Registration Department will be open from 8:30 a. m. to 5 p. m. on Monday, Tuesday, Wednesday and Thursday, June 3, 4, 5 and 6, and on Friday, June 7, from 9 to 10 a. m.

Members are requested to observe the following directions:

1. Each physician desiring to register will fill out a registration card.

2. Each member who has paid his annual dues in full will present his pocket card and this registration card at a window marked "Registration by Receipt."

3. The registration of members who have paid their dues, but who have lost their receipts, will require a moment or two of extra time, while the records are consulted.

4. Members who have not yet paid their dues will present registration card and make payment at a window marked "Cash."

5. Each applicant for membership will present his registration card at a window marked "New Members Make Application Here," with a certificate that he is a member in good standing in his state society. (Every such prospective member, however, will save himself delay and annoyance by sending in his application before the session. All such letters should be mailed not later than May 25, to the American Medical Association, 103 Dearborn Avenue, Chicago, as the records have to be packed and shipped to Atlantic City early.)

6. Each member on registration will receive a badge, a copy of the Official Program, and such other announcements as may be necessary.

America's Greatest Resort.

ATLANTIC CITY—WHERE THE ASSOCIATION HAS BEEN WELL ENTERTAINED TWICE.

W. BLAIR STEWART, A.M., M.D.
ATLANTIC CITY, N. J.

Atlantic City, the playground for the whole world and the greatest seaside health resort, has grown from a few summer cottagers in 1854 to a city of 40,000 permanent citizens. Dr. Jonathan Pitney of Absecon, N. J., a member of our own profession, recognized in the large island of sand five and one-half miles to the southeast of the New Jersey coast the unprecedented advantages for giving his patients the open-air treatment for disease. While not the first to visit Absecon Island, for that is the name of the island on which Atlantic City is located, he was practically the real promoter of the present magnificent city.

The first railroad to Atlantic City was built in 1850 and with it gradually came the summer cottager and permanent resident. It was only the matter of a few years before the beneficial qualities of the air and the peculiar geographic location of the island five and one-half miles at sea and facing the south dawned on the physicians of Philadelphia and other nearby eastern cities. The phenomenal growth of the city and the gradual recognition of its merits are now the matters of history.

With a permanent population of 40,000 we increase to 300,000 by the height of the season in August; and, what is more gratifying, this large army is properly housed, dined and entertained. The capacity of the hotels without crowding ranges from 1,100 down to the small boarding-house and cottage. With 100 large hotels, over 800 smaller hotels and boarding-houses, and about 8,000 cottages and other buildings, one can readily realize the ease with which one's comforts can be met. Atlantic City's one aim is the entertainment and comfort of her guests; she can not be classed as a manufacturing or commercial center. Our terminus is in the ocean and our only commodities in trade are fresh air, sunshine, good accommodations, wholesome food, pure water and the pleasure and health of our guests.

The ocean and beach front with its six miles of Boardwalk are the leading attractions. What more can one wish? The continuous ebbing and flowing of the tides, the never-ceasing rolling and breaking of the waves, the ever-present line of whitecapped billows, the gentle song of the sea, sometimes fine and mild and at other times rough and boisterous, all tend to make the initial visit of the stranger one grand dream. Lost to the world; lost to self; all care and trouble forgotten; silent sentimentalisms; pleasurable emotions; poetic thoughts; hours of admiration—the typical reveries of the tenderfoot's first view of the ocean. Is it any wonder that trouble is forgotten, health benefited and cares neglected?

THE BOARDWALK.

Atlantic City's Boardwalk is unique, and nowhere in the world can you find its duplication. A steel structure with a Georgia pine deck, elevated from five to fifteen feet above the beach, six miles long and twenty to sixty feet in width. On one side is an unobstructed view of the ocean and beach while the other is lined by hotels, places of amusement and bazaars. It is on this structure that you will find a regular kaleidoscopic moving mass of humanity representing every state in the Union and every civilized nation of the earth. "Babel let loose," as one expressed it. In fact, "Meet me on the Boardwalk at Atlantic City" has become one of the world's bywords.

Five piers, each over 1,000 feet in length, extend from the Boardwalk into the sea, and on them one can find amusement, recreation, fishing or a peaceful rest at all times of the year. Open in summer and heated in winter, the music halls provide the very best high-class music. Sitting on the extreme end of the piers in an easy chair, watching the rolling waves, is the full equivalent of a real sea voyage, but lacking the roll and toss of the vessel and the too oft experienced seasickness.

At night one can imagine himself in fairyland under the myriad thousands of small electric lights overhead and all around, for the Boardwalk and many buildings are one blaze of light. This illumination alone more than repays one for the trip to this city.

RECREATION.

Yachting and fishing are two forms of entertainment and recreation always available. Here one can have a sail on the bays and thoroughfares on smooth water or directly on the ocean, where the roll and toss of the waves are fully experienced. Atlantic City is not a port of entry and does not afford the presence of an idle, undesirable, illiterate class of rough seafaring men. The whole city and Boardwalk are so carefully policed at all times of the day and night that ladies can come and go without escort or fear of molestation.

The Country Club, located at Northfield, seven miles away, affords every opportunity for golf and other outdoor sports at all seasons and can be reached by trolley at any hour. So varied are the many sources of amusement, exercise and recreation that "dull care" never finds opportunity. Stormy and rainy days? Yes, we have a few, but a trip to Atlantic City is not complete without an opportunity to see the "demons of the deep toss the spray and waves into a fury not soon to be forgotten." Not dangerous when viewed from a hotel window or the Boardwalk, but often disastrous to the poor mariner at sea in a frail craft.

The sewage plant of Atlantic City works on the gravity system. The sixty miles of sewer pipes flow into a common station, whence the sewage is pumped through large pipes into Beach Thoroughfare, several miles back of the city, where billions of gallons of sea water ebb and flow twice daily. So complete is the dilution of the sewage by the time it reaches the ocean in front of the city that it can not be detected by the most delicate tests. Atlantic City is the only seashore resort on the Atlantic Coast that does not discharge its sewage into the ocean directly in front of the city. The plant's average pumping capacity for 1906 exceeded 8,000,000 gallons daily.

WATER SUPPLY.

No purer water supply is given to any city than the mixed artesian and cedar water of Atlantic City. There are fifteen active artesian wells that supply 4,000,000 gallons of the purest, clear, sparkling water obtainable at any place. With new appliances being installed, it will be possible to increase the output of these wells sufficiently to supply the entire demand of Atlantic City for water from October to June. The present daily consumption during the months of October to June is 6,500,000 gallons. In August, 1906, it required 10,200,000 gallons daily to supply the city. The additional water comes from a protected cedar-grown watershed entirely free from possible contamination. The last monthly examination of the water supply made by Dr. Henry Leffman and Dr. David H. Bergey of Philadelphia showed a strictly safe and potable water, nearly chemically pure, with no suspicious bacteria of any kind. Many of the largest hotels supply their own water of purest quality from artesian wells driven to a stratum 800 to 900 feet deep. There are no fresh-water streams or ponds within six miles of Atlantic City, hence a scarcity of mosquitoes and a positive absence of malarial influences.

CLIMATE.

The climate of Atlantic City is so pleasant, balmy and sunshiny on the average that thousands no longer seek health in the South, but spend their time here. This is more and more recognized each year by physicians, who send their convalescents by the thousands at all times of year. The Weather Bureau of the United States Department of Agriculture, located in Atlantic City, reports, during thirty-three years, an average of 61 per cent. of sunshine; 123 clear days; 137 partly cloudy days, and 105 cloudy days. The normal temperature in January is 32; February, 33; March, 39; April, 48; May, 58; June, 67; July, 72; August, 73; September, 68; October, 57; November, 46; December, 36; annual average, 52. These temperature ranges apply to the weather bureau station, but not to the Boardwalk. Here the average winter temperature is from two to ten degrees higher, while the summer temperature is two to ten degrees cooler. This is due to the protected southerly exposure, the warmer water radiations in winter and the cooler in summer. Invalids take advantage of these facts and are able to spend at least 65 to 70 per cent. of their time on the Boardwalk. From October to March the prevailing wind is northwest; from April to September it is southwest.

The rolling-chair habit has grown to such phenomenal proportions that not only do invalids use these easy vehicles, but the average visitor can make use of them as he would of the busses and carriages. This affords every opportunity to enjoy the climatic influences and the beauties of the sea. The classes of invalids most benefited are convalescents, anemics, patients who have been operated on, neurasthenics, debilitated and diseased children, overfatigued business men and women; those with incipient tuberculosis, malaria, heart affections and catarrhal conditions (for a limited time); about 50 per cent. of rheumatic and asthmatic patients, and all who need fresh air, sunshine, exercise, relaxation and rest. Every facility is offered by the City Hospital, sanatoria and private cottages for any form of treatment within the range of modern medicine and surgery. Surf bathing, hot and cold sea-water bathing and treatments are available. It is unnecessary to advise the profession at large of the merits and demerits of climatic influences, but it is well to caution against hoping for things impossible by sending patients in the last stages of disease away from comfortable homes to die in a hotel or a boarding-house at this or any other resort.

The general health of Atlantic City's population is remarkably good, largely on account of climate, the wholesome food and water supply and an efficient health law that is strictly enforced. Typhoid fever is practically unknown except for a few cases that are imported each year. The public schools have a system of medical inspection conducted by eleven regular physicians. By this means and by the action of the board of health contagious diseases are limited to a very few cases.

THE CITY ITSELF.

Just a word or two about the city in general: There are ten school buildings graded to the highest standard, preparing scholars for any college; thirty churches representing all denominations; a most efficient paid fire department of fourteen separate companies; an efficient corps of municipal lifeguards and medical men on the beach during surf-bathing seasons; eight banking institutions and trust companies of the highest rank—in fact, everything that goes to make an up-to-date city. There is no city in the world better able to care for conventions of all sizes and to give almost unlimited accommodation of the very best kind without crowding and overcharging. An influx of 10,000 to 20,000 people is no longer a novelty, and they are so well cared for and with such little effort that their presence is scarcely noticed except on the Boardwalk.

Our hotels range from the palatial beach front structures of steel and concrete to the more unobtrusive little boarding-houses on the side streets. Money has not been spared in providing for the comforts of their guests. One can find every home comfort at command winter and summer. The rates charged by these hotels are within the reach of all and are proportionately low when compared with other cities. Many of them supply hot and cold fresh and sea-water baths with each suite of rooms. Special diet kitchens for the preparation of food for invalids and the sick are noticeable features of the best hotels. For the benefit of those who expect to attend the coming convention of the American Medical Association in Atlantic City a list of approved hotels is appended. In engaging rooms it is best to communicate directly with the hotel desired for reservations. There will be no crowding of guests because of lack of room, as ample provision has been made for every one who comes. Below is given a list of the leading Atlantic City hotels, with the location, capacity and rates, a list of headquarters and a list of section meeting places.

The general headquarters for registration, information and exhibits will be located on Young's Pier, Tennessee Avenue and the Boardwalk, where every one is requested to register immediately on arrival in Atlantic City. The Bureau of Information on this pier will give all data respecting hotels, meeting places and other points desired.

EXCELLENT RAILROAD SERVICE.

Probably no other city of its size has a better railroad service than Atlantic City. The Pennsylvania, the Reading, the Jersey Central and the electric lines all maintain the finest equipment of their systems on their Atlantic City branches. The tracks are all stone ballasted and protected by the automatic signal system. The fastest express trains run at very frequent intervals. It is a noticeable fact that out of the thirteen fastest trains maintained in the world, nine are scheduled on the Atlantic City systems. Speed, safety, comfort and luxury are the watchwords of the railroads. Special cars and trains will be made up and run through to Atlantic City without change for the coming session in June. The passenger associations have granted an excursion rate of one first-class fare plus $1. The present return limit is June 10. The Transportation Committee is endeavoring to have a further extension, and if it is obtained due notice will be given in The Journal. Special attention is also called to the Souvenir Booklet, to be mailed by the regular medical profession of Atlantic City about May 1, to every member of the American Medical Association. This, with the circular from the local Committee of Arrangements, will supply additional data and take the place of the usual Souvenir Booklet given out at the time of the session.

The local Committee of Arrangements has made every preparation for an exceptionally large meeting and extends a hearty welcome to every member of the American Medical Association who can possibly attend the Atlantic City session. Entertainment has been provided for the visiting ladies and guests and members of the Association. These functions will be announced at the time of registration. Additional information will be gladly given by the members of the local committee, the personnel of which follows:

Committee on Arrangements.

W. Blair Stewart, Chairman, North Carolina and Pacific Avenues.
Edward Guion, Secretary. J. Addison Joy, Treasurer.

COMMITTEE ON FINANCE.

Eugene L. Reed, Chairman.
W. Edgar Darnall, J. Addison Joy, Philip Marvel, W. M. Pollard, Walter Reynolds.

COMMITTEE ON HALLS AND MEETING PLACES.

Walt Ponder Conaway, Chairman.
E. S. Sharpe, M. L. Somers, I. E. Leonard.

COMMITTEE ON COMMERCIAL EXHIBIT.

Edward Guion, Chairman.
H. Stokes Doriss. Thomas S. Githens.

(All correspondence concerning the reservation of space for exhibits should be addressed to the American Medical Association, 103 Dearborn Avenue, Chicago.)

COMMITTEE ON ENTERTAINMENT.

Emery Marvel, Chairman.

Andrew L. Atherton, Clara K. Bartlett, David Berner, Walt P. Conaway, Elisha C. Chew, W. Price Davis, L. Webster Fox, Charles H. Frazier, E. L. B. Godfrey, Edward Guion, Edwin H. Harvey, W. Atlee Hickman, Milton S. Ireland, William E. Jonah, J. Addison Joy, Bernard R. Lee, Alexander Marcy, Joseph C. Marshall, Philip Marvel, Paul M. Mecray, Victor M. Metzler, James C. T. McVay, Ely E. Parker, Ross V. Patterson, William M. Pollard, Edward J. Porteous, Eugene L. Reed, Thomas K. Reed, George Scott, James W. Snowball, Jesse B. Thompson, R. Woolbert.

CITIZEN'S COMMITTEE ON ENTERTAINMENT.

Col. Savery Bradley, Harry Bacharach, Elwood Bartlett, Albert T. Bell, Walter Buzby, William S. Cochran, Harry B. Cook, Harry H. Deakyne, W. B. Dill, Hon. Allen B. Endicott, Charles Evans, Walter E. Edge, Brinkle Gummy, Newlin Haines, Louis Kuhnle, J. Haines Lippincott, Harry Leeds, Daniel Myers, Jacob Myers, Col. Thomas Potter, Frederick Robbins, Hon. Franklin P. Stoy, Ernest Shackelford, Charles D. White, John J. White, Harry Wallace.

COMMITTEE ON PROGRAM, PRINTING, ETC.

George Scott, Chairman.

Clara K. Bartlett, Clarence Garrabrant, Emery Marvel.

COMMITTEE ON HOTELS.

William E. Jonah, Chairman.

J. C. T. MeVay, W. Price Davis.

COMMITTEE ON BUREAU OF INFORMATION.

Milton S. Ireland, Chairman.

A. E. Ewens, Nevin B. Werst. W. F. Ridgway.

COMMITTEE ON BADGES.

Clara K. Bartlett, Chairman.

Mary E. Townsend, E. J. Porteous, Eugene L. Reed, W. A. Hickman, J. F. DeSilver, A. L. Atherton.

COMMITTEE ON ALUMNI AND SECTION ENTERTAINMENTS.

James W. Snowball, Chairman.

A. B. Shimer, J. C. Marshall, David Berner, Joseph F. DeSilver, Victor W. Metzler, Thomas G. Dunlap.

COMMITTEE ON SCIENTIFIC EXHIBIT.

Edward J. Porteous, Chairman.

Samuel Barbash, W. C. Wescott.

COMMITTEE ON REGISTRATION.

Edward J. Porteous, Chairman.

Samuel Barbash, W. C. Wescott.

COMMITTEE ON LADIES' ENTERTAINMENT.

Mrs. A. D. Cuskaden, Chairman.

Mrs. W. Blair Stewart, Mrs. W. E. Darnall, Mrs. M. L. Somers, Mrs. James North, Mrs. T. G. Dunlap, Mrs. W. H. Walling, Mrs. W. M. Pollard, Mrs. George Scott, Mrs. J. A. Joy, Mrs. J. C. T. MeVay, Mrs. Edward Guion, Mrs. W. A. Hickman, Mrs. Philip Marvel, Mrs. E. J. Porteous, Mrs. T. K. Reed, Mrs Emery Marvel, Mrs. H. Stokes Doriss, Mrs. M. L. Ireland, Mrs. C. Garrabrant, Mrs. A. L. Atherton, Mrs. E. H. Harvey, Mrs. W. Price Davis, Mrs. Joseph DeSilver, Dr. Clara K. Bartlett, Dr. Mary E. Townsend, Mrs. Reiley, Mrs. Edwin Sharpe, Mrs. C. E. Filbert, Mrs. I. E. Leonard.

MEETING PLACES.

Convenient and Commodious Places for the Various Sections and General Meeting.

The following is a list of the various meeting places arranged by the Atlantic City Committee for the various General Meetings and for the several sections:

Opening Session (Tuesday at 10:30 a. m.)................ Auditorium, Young's New Pier
Evening Sessions (Orations)............Casino Hall, Steel Pier
House of Delegates ....Tower Observation Hall, Hotel Traymore
Trustees' Room..........................Marlborough House
Practice of Medicine...................Casino Hall, Steel Pier
Surgery and Anatomy...................Music Hall, Steel Pier
Obstetrics and Diseases of Women......Dance Hall, Steel Pier
Diseases of Children...........Ocean Parlor, Hotel Traymore
Laryngology and Otology.......................... Baptist Church, Pacific and Pennsylvania Aves.
Ophthalmology .... First Presbyterian Church, Pacific and Pennsylvania Aves.
Nervous and Mental Diseases...............Brighton Casino
Hygiene and Sanitary Science...........Sun Parlor, Steel Pier
Cutaneous Medicine and Surgery...................... Park Avenue Hall, Hotel Marlborough
Pathology and Physiology..Dennis Sun Parlor, Dennis Hotel and Scientific Exhibit Hall for special meetings on Young's Pier.
Pharmacology and Therapeutics.......Ocean Hall, Marlborough
Stomatology.......Casino Hall, Committee Room No. 1, Steel Pier
Registration and Branches Bureau of Information.... Main Entrance, Young's Old Pier
Postoffice, Telegraph, Telephone and Bureau of Information Marine Hall, Young's Old Pier
Commercial and Scientific Exhibits................ Marine Hall, Young's Old Pier
President's Reception ....Music Hall, Steel Pier
Ladies' Afternoon Tea.............Hotel Marlborough-Blenheim

ATLANTIC CITY HOTELS.

Ample Accommodations for All will be Found Easily in This City of Hotels.

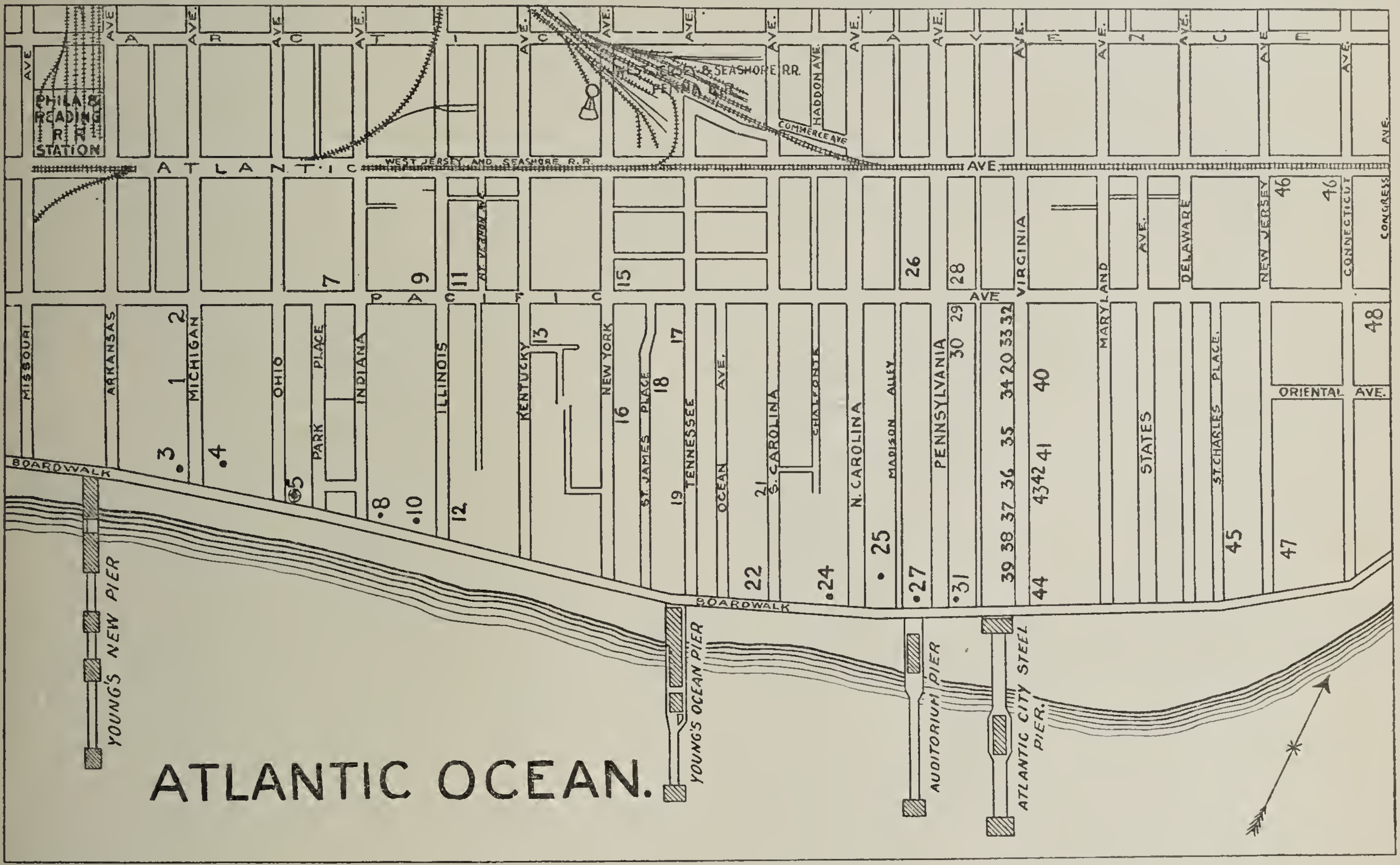
HEADQUARTERS.

Officers and General Headquarters......Marlborough-Blenheim
Practice of Medicine...........................Hotel Dennis
Surgery and Anatomy ....Hotel Chalfonte
Obstetrics and Diseases of Women...............Haddon Hall
Diseases of Children ....Hotel Traymore
Ophthalmology ....Hotel Seaside
Laryngology and Otology ....Hotel Strand
Nervous and Mental Diseases.................Hotel Brighton
Hygiene and Sanitary Science ....Hotel St. Charles
Cutaneous Medicine and Surgery ....Marlborough-Blenheim
Pathology and Physiology...................Hotel Shellburne
Pharmacology and Therapeutics ....Marlborough-Blenheim
Stomatology ....Hotel Traymore

The following alphabetical list of the leading hotels of Atlantic City gives the address of each, the capacity, the plan whether European, American or both—and the rates per day for one person. The numbers in parentheses following the names refer to the location on the map. The hotels given in capital letters are those which have been selected as headquarters for the various sections, etc.:

Abbey (11), Pacific and Mt. Vernon Aves.; 350; American and European; $1.50 to $2.50.
Acme (13), 123 So. Kentucky Ave.; 40; American; $1.50 to $2.50.
Albemarle (32), Virginia Ave., near Beach; 350; American; $2 to $5.
Albion, Atlantic and Massachusetts Aves.; 150; European; $1 to $2.
Algonquin, South Carolina Ave., near Beach; 100; American; $1.50 to $3.
Archdale, St. James Place, near Beach; 150; American; $2 to $2.50.
Ardmore (37), Virginia Ave., near Beach; 125; American; $2 up.
Atglen, 20 So. Michigan Ave.; 150; American; $1.50 to $2.
Bates' Inlet Hotel, Inlet and Boardwalk; 35; European; $1 to $1.50.
Beaumont (18), 136 So. Tennessee Ave.; 200; American; $1.50 to $2.50.
Berkshire Inn (43), Virginia Ave., near Beach; 300; American; $2 to $5.
Beyer's, Maryland and Arctic Aves.; 20; American and European; Amer., $1.50 to $2.
Bingham (15), Pacific and New York Aves.; 100; American and European; $1.50 to $2.50.
Bothwell (39), Virginia Ave., near Beach; 250; American; $2.50 to $5.
BRIGHTON (8), headquarters Nervous and Mental Diseases; Indiana Ave. and Boardwalk; 300; American; rates on application.
Cedarcroft (22), South Carolina Ave., near Beach; 250; American; $2 up.
CHALFONTE (24), headquarters Surgery and Anatomy; North Carolina Ave. and Boardwalk; 600; American; $4 up.
Chelsea, Morris and Brighton Aves. and Boardwalk; 500; American; $4 to $10.
Cheltenham, Virginia Ave.; rates on application.
Clabby, Tennessee and Atlantic Aves.; 50; men only $1 to $3.
Clarendon (33), Virginia Ave., near Beach; 300; American; $2, $2.50 and $3.
Colwyn, 21 So. Michigan Ave.; 150; American; $1.50 up.
Continental, Tennessee Ave., between Atlantic and Pacific Aves.; 500; American and European; $1.50 to $2.50.
Davenport, South Carolina Ave., near Beach; 200; American; $1.50 to $2.50.
DENNIS (4), headquarters Practice of Medicine; Michigan Ave. and Boardwalk; 600; American; $3.50 to $6.
Earl-Mar Hall, Vermont Ave. and Beach; 300; American; $2 to $5.
Eastbourne (7), Pacific Ave., opposite Park Place; 50; American; $2.50 to $4.
Ebbitt House, 127 St. James Place; 100; American; $2 to $2.50.
Edison (2), Michigan and Pacific Aves.; 250; American and European; Amer., $1.50 up; Europ., $1 up.
Elberon, Pacific and Tennessee Aves.; 300; American; $1.50 to $2.50.
Elwood, St. James' Place, near Beach; 150; American; $1.50 to $3.50.
Fredonia (19), Tennessee Ave., near Beach; 250; American and European; Amer., $2 to $2.50; Europ., $1 to $2.
Galen Hall (48), Connecticut and Pacific Aves.; 350; American; rates on application.

Garden (9), Illinois and Pacific Aves.; 300; American and European; Amer., $3 to $6; Europ., $2 up.
Garman, Atlantic and New Jersey Aves.; 50; American; $2.
Gladstone, Brighton Ave. and Beach; 150; American; $3 to $6.
Grand Atlantic (41), Virginia Ave., near Beach; 500; American; $2.50.
Greater Pittsburgh, 142 So. Tennessee Ave.; 100; American; $1.50 up.
HADDON HALL (25), headquarters Obstetrics and Diseases of Women; North Carolina Ave. and Boardwalk; 450; American; rates on application.
Hygeia, New York and Pacific Aves.; 200; American; $2 up.
Iroquois (21), South Carolina Ave., near Beach; 400; American and European; Amer., $2.50 to $4.
Islesworth (44), Virginia Ave. and Boardwalk; 500; American; $2.50 to $3.50.
Kentucky, Kentucky Ave., near Beach; 200; American and European; $2 to $2.50.
Larsen, 2117 Pacific Ave.; 165; American; $1 up.
Loraine, St. Charles Place, near Beach; 200; American; $3 to $5.
Malatesta, Atlantic and North Carolina Aves.; 200; American and European; Amer., $2 to $2.50.
MARLBOROUGH-BLENHEIM (5), general headquarters; also Cutaneous and Pharmacology; Ohio Ave., Park Place and Boardwalk; 1,100; American and European; Amer., $4 to $10; Europ., $2 to $8.
Mason's, 8 So. Maryland Ave.; 20; European; $1 up.
Miller Cottage and Annex, 9 No. Georgia Ave.; 250; American; $1 to $1.25.
Monticello, Kentucky Ave., near Beach; 300; American; $2 to $3.50.
Reade, 613 Pacific Ave., above New Jersey Ave.; 150; American and European; Amer., $2 to $2.50; Europ., $1 to $1.50.
Roanoke, 23 So. New York Ave.; 150; American; $2 up.
Rudolf (47), New Jersey Ave. and Boardwalk; American; $2.50 to $5.
ST. CHARLES (45), headquarters Hygiene and Sanitary Science; St. Charles Place and Boardwalk; 300; American; $3 to $7.
St. Clare, Pennsylvania Ave., near Beach; 135; American; $2 to $3.
St. Elmo, 120 So. Tennessee Ave.; 100; American; $1.25 to $2.
St. James, St. James Place, near Beach; 65; American; $2 to $3.
Scarborough, Beach front at Maryland Ave.; American; $2.50.
SEASIDE HOUSE (31), headquarters Ophthalmology; Pennsylvania Ave. and Beach; 275; American, $3.50 to $10.
SHELBURNE (3), headquarters Pathology and Physiology; Michigan Ave. and Boardwalk; 300; European; $1.50 up.
Sothern (36), Virginia Ave., near Beach; 200; American; $2 to $3.
STRAND (27), headquarters Laryngology and Otology; Pennsylvania Ave. and Boardwalk; 300; American; $3.50 to $6.
Strath-Haven, Kentucky Ave., near Beach; 125; American; $1.50 to $2.50.
Tracy (17), 112 So. Tennessee Ave.; 75; American and European; Amer., $1.50 to $3; Europ., $1 up.
TRAYMORE (10), headquarters Pediatrics and Stomatology; Illinois Ave. and Boardwalk; 600; American; $4 up.
Vermont, Vermont Ave., near Beach; 150; American; $1 to $3.
Victoria (20), 117 So. Virginia Ave.; 30; American; $1.50 to $2.
Warwick, South Carolina Ave. and Beach; 100; American; $2.50 to $3.50.
Wenz Hotel and Restaurant, Atlantic and New York Aves.; 60; American and European; Amer., $1.50 up; Europ., $1 up.



1. Pennhurst.
2. Edison.
3. Shelbourne.
4. Dennis.
5. Marlborough-Blenheim.
6. High School.
7. Eastbourne.
8. Brighton.
9. Garden.
10. Traymore.
11. Abbey.
12. Windsor.
13. Acme.
14. Postoffice.
15. Bingham.
16. New Holland.
17. Tracy.
18. Beaumont.
19. Fredonia.
20. Victoria.
21. Iroquois.
22. Cedarcroft.
24. Chalfonte.
25. Haddon Hall.
26. Baptist Church.
27. Strand.
28. Presbyterian Church.
29. Postoffice.
30. New Chatham.
31. Seaside House.
32. Albemarle.
33. Clarendon.
34. New Belmont.
35. Raymond.
36. Sothern.
37. Ardmore.
38. Wiltshire.
39. Bothwell.
40. Cheltenham.
41. Grand Atlantic.
42. Ponce de Leon.
43. Berkshire Inn.
44. Islesworth.
45. St. Charles.
46. Phillips.
47. Rudolf.
48. New Galen Hall.

New Belmont (34), Virginia Ave., near Beach; 300; American and European; Amer., $2.50 up; Europ., $1 up.
New Chatham (30), 111 So. Pennsylvania Ave.; 65; American; $2.50 to $4.
New Holland (16), New York Ave.; $1.50 up.
New Roman, St. Charles Place, near Beach; 150; American; $3.
Old Homestead, 27 So. Kentucky Ave.; 125; American; $1.25 to $2.
Pennhurst (1), Michigan Ave., near Beach; 160; American; $2.50 to $3.50.
Pennlyn Cottage, 108 So. Ohio Ave.; 50; American; $1.25 to $2.
Phillips (46), 14 So. Connecticut Ave.; 100; American; $2 to $2.50.
Ponce de Leon, Virginia Ave., near Beach; American; $2 up.
Raleigh, St. Charles Place, near Beach; 400; American; $2.50 to $4.
Raymond (35), Virginia Ave., near Beach; 150; American; $2 to $3.
Wiltshire (38), Virginia Ave., near Beach; 250; American and European; Amer., $2.50 to $5; Europ., $1.50 to $4.
Windsor (12), Illinois Ave. and Boardwalk; American; $3 to $6.

GENERAL MEETINGS.

The Formal Opening Tuesday Morning—The Orations at the Evening Meetings.

The opening of the fifty-eighth annual session will be the General Meeting, held Tuesday morning at 10:30 o'clock in the Auditorium on Young's New Pier. Addresses of welcome will be made by Dr. Alexander Marcy, president of the New Jersey State Medical Society; Hon. Edward C. Stokes, governor of New Jersey, and Hon. F. P. Stoey, mayor of Atlantic City. The President-elect, Dr. Joseph D. Bryant, New York City, will be installed and will make an address.

The evening General Meetings will be held at 7:30 p. m. in the Casino Hall on the Steel Pier.

On Tuesday evening the Oration on Medicine will be delivered by Dr. James B. Herrick, Chicago, and the Oration on Surgery by Dr. William H. Wathen, Louisville, Ky.

On Wednesday evening Dr. Samuel G. Dixon, Philadelphia, will deliver the Oration on State Medicine.

HOUSE OF DELEGATES.

Membership of the Legislative Body of the American Medical Association, 1907.

As a number of the state associations have not yet held their meetings for 1907, it is impossible to give, at this time, a complete list of the members of the House of Delegates for the Atlantic City session. The following is a list of the hold-over delegates and of the newly elected members who have been reported up to the time of going to press.

ARKANSAS.

E. K. Williams, Arkadelphia.

CALIFORNIA.

Oliver D. Hamlin, Oakland.
H. Bert Ellis, Los Angeles.
Phillip M. Jones, San Francisco.

COLORADO.

Hubert Work, Pueblo.
J. N. Hall, Denver.

CONNECTICUT.

George R. Shepherd, Hartford.

DELAWARE.

Peter W. Tomlinson, Wilmington.

DISTRICT OF COLUMBIA.

George N. Acker, Washington.

FLORIDA.

Joseph N. Porter, Key West.

GEORGIA.

T. D. Coleman, Augusta.
T. P. Waring, Savannah.

IDAHO.

R. L. Nourse, Boise.

ILLINOIS.

George W. Webster, Chicago.
J. L. Wiggins, East St. Louis.
O. B. Will, Peoria.
Charles L. Mix, Chicago.

IOWA.

E. E. Dorr, Des Moines.
Wm. Jepson, Sioux City.

KANSAS.

C. E. Bowers, Wichita.

KENTUCKY.

J. Garland Sherrill, Louisville.
J. N. McCormack, Bowling Green.
W. W. Richmond, Clinton.

MAINE.

E. M. Fuller, Bath.

MARYLAND.

G. L. Taneyhill, Baltimore.

MASSACHUSETTS.

Walter P. Bowers, Clinton.
Frank G. Wheatley, North Abington.
Edward H. Bradford, Boston.
C. H. Cook, Natick.
R. C. Cabot, Boston.

MICHIGAN.

A. I. Lawbaugh, Calumet.
Leartus Connor, Detroit.

MINNESOTA.

John T. Rogers, St. Paul.
A. E. Spalding, Luverne.

MISSISSIPPI.

John Darrington, Yazoo City.
W. W. Crawford, Hattiesburg.

MONTANA.

Donald Campbell, Butte.

NEBRASKA.

R. C. Moore, Omaha.

NEVADA.

J. E. Pickard, Virginia City.

NEW HAMPSHIRE.

John M. Gile, Hanover.

NEW JERSEY.

Chas. L. Kipp, Newark.

NEW YORK.

Wisner R. Townsend, New York City.
Abraham Jacobi, New York City.
J. W. Grosvenor, Buffalo.
D. C. Moriarta, Saratoga.
Albert Vander Veer, Albany.
W. S. Ely, Rochester.
H. L. Elsner, Syracuse.
A. T. Bristow, Brooklyn.
R. Park, Buffalo.
H. D. Wey, Elmira.

NORTH CAROLINA.

W. J. Lumsden, Elizabeth City.
J. W. Long, Greensboro.
Martin L. Stevens, Asheville.

PENNSYLVANIA.

Fremont W. Frankhauser, Reading.
Adolph Koenig, Pittsburg.
William T. Williams, Mt. Carmel.
Samuel Wolfe, Philadelphia.
Alexander R. Craig, Philadelphia.
George W. Guthrie, Wilkes-Barre.
Edward B. Heckel, Pittsburg.
Walter Lathrop, Hazleton.

OHIO.

Frank D. Bain, Kenton.
A. B. Walker, Canton.

OREGON.

H. W. Cole, Portland.

PHILIPPINE ISLANDS.

J. R. McDill, Manila.

RHODE ISLAND.

John Champlin, Westerly.

TENNESSEE.

T. J. Happel, Trenton.

TEXAS.

J. T. Wilson, Sherman.
C. E. Cantrell, Greenville.
A. C. Scott, Temple.
S. T. Turner, El Paso.
Frank Paschal, San Antonio.

UTAH.

Philo E. Jones, Salt Lake City.

VERMONT.

J. Henry Jackson, Barre.

WASHINGTON.

N. Fred Essig, Spokane.

VIRGINIA.

Wm. E. Anderson Farmville.

WISCONSIN.

W. H. Washburn, Milwaukee.
W. T. Sarles, Sparta.
B. M. Caples, Waukesha.

SECTIONS.

HYGIENE AND SANITARY SCIENCE.

Denslow Lewis, Chicago.

SURGERY AND ANATOMY.

F. B. Lund, Boston.

OPHTHALMOLOGY.

Samuel D. Risley, Philadelphia.

STOMATOLOGY.

G. V. L. Brown, Milwaukee.

OBSTETRICS AND DISEASES OF WOMEN.

W. B. Dorsett, St. Louis.

NERVOUS AND MENTAL DISEASES.

D'Orsay Hecht, Chicago.

TRANSPORTATION.

One Fare for the Round Trip—Special Trains and Special Parties.

The New England Passenger Association, the Trunk Line Association and the Central Passenger Association have granted a rate for the round trip of one first-class limited fare plus $1. Tickets will be sold and good going May 31 to June 4, inclusive; returning, leaving Atlantic City June 4 to 10, inclusive. By deposit of the ticket by the original purchaser, in person, with the special agent at Atlantic City not later than June 10, and payment of fee of $1 at time of deposit, an extension of the return limit may be obtained to leave Atlantic City not later than June 18.

The Transcontinental Passenger Association granted a one first-class 30-day fare for the round trip, tickets to be on sale May 20 and 21. Final arrangements of this association with the eastern passenger associations have not yet been announced, but tickets from the Pacific Coast and Mexico will be good returning within 90 days from date of sale. The Transcontinental Passenger Association covers the western part of the United States, including all of the Pacific Coast.

An attempt was made to extend the time of return which is effective on tickets from points east of the Pacific Coast and Mexico, but the several lines wished to keep the limit at June 18.

Rates to the Jamestown Exposition are mentioned below.

American Medical Special.

The Committee on Transportation of the Chicago Medical Society is perfecting arrangements for a special train from Chicago to Atlantic City. This train will be known as the American Medical Special, and will run over the Pennsylvania System, leaving Chicago on Sunday, June 2, at 3 p. m., and reaching Atlantic City early on Monday morning. The train will be a special electric-lighted, solid vestibule train, consisting of two diners, a Pullman observation car, composite smoking car, baggage car and a sufficient number of Pullman sleepers to accommodate all who desire berths. The train will be run from Chicago to Atlantic City without change. The fare will be $21.50 for the round trip. Sleeping car berth will be $5. Rules concerning tickets will be as above stated. Stopover privileges in Philadelphia and Washington may be had within the limits of the ticket. Those desiring to return via Washington must secure tickets reading that way. All reservations for accommodations on this train will be made in Chicago at the office of the city ticket agent of the Pennsylvania System, No. 248 Clark Street. Berths may be reserved by letter or telegraph. It is anticipated that a large number of physicians from Chicago and points West will engage passage on this train.

An Ohio Special.

The physicians of Akron, Ohio, have issued an invitation, through the Summit County Medical Society, to all members of the profession of the Sixth Councilor District to attend the Atlantic City Session in a body. Special Pullmans will start from Akron and Canton on Monday evening, June 3, and will be transferred at North Philadelphia directly to the Atlantic City train. Hotel headquarters have been selected in Atlantic City, and special features are being arranged for the comfort of members of the party. A circular giving the details of the trip has been sent to all members of the profession in the district.

Baltimore and Ohio Route.

The Baltimore & Ohio Railroad has made a special rate of $21.25 round trip from Chicago to Atlantic City, with stopover privileges at Washington, Baltimore and Philadelphia. The fare for a side trip from Philadelphia to New York and return is $4. The fare from Baltimore or Washington to Norfolk, Va., and return is $3 on the day boat and $5 on the night boat. Tickets are good as outlined above. Sleeping car accommodations as well as any further information can be obtained from W. W. Picking, District Passenger Agent, Baltimore & Ohio Railroad, 244 Clark Street, Chicago.

Missouri Valley Special.

Arrangements are being made for a special train from St. Louis to Atlantic City, to be known as the Missouri Valley Special. This train will be composed of Pullman sleepers, diners and observation cars, and will leave St. Louis on Saturday, June 1, at noon, running over the Big Four and Chesapeake & Ohio Railways, via Indianapolis, Cincinnati and the picturesque resort region of the Virginias. The train will stop over Sunday at Hot Springs, Va. It will arrive at Atlantic City on Monday morning. The return trip will be via New York City, Jamestown Exposition, Richmond and White Sulphur Springs. A cordial invitation is extended to all physicians of the territory covered by this route to join this party with their families and friends, whether members of the organization or not. Secretaries of district and county societies in the west and northwest are invited to make up parties. Special cars will leave Omaha (via Wabash Railroad), Kansas City and St. Joe (via Missouri Pacific Railroad) on the evening of Friday, May 31, arriving in St. Louis early in the morning of June 1, and allowing four hours in that city before the leaving time of the special. All requests for further information or for hotel and sleeping car reservations should be addressed to Dr. Charles Wood Fassett, St. Joseph, Mo.

Special from Detroit.

A special train will leave Detroit over the Michigan Central on Monday evening, June 3, provided one hundred reservations are made, otherwise special Pullmans will be attached to the regular afternoon train. Further announcement regarding arrangements for Michigan physicians will be made later.

STOPOVERS AND SIDE TRIPS.

Clinics in Philadelphia—The Jamestown Exposition.

Railroad tickets which read via Philadelphia, Washington or Baltimore, allow stopover at these places provided the ticket is deposited with the ticket agent at such place immediately on arrival. The ticket must be called for and the journey taken up again before date of expiration.

The Jamestown Exposition.

Many will take advantage of the above privilege to make a side trip to the Jamestown Exposition. This exposition will, in a way, be unique in the history of such celebrations. It will have as a part of its attractions the most remarkable marine review ever seen in American waters. In keeping with the event which it commemorates, there will be shown side by side the arts and industries as practiced in 1607 and 1907.

It is to be remembered that favorable railroad rates are in effect this summer direct to the exposition. Some may prefer to buy their tickets to Jamestown, with stopover at Washington, Baltimore or Philadelphia, and make a side trip to Atlantic City at the time of the session.

The New Jefferson Medical College Hospital.

In connection with the meeting of the American Medical Association in Atlantic City, June 4 to 7, 1907, the medical profession in Philadelphia purposes providing a number of entertainments for the members of the Association who will necessarily have to pass through that city on their way to the seashore. Among these entertainments will be those connected with the opening of the new Jefferson Medical College Hospital, which has just been completed at a cost of $1,500,000. (See illustration on page 1516.)

On Saturday, June 1, the alumni dinner of the Jefferson College will be held, and to this all Jefferson graduates are cordially invited. On Monday, June 3, the commencement exercises of the Jefferson College will take place at the American Academy of Music, and in addition to the degrees conferred on members of the graduating class, a number of honorary degrees will be conferred on distinguished physicians. To these exercises, which are held at noon, all members of the American Medical Association are also cordially invited.

On Friday, June 7, at 3 o'clock, the exercises in connection with the opening of the new hospital will take place, this date being chosen in order that members of the Association may have an opportunity on their way back from Atlantic City to inspect the new building. At these exercises addresses will be delivered by the Honorable William Potter, ex-minister to Italy, representing the board of trustees; by Dr. William H. Welch, of Johns Hopkins University, Baltimore, representing the science of medicine, and by Dr. J. Chalmers Da Costa, representing the faculty and the alumni. After the addresses the building will be thrown open for inspection and a collation will be served. Members of the Association are cordially invited to attend all of these functions and a formal invitation will be sent them if the chairman of the committee of arrangements, Dr. H. A. Hare, 1801 Spruce Street, is notified.

The new hospital is equipped not only with all the modern appliances for taking care of the sick in every department of medicine and surgery, but has also been constructed with the dominant idea that it is a teaching hospital, and every facility is, therefore, provided for the adequate instruction of students.

University of Pennsylvania Clinics.

The University of Pennsylvania will give clinics for visiting physicians who happen to be in Philadelphia on their way to and from the session. The schedule is as follows:

MONDAY, JUNE 3.

Some Principles of Dietetics, by David L. Edsall, at 9 a. m., in the University Hospital.
Exhibition of Gynecologic specimens, by Dr. C. Norris, from 10 to 12, in the Gynecologic Laboratories.
The Diagnosis and Treatment of Arteriosclerosis, by Dr. Alfred Stengel, 12 m., in the University Hospital.
An Obstetric Clinic, by Dr. B. C. Hirst, from 12 to 3, in the University Hospital.
Surgery of Trifacial Neuralgia, by Dr. Charles H. Frazier, at 2 p. m., in the University Hospital.
Demonstrations of the Workings of the Department of Physical Education, by Dr. R. Tait McKenzie, from 2 to 5 p. m., in the Gymnasium.
Gynecologic Clinic, by Dr. John G. Clark, from 3 to 5 p. m., in the University Hospital.
Practical Demonstrations in Blood Examinations, by Dr. William Pepper, from 3 to 5 p. m., in the Medical Laboratories.
Demonstrations of the Treatment of Disease by Bacterial Vaccines (Wright's Opsonic Theory), by Dr. N. Gildersleeve, from 4 to 5 p. m., in the Laboratory of Hygiene.
Operative Treatment of Suppurating Ears, by Dr. B. Alexander Randall, at 5 p. m., in the University Hospital.

FRIDAY AFTERNOON, JUNE 7.

Surgical Clinic on Renal and Vesical Cases, by Dr. Edward Martin, at 2 p. m., in the University Hospital.
Correction of Deviations of the Nasal Septum and Paraffin Prothesis of Deformities of the External Nose, by Dr. Charles P. Grayson, at 2 p. m., in the University Hospital.
Principles of Modern Arterial Suture (Arterial Anastomosis and Direct Transfusion), by Dr. J. Edwin Sweet, from 2 to 5 p. m., in the Medical Laboratories.
Clinical Lecture on Neurology, by Dr. Wm. G. Spiller, at 3 p. m., in the University Hospital.
Clinic with Special Reference to Eye Injuries and the Prevention of Infections, by Dr. G. E. de Schweinitz, at 3 p. m., in the University Hospital.
Surgical Phases of Splanchnoptosis, by Dr. John G. Clark, from 3 to 5 p. m., in the University Hospital.
Intermittent Claudication and Endarteritic Gangrene, by Dr. David Riesman, at 5 p. m., in the University Hospital.

SATURDAY, JUNE 8.

Medical Clinic, by Dr. James Tyson, at 9 a. m., in the University Hospital.
Demonstrations of Skiagraphy and Skiagraphs, by Dr. Howard Pancoast, from 10 a. m. to 12 m., in the X-ray Laboratory of the University Hospital.
Diagnosis and Treatment of Arteriosclerosis, by Dr. Alfred Stengel, at 12 m., in the University Hospital.
Mechanism and Significance of the Initial Chill, by Dr. Allen J. Smith, at 1 p. m., in the University Hospital.
Surgical Clinic on Intracranial Lesions, by Dr. Charles H. Frazier, at 2 p. m., in the University Hospital.
Medical Clinic on Gastro-Intestinal and Hepatic Disease, by Dr. John H. Musser, at 3 p. m., in the University Hospital.
Adaptation of Subcuticular Sutures to Plastic Operations, by Dr. B. M. Anspach, from 3 to 5 p. m., in the University Hospital.
Aphasia and Cerebral Centers of Speech, by Dr. Charles K. Mills, at 4 p. m., in the University Hospital.
Demonstrations in Ophthalmic Pathology, by Drs. G. E. de Schweinitz, C. M. Hosmer, and T. B. Holloway, at 4 p. m., in the Medical Laboratories.

Polycythemia, by Dr. Joseph Sailer, at 5 p. m., in the University Hospital.

A bureau of information will be located in the University Hospital, and a buffet luncheon will be served in the same building between 1 and 2 p. m.

Wills Hospital Eye Clinics.

The staff of the Wills Eye Hospital, Eighteenth and Race Streets, Philadelphia, will hold a special clinic for the benefit of delegates and visitors to the American Medical Association on Monday, June 3, at 2 o'clock.

Alumni Night and Section Smokers and Banquets.

The local Committee of Arrangements desires to announce to the members of the American Medical Association that Tuesday evening, June 4, the first evening of the coming session, has been set apart as Alumni Night as well as for section smokers and banquets. Several college alumni have already arranged for reunions of the graduates who will attend the coming meeting to renew old acquaintanceships and to recall the events of college days. Dr. James W. Snowball, 1519 Pacific Avenue, Atlantic City, chairman of the Committee on Section and Alumni Entertainments, will give all information desired. Section officers who desire special banquets or smokers for Tuesday evening are requested to notify Dr. Snowball early so that proper arrangements may be made.

Temperance Lunch.

For nearly twenty years the Temperance League has had a temperance breakfast at the annual meeting of the British Medical Association. Many eminent physicians of Great Britain have joined on these occasions and expressed themselves freely concerning the alcohol problem. At the Toronto meeting last year over 600 were present.

The Society for the Study of Alcohol and Inebriety proposes a similar movement at the coming session. A number of leading physicians, including nearly all the ex-presidents of the American Medical Association, have promised to speak. A warm invitation is given to all medical men and their wives to join on this occasion, and as the lunch and speeches will be limited to an hour or more in the middle of the day, it will in no way interfere with the regular work of the Association. The secretary, Dr. T. D. Crothers, of Hartford, Conn., will be pleased to give any further information.

American Medical Association Outing Club.

This club is planning a nine days' trip through the resorts of New Jersey after the session. All members of the Association and their friends are invited to join the party. For further particulars address Dr. Edward R. Campbell, Bellows Falls, Vt., enclosing stamp for reply.

THE COMMERCIAL EXHIBIT.

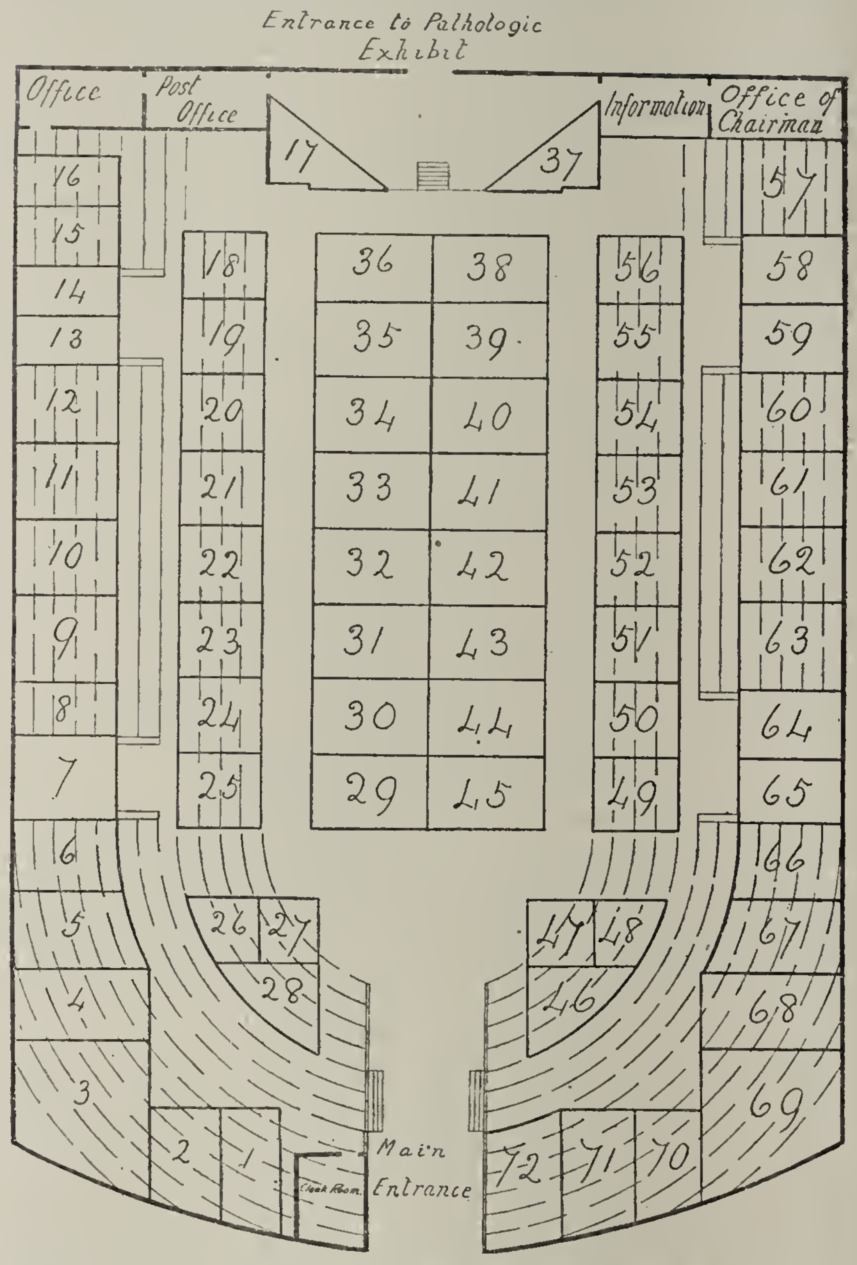
The Exposition of Instruments, Apparatus, Remedial Agents, Literature and Physicians' Supplies at Atlantic City.

The most agreeable thing about any successful medical meeting is the solid satisfaction resulting from the interchange of ideas and the personal contact with men having the same aims and ideals. Probably the next most pleasing feature about such a meeting is the pleasure got by examining those various appliances, whether mechanical, chemical or pharmaceutical, which go to make up the physician's armamentarium. Then, too, there is no small amount of gratification to be had by looking over the choice specimens of the bookmaker's art that are to be found at these gatherings. The visiting physician will without doubt derive a keen pleasure from the Commercial Exhibit to be given at the Atlantic City session. This will be enhanced by the absence of some of the few objectionable features that have crept into previous displays. It has been the desire of the officers of the Association having supervision of the exhibit to have it excel in quality rather than in size. How well they have succeeded will be evident to those visiting it. The exposition will be held in the Marine Hall on Young's Pier. This pier extends from the well-known "Boardwalk" for over a quarter of a mile into the ocean. The Marine Hall is the third building from the pier entrance and its position frees it from the objection of too great publicity for a scientific display. It is a large rectangular building nearly 150 feet long by 100 feet wide. Its interior arrangement is that of an arena with low broad steps extending around its sides. This will permit of an artistic arrangement of the exhibits that could not be obtained on a dead-level floor. At the farther end of the hall and within it will be the post-office, general office, information bureau and office of the chairman. Just beyond the commercial exhibit and contiguous to it will be the pathologic exhibit. The Association members will have a special entrance to the pier, near which will be situated the registration department. All physicians are earnestly requested to visit the exhibit hall.

We mention below most of the firms that will be represented at this exhibit.

Albosol Light Company, Philadelphia.—Space 22.

This firm will exhibit and demonstrate its neutral diagnostic light, albosol, which, it is claimed, projects an intense light of about one hundred and fifty candle power. The light is said to give colors their true value and it can be projected into any cavity of the body, where it shows plainly the various membranes in their true form and color. The apparatus for generating this light fits into a leather pocket case and weighs complete only seven and one-half ounces.



W. D. Allison Company, Indianapolis, Ind.—Spaces 11 and 12.

Several styles of operating and examining tables, covering a wide range of usefulness for the gynecologist and genitourinary specialist, will be shown by this firm. It will exhibit a complete line of instruments, medicine and combination cabinets and also a specialists' chair designed especially for eye, ear, nose and throat work. Experts trained in the handling of these appliances will be in charge of the exhibit, and will demonstrate the efficiency of these pieces of apparatus.

Anatomik Footwear Company, New York City.—Space 42.

The shoes designed by Dr. Harlan P. Cole to take the place of braces in the treatment of deformities of the lower limbs will be displayed by this firm. Pictures will be exhibited of patients so treated and of the braces formerly worn. There will also be shown rational shoes for children and adults which this firm claims perfectly distribute the bodyweight. Such shoes, they say, prevent and relieve flatfoot and all strains, and obviate the use of supports of any kind.

D. Appleton & Company, New York City.—Spaces 47 and 48.

This company numbers among its publications books by such authors as Osler, Holt, Bryant, Babcock, Kelly, Williams, Keyes, Tuttle and Forchheimer; men whose names are known not only to physicians, but to the world at large for their contributions to science and literature. The publications of this firm are mostly of the one-volume monographs for the use of the general practitioner.

Armour & Company, Chicago.—Space 37.

Special attention will be directed by this firm to the suprarenalin preparations, desiccated thyroids (U. S. P.) and to the extract of red bone marrow. The definite and uniform strength claimed for these suprarenalin preparations should insure uniformity as to dosage and results in their use. The use of desiccated thyroids has never been as extensive as it now is in the treatment of myxedema, cretinism, etc. This company's extract of red bone marrow is said to contain in a physiologically active form, the elements which increase formation of red blood corpuscles.

B. & B. Apparatus Company, Salem, Mass.—Space 14.

Portable high frequency, *x*-ray and electro-therapeutic apparatus and appliances will be exhibited by this firm. The exhibit will also include portable high frequency coils of recent design adapted for work by either direct or alternating current. Collapsible fluoroscopes, tube-stands, etc., intended for use in connection with a portable equipment, will be part of the display, as will also a coil operated static head breeze and other interesting devices and appliances.

James Barker, Philadelphia.—Space 53.

The makers of the Barker vibrators will have a competent representative in charge to demonstrate to visitors the unique features of these machines. The field of mechanical vibration is rapidly broadening and this firm claims the credit of having first brought before the medical profession for study and use the finest apparatus for the purpose that a large and thoroughly equipped plant can produce. A visit to its booth will doubtless be worth while, as the exhibit promises to be an interesting one.

Baker Electric Company, New York City.—Spaces 31 and 32.

This company will have on exhibition its various types of static machine. The revolving plates of these machines are made of a patent fibrous material, while the stationary plates are of glass. The manufacturers claim for these fibrous plates the property of high insulation and guarantee them not to warp, crack or scale. The large volume of current said to be developed by these machines is sufficient, when the speed is high, to melt the anode.

Bausch & Lomb Optical Company, Rochester, N. Y.—Space 20.

This exhibit will attract the physician who is scientifically inclined. The display of microscopes, microtomes, centrifuges, incubators, blood apparatus, etc., will be replete with interest. Some new and distinct models will be shown. The microscope to the modern physician is as necessary in diagnosis as the stethoscope. The centrifuge in urinalysis makes a microscopic examination possible in three minutes, which formerly required twenty or more hours.

Frank S. Betz Company, Hammond, Ind.—Spaces 64 and 65.

In addition to a general display of surgical instruments, hospital appliances and electrical apparatus, this firm will have as part of its exhibit a fifteen-inch *x*-ray coil and high frequency outfit combined. It also promises to have one of the finest exhibitions of surgical needles ever shown at a medical meeting. Besides these there will be shown several forms of lamps used in phototherapy. These will include the violet ray, the Finsen type and different kinds of incandescent outfits.

P. Blakiston's Son & Company, Philadelphia.—Space 19.

What is said to be one of the most thorough works of its kind, "The Treatment of Disease," by Wilcox, will be displayed by this firm. This work, which is just off the press, is the latest word in treatment and, therefore, supplements any other "Practice" the physician may have. Beck's "Surgical Diseases of the Chest" is another new book of this firm's which will be brought to the notice of visitors. A general display of its medical publications will, of course, be made.

Burroughs, Wellcome & Company, England.—Space 40.

This firm, which has recently opened a branch at 45 Lafayette Street, New York City, will exhibit a range of "Tabloid" and "Soloid" compressed drugs, etc. These preparations are claimed to be examples of unique accuracy of dosage and perfection of finish. Medical equipments of every description will be shown, fitted with medicaments suitable for all climates. These are exceedingly compact and can be carried in the pocket, in the carriage or motor car. Tabloid photographic chemicals for *x*-ray work, compressed sterilized dressings and other interesting products will be on view.

Campbell Electric Company, Lynn, Mass.—Space 16.

The *x*-ray and high frequency coil for which this firm claims such remarkable results will be on exhibit at its booth. Its simpleness, efficiency and the fact that it is always ready are a few of the qualities which the company wishes to demonstrate. The D'Arsonval and cautery attachment, with no interrupter to cause trouble and its two-year guarantee will force this instrument on the attention of those physicians whose work requires such apparatus.

G. W. Carnrick, New York City.—Space 25.

This firm will display its products, trypsogen and antithermoline, and will distribute a large supply of literature to physicians interested. The firm will also give a useful and appropriate souvenir to members of the Association. Visiting physicians will be cordially welcomed and inquiries relating to the products of this company will be answered by its representatives. Its product, antithermoline, will be exhibited in the new style glass container which is claimed to possess obvious advantages over the metal containers formerly used.

Clark & Roberts Company, Indianapolis, Ind.—Space 33.

A complete line of surgical furniture for physicians' offices and for hospitals will be the feature of this firm's exhibit. It is said to be especially high class, and all of the articles are designed for well-equipped offices and hospitals. The goods are made in accordance with the latest scientific principles and designed for thorough asepsis. The firm places particular stress on the finish of its goods, great care being taken with the enamel so as to make it both durable and handsome.

Cleveland High Frequency Company, Cleveland, Ohio. Space 41.

This company will show its high-frequency machines which work independent of a coil or static outfit, by simply plugging into any ordinary incandescent lamp socket. An expert on high-frequency currents will be in charge of the exhibit, to go into the subject from a scientific standpoint with any inquiring physician. The increased interest in high-frequency therapy will doubtless cause their expert to be kept busy.

G. A. Crayen & Company, New York City.—Space 8.

The Green Cross elastic band of Braun is one of the specialties this firm will exhibit. This bandage, which contains no rubber, is a cotton product with a stretching capacity of 50 per cent. If after long usage it shows a slight loss in elasticity, this property can be regained by cleansing it with soap and warm water. The Monachia wired plaster bandage will also be shown. This is claimed to possess the advantages of pliability, lightness, hardness and economy in use, and to be excellently suited for making longitudinal plaster splints.

F. A. Davis Company, Philadelphia.—Space 50.

The exhibit of these well-known medical publishers will contain several new publications of exceptional importance. Among them may be mentioned Fischer's "Diseases of Children," a volume of over 1,000 pages, profusely illustrated; Boas' "Diseases of the Stomach," translated by Bernheim, a work of great practical value to all practitioners; also Mendel's "Psychiatry," translated by Krauss, which takes up this subject on new lines calculated to simplify the study of mental diseases. These standard works will doubtless attract the attention of visiting physicians.

Deimel Linen-Mesh Company, New York City.—Space 51.

This company was incorporated in 1895 to exploit the fabric invented by Dr. H. L. Deimel. Its exhibit will show all styles and weights of linen-mesh underwear for men, women and children. By a special process of manufacture a soft, warm and porous fabric has been evolved, called the "Linen-Mesh." Since its introduction, 12 years ago, the product is claimed to have received the most friendly and grateful appreciation throughout the world. This exhibit will doubtless be one that will enlist the attention of the physician's wife.

DeVilbiss Manufacturing Company, Toledo, Ohio.—Space 52.

In treating diseases of the nose and throat the atomizer and nebulizer have each come to be recognized as a necessary part of the physician's armamentarium. This company will have on display in its booth the latest improved nebulizers and atomizers. Many of them are new and unique, and all of them of interest, not only to the specialist, but to the general practitioner. It recommends the atomizer for making applications to the superior respiratory tract and the nebulizer for the applications to the inferior.

Electro-Surgical Instrument Company, Rochester, N. Y. Space 46.

An interesting display of modern diagnostic instruments as well as of those appliances used in treatment will be given by this firm, which manufactures electrically lighted instruments. Here will be found cystoscopes, urethroscopes, auriscopes, bronchoscopes, proctoscopes, specula, etc. The lamps in these instruments are said to be of low temperature and high illuminative power. All instruments of the tube pattern are supplied with the auxiliary chamber for the reception of the light carrier and lamp, a feature of importance.

Globe Manufacturing Company, Battle Creek, Mich.—Space 13.

Electrically driven air pumps having among other special features double cylinders, compound compression, ball bearings, vacuum conversion, extra high power, automatic start and stop and automatic belt tightener will be one of the leading displays of this company. Its compressed air vibrator, which is adjustable for speed and length and force of stroke and gives direct impact and lateral movement, will also be shown. There will be in addition a complete line of nebulizer outfits, providing for vapor vibration and vapor massage.

E. J. Hart & Company, Ltd., New Orleans, La.—Space 66.

The leading exhibit of this firm will be its preparation, lacbismo. This liquid is claimed to contain the hydrated oxid and subcarbonate of bismuth carried to the greatest possible degree of subdivision. For this reason its covering capacity is said to be many times greater than that of either the subcarbonate or subnitrate salt of the same metal. Explanatory literature will be distributed and the firm's representative will be present at the exhibit.

Horlick's Malted Milk Company, Racine, Wis.—Spaces 26, 27 and 28.

The well and favorably known product of this firm will be on exhibit. To obtain milk produced under sanitary dairy conditions and as pure as scientific common sense would dictate is the object sought for and attained by this company. The hygienic dairying methods, as well as the superior malting of the grains in its own malt houses, have contributed largely, no doubt, to the success of Horlick's malted milk as a reliable, pure and nutritious diet for invalids and infants.

Hughes Halm Company, New York City.—Spaces 11 and 12.

This firm, which is the sole agent in New York and Philadelphia for the Allison office furniture, will also exhibit a line of instruments of its own manufacture. One of the most important of these will be the Bihlmaier vibrator. Several other specialties of more than ordinary interest that are handled exclusively by this company will contribute toward making its display one that will attract attention.

W. T. Keener & Company, Chicago.—Space 49.

A notable line of new medical books will be shown by this company. Among the most important will be found von Noorden's "Metabolism and Practical Medicine" in three volumes, and Green's "Encyclopedia and Dictionary of Medicine and Surgery." This encyclopedia, of which three volumes are now ready, will when complete consist of ten volumes. There will also be Morat's "Physiology of the Nervous System," Starling's "Recent Advances in the Physiology of Digestion," and a new edition of Yeo's "Manual of Treatment" adapted to the new Pharmacopeia. The exhibit will doubtless attract book-loving physicians.

Keystone Electric Company, Philadelphia.—Space 18.

This company, which manufactures "everything electrical," will give an exhibition of its high-grade electro-therapeutic instruments. Wall cabinets, galvanic, faradic and cautery batteries will be shown in various styles. High frequency and *x*-ray apparatus, leucodescent lamps and types of practically every kind of appliance used in electro-therapy will be displayed. The manager of the firm, Mr. Geiger, will have personal charge of the booth and will demonstrate the workings of all the apparatus.

Lea Brothers & Company, Philadelphia.—Space 56.

Medical literature will be well represented by this firm, the oldest medical publishers on the continent. Of interest to the profession will be the first volume of Osler's "Modern Medicine," a work to which the leading medical thinkers of the English-speaking world have contributed. Even the oldest practitioner regards with affectionate interest Gray's "Anatomy," his first investment in medical literature, which this firm has now published for just half a century. The long list of practical works and medical text-books will make the exhibit a Mecca for the studious.

Charles Lentz & Sons, Philadelphia.—Space 54.

The formaldehyd gas generator exhibited by this firm will prove to be of general interest. The heads of health departments are not alone concerned with methods of disinfecting, but the subject is a vital one to every general practitioner. This apparatus, therefore, which is claimed to be simple, efficient and durable as well as under the direct control of the operator, will interest many physicians. The firm will also have an exhibit of their surgical instruments and hospital supplies.

J. B. Lippincott Company, Philadelphia.—Spaces 35 and 36.

In addition to this firm's published line of excellent medical and pharmaceutical publications the attention of the medical profession will be called to several important books in active preparation. Among these books may be mentioned "Human Anatomy," by Piersol, and "Ortner's Treatment of Internal Disease," edited by Potter and translated by Bartlett. Also the "Diseases of Children," the American translation of which is edited by Shaw and Le Fetra, with an introduction by Holt; and "Roentgen Rays and Electro-Therapeutics," by Kassabian. The new nineteenth edition of the United States Dispensatory, published May 1, will no doubt attract considerable attention.

Mellin's Food Company, Boston.—Space 23.

The preparation for the home modification of cow's milk, manufactured by this firm, will be on exhibit. Especial attention will be given to the demonstration by test-tube experiments of the action of Mellin's Food on cow's milk. These will show how it inhibits the coagulation of the casein into the tough and indigestible curds which occasion the difficulty of digestion that is encountered so generally by the infant fed with cow's milk as commonly prepared.

E. B. Meyrowitz, New York City.—Space 63.

Various forms of *x*-ray and ophthalmologic apparatus will be displayed here. One of the more interesting will be the Priestly Smith Ward lamp, which has long and short focus lenses and uses a self-feeding candle as an illuminant. An ophthalmometer table which permits of accurate height adjustment, the Berger binocular loupe, lamp controllers, Holmgren's test worsteds, as well as eye, ear, nose and throat instruments, will make the exhibit one to attract the specialist in these lines.

Modern Medicine Company, Battle Creek, Mich. Spaces 9 and 10.

Here will be demonstrated therapeutic lamps of both the arc and Finsen type as well as the incandescent. An electric light bath cabinet will be in operation of the type originated and used at the Battle Creek Sanitarium. There will also be shown electric heating pads and electric blanket packs of this firm's make as well as other modern appliances such as sinusoidal apparatus, various vibratory machines, etc. The exhibit will be of interest to all physicians using the newer therapeutic agents.

V. Mueller & Company, Chicago.—Space 61.

This firm will show a line of first-class surgical instruments. These will include those for the eye, ear, nose and throat specialist and for the special worker in genitourinary diseases, as well as those for the obstetrician and general surgeon. This company imports the famous Weiss knives as well as those of other first-class makers. While making and selling a general line of surgical instruments it pays particular attention to the above specialties.

Physicians' Supply Company of Philadelphia, Philadelphia. Space 21.

Various types of sterilizers, nebulizers and centrifuges will be shown by this firm in addition to its exhibit of a complete line of high-grade surgical instruments. To add to the interest in its display of general surgical apparatus, the latest special instruments will be shown. These will be such as are used by the best known American specialists and will no doubt attract many physicians whose work is along similar lines. The exhibit will unquestionably receive its full share of attention.

Rebman Company, New York City.—Space 24.

This firm, which makes a speciality of fine illustrations, will show many standard medical books illustrated by wood cuts in many colors and by lithographs of superior quality and excellence. Special attention will be directed to a new process which is said to give a true and lifelike appearance to illustrations of tissues and of clinical conditions. Special illustrations of the typical operations in surgery will be shown. There will also be standard books on electro-therapy, phototherapy, etc.

Reinschild Chemical Company, New York City.—Space 55.

The exhibit of this company should be of decided interest. It includes the products of Dieterich, who fathered the process of combining metals like iron and manganese, as well as the elements bromin and iodin, with albumin and peptone. This resulted in the issue of ferro-mangan, bromo-mangan and iodomangan. In addition to its pharmaceutical products there will be shown a special zinc plaster for Dr. Rose's abdominal bandaging.

W. B. Saunders Company, Philadelphia.—Spaces 29 and 45.

Facing the main entrance will be the two booths occupied by this firm, at which physicians will be invited to examine at their leisure the list of publications on exhibit. Among the new books published by Messrs. Saunders during the past year of particular interest are Keen's "Surgery," Kelly and Noble's "Gynecology and Abdominal Surgery," Howell's "Physiology," Eisendrath's "Surgical Diagnosis," and Fowler's "Surgery." Advance sheets and illustrations of books in preparation will also be there for examination, and every opportunity will be given physicians to see the firm's various publications.

W. Scheidel Coil Company, Chicago.—Space 58.

This company will exhibit one of its latest combination *x*-ray coils for rapid skiagraphic work. A feature of the machine is the marble switchboard from which absolute control of the coil is obtained, including electrolytic and mercury interrupters. A double resonator for high frequency currents, requiring much less space than former styles, but having an increased efficiency, will also be on exhibition. Incidentally there will be a number of other features that will contribute much to the interest of the exhibit.

Schieffelin & Company, New York City.—Space 30.

Lederle's refined and concentrated diphtheria antitoxin will form an interesting and important part of this firm's exhibit. There will be given a demonstration of antitoxic serum refinement, showing elimination of the non-antitoxic substances of whole horse serum. This personally directed exhibit will also have a comparative display of antitoxic sera, etc. Articles which are generally known to the profession, such as hemoquinin, heromal, uriform, heroterpin and neuronida, together with a general line of pharmaceutical products, especially pills and granules, will make this firm's exhibit one of interest.

Smith, Kline & French Company, Philadelphia.—Space 44.

This company will have an exhibit of Eskay's Albumenized Food, with the raw materials used in its manufacture, and demonstration tubes showing the manner in which it modifies cow's milk. In addition there will be shown photomicrographs of the exterior and interior views of various starch grains. It is stated that the exhibit will disclose new knowledge regarding the structure of the starch grain that should be of great scientific interest. Literature regarding the food will be furnished and a useful souvenir presented to each physician visiting the exhibit.

Spear-Marshall Company, Chicago.—Space 39.

The leucodescent therapeutic lamp which this firm exhibits will, on account of the new features that have been added to the equipment, be an object of interest. This apparatus, it is claimed, is now recognized as a necessary part of every practitioner's armamentarium. Its effect, they say, is anodyne, analgesic and bactericidal, and by inducing an active hyperemia it favors metabolism. Physicians who want to know what this lamp is and what it will do will be able to investigate, as daily demonstrations will be given.

Arthur H. Thomas Company, Philadelphia.—Space 34.

This firm, which imports and deals in microscopes and general laboratory apparatus, will have a comprehensive display of its goods on exhibit. Portable folding microscopes, blood pressure apparatus, appliances for the analysis of blood and urine and the various stains, preservatives, etc., used in histologic and pathologic work will make up part of this firm's exhibit.

Trommer Company, Fremont, Ohio.—Space 6.

Here will be displayed by this firm its preparations of malt extract. This product can be had plain, in combination with cod liver oil and also combined with hypophosphites. The preparations have been before the profession for 35 years and it is claimed that their popularity attests their value. The veteran Dr. Paul Plessner, who has represented the firm for 30 years, will have charge of the exhibit for the company.

United States Oxygen Company, New York City.—Space 7.

This firm will display its oxygen compound, which consists of two parts pure oxygen, one part of nitrogen monoxid and 1 per cent. ozone. Its purity and non-irritating properties are the points that will be emphasized by its manufacturers. The company will also show its private ambulances in which invalids can be transported in the most careful manner. The novelty of the exhibit will make it one of the attractive features of the hall.

Victor Electric Company, Chicago.—Space 43.

Here will be displayed by this firm all its leading specialties, including some ten types and varieties of vibrators, a number of wall plates and cabinets for delivering all forms and combinations of the galvanic and faradic modalities. There will be, too, a number of therapeutic lamps, equipments for bone surgery, air compressors and appliances for eye, ear, nose and throat specialists (including giant magnets, air heaters and head lamps), and sinusoidal outfits, galvano-cautery apparatus, generating sets, motors, etc.

R. V. Wagner Company, Chicago.—Space 59.

An exhibit of unusual interest is promised to all *x*-ray and electrotherapeutic workers by this company. It will exhibit for the first time a noiseless high-speed static and *x*-ray equipment and will demonstrate the efficiency of the apparatus under the damp conditions of an ocean pier. It will also exhibit for the first time a new tube stand having unique and valuable features. This new apparatus, together with its complete line of physicians' electric supplies, will make this firm's exhibit an interesting one from a scientific as well as a practical standpoint.

Wappler Electric Controller Company, New York City.
Space 60.

The new mechanical interrupter exhibited by this firm is remarkable in that it does away entirely with the use of acids and may be used for ten consecutive hours. The sinusoidal machine which will be demonstrated is claimed to be the only true sinusoidal on the market and is said to be without a rival in the treatment of atonic conditions of the involuntary muscles. The Brown cystoscope with the new lens system will also be shown, as well as a combination cautery motor with pump and vibrator.

Welch Grape Juice Company, Westfield, N. Y.—Space 17.

This firm believing that the "proof of the pudding is in the eating," will demonstrate the value of their product by serving it gratis to the visiting physicians. The claim of absolute purity is made for this product, which is manufactured from the unfermented juice of choice Concord grapes. This booth promises to be one of the most artistic in the hall with its display of grapes and vines, and will probably attract the attention of all visitors.

William Wood & Company, New York City.—Space 38.

As one of its most notable works this firm will exhibit the "American Practice of Surgery," edited by Bryant and Buck. Walsh's "Roentgen Rays in Medical Work" is another book that will come in for a share of attention. The company will, of course, have a general selection of its best publications on display.

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[*For other information see second page following reading matter.*]

SATURDAY, MAY 4, 1907.

PERITONITIS AND THE ABSORPTION OF BACTERIA FROM THE PERITONEAL CAVITY.

A series of experiments on the processes of absorption from the peritoneal cavity, by Dr. B. H. Buxton,[1] have yielded results which are of great interest in connection with the problems of the treatment of peritonitis, supporting strongly the growing tendency of many surgeons to reduce intra-abdominal manipulations to a minimum. The favorable results of the semi-sitting posture, and the claimed disadvantages of peritoneal irrigation are also explained clearly by the observations on experimental animals. These experiments demonstrate the extreme rapidity with which bacteria injected into the peritoneal cavity are taken up; within five minutes they are found in the blood in great numbers, and in smaller numbers in the liver and spleen. Even greater numbers are found in the lymph nodes of the anterior mediastinum, which they reach from the diaphragm, where absorption occurs chiefly and most rapidly. A large number of bacteria are also entangled by a fibrinous exudate on the surface of the omentum, where many are taken up by phagocytes, while some enter the omental lymphatics and are absorbed by this route. However, there seems to be practically no absorption of bacteria by any other part of the peritoneum besides the diaphragm and the omentum; the parietal and visceral peritoneum and the mesentery do not seem to possess this function to any considerable degree.

When such an organism as the typhoid or colon bacillus is injected into the peritoneal cavity, even in very large numbers, the bacteria that enter the blood disappear again very rapidly, so that the greater proportion vanish in less than an hour, even in animals that subsequently die. This initial destruction of the bacteria seems to be due largely to the bactericidal power of the blood, and is nearly complete by the end of two hours; from two hours to six hours the number of bacteria increases somewhat, but from six hours up to forty-eight hours there is again a period of decrease which is probably due largely to phagocytes. Animals which die as a result of intraperitoneal injections of typhoid or colon bacilli succumb either about two hours after the injection, or else they survive for twenty-four hours or more; they seldom die during the interval between four and twenty-four hours. The reason for this seems to be as follows: The colon and typhoid bacilli contain a large amount of intracellular toxic materials (endotoxins) which are not liberated until the organisms are disintegrated. Consequently, when an animal takes up a great quantity of these bacteria from the peritoneum and destroys nearly all of them within the space of an hour or so, an overwhelming dose of the poisonous intracellular toxins is liberated, and the animal succumbs at once, in spite of the fact that it has killed most of the bacteria that have been injected. In case the dose of endotoxins thus liberated is not fatal, the animal may recover, or may succumb to a later multiplication of the bacteria twenty-four hours or more after the injection. With the streptococcus the case is different, for this organism is not so rapidly destroyed after injection, and hence a primary overwhelming with endotoxins does not occur; as a result death does not follow until there has been time for an extensive multiplication of the cocci, after twenty-four hours or more.

It seems possible to apply these observations directly to the subject of the surgical treatment of peritonitis. First, we find that in acute peritonitis the danger is not so much from absorption of bacterial toxins, as from absorption of the bacteria themselves. The bacteria seem to enter the blood largely by way of the lymphatics, and they are absorbed chiefly through the lymph channels of the diaphragm; in this process omentum plays an important protective rôle by entangling bacteria and intercepting their passage toward the diaphragm. Absorption of bacteria occurs but little or not at all through the parietal, visceral and mesenteric peritoneum, hence the favorable outcome of peritonitis localized in the lower portion of the abdomen. In peritonitis following perforation, in which the chief organism is the colon bacillus or the typhoid bacillus, surgical intervention has sometimes been followed by death in a few hours, and this outcome has generally been ascribed to shock. Buxton suggests that in these cases death is really due to the entrance into the blood of large numbers of bacteria, which is decidedly favored by the disseminating forces of irrigation, and that instead of shock we really have an overwhelming intoxication with intracellular toxins liberated through the disintegration of the absorbed bacteria. Streptococcus peritonitis seems seldom to cause death in this way, the patient generally succumbing twenty-four or more hours after operation. Apparently, this organism reaches the circulation readily through generalizing infection, whether there is irrigation or not; but it is not rapidly destroyed, and hence there is no sudden intoxication with endotoxins. Later, after the cocci have multiplied greatly, enough toxins will be liberated to cause death. In the case of colon or typhoid infection, if not enough bacteria enter the blood to cause fatal intoxication at once, the infection may either be successfully terminated, or the bacteria after a time may begin to multiply in the blood and tissues, with a resulting fatal intoxication after a period of two or more days. In any event, these experiments emphasize the importance of the measures which are now being so successfully adopted by many surgeons, the aim of which is to keep bacteria away from the diaphragm by means of posture and the avoidance of irrigation. Furthermore, it is to be remembered that pus is not exclusively a dangerous substance; its danger depends on the number and kind of bacteria it happens to contain, for the pus elements themselves are protective agents. To quote from Buxton: "Pus in the cavity appears to the surgeon as something to be washed away, but it is precisely in the pus that there is protective action due to the innumerable phagocytes which it contains."

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[1] Jour. of Med. Research, 1906, xv, pp. 3-88; and 1907, xvi, pp. 17-42.

While Buxton's experiments support the attitude taken by those surgeons who oppose intraperitoneal meddling in general peritonitis beyond such measures as are necessary to remove the source of the infecting agent, yet it will be noted that they give a different explanation of the facts than has generally been adopted by the surgeons. The latter have considered that trauma of the peritoneal coat opens up avenues by which bacterial toxins enter the blood, whereas the animal experiments indicate that irrigation, sponging and similar measures are dangerous chiefly because they disseminate the bacteria so that large quantities can be taken up rapidly by the lymphatics of the diaphragm. This is particularly the case with peritonitis due to the colon-typhoid group of organisms.

IMPULSE, CRIME AND PUNISHMENT.

It is now generally recognized that certain crimes are committed under the influence of impulses so strong as to be practically irresistible. The circumstances in which impulses become so strong have been much discussed. It is recognized that if a man has done irrational deeds early in life, that is, if he has performed serious acts entirely disproportionate to the motive urging him to their accomplishment, he is lacking somewhat in responsibility. If to this be added the fact that there is a nervous heredity, that is, that certain members of the family in previous generations have behaved irrationally, especially in crises of conduct; then, in the opinion of many authorities, responsibility seems to be seriously impaired. These are practically the doctrines that the medical profession, in the progress of its growing knowledge of mental diseases, has labored, with no inconsiderable success, to graft on our criminal code, until now most murder trials have them brought to the fore to such an extent as to require expert testimony; and no criminal trial of importance occurs without at least some reference to insanity. At times, as in a recent noteworthy example, most of the attention of lawyers, judge, jury, and, above all, the public, is riveted on this aspect of the case. In so doing the medical profession has taken on itself great responsibility, and it is well to view from a common-sense standpoint the consequences that may follow the application of these principles.

Anyone who has had any experience with those of diseased mentality is aware how cunning such people can be. Everyone knows how carefully men and women of distinctly lowered rationality may plan in order to secure some wished-for result. Many of the murders of keepers that occur in asylums are thought out beforehand with diabolical ingenuity in order to secure the hoped-for result. All who have had much to do with such people know, too, that practically the only thing which keeps many of them in proper submission is the deterring influence of punishment and the ignominy (for they have very acute feelings in such matters) that will come as the result of an unsuccessful attempt. In spite of the fact, then, that they are irrational and are ready to commit crime under the influence of practically uncontrollable impulse and without any proper reason, they are deterred from it by the thought of punishment and disgrace. In a word, though acting irrationally, they yet realize the nature of their act and, if punishment were certain to follow, would be deterred from it.

If we continue to loosen the claims of justice on all those who commit crime on impulse we shall lose those deterring influences of due condemnation and just punishment which are even greater over those of lowered mentality than over rational individuals. There are not many now who think that capital punishment is justified as a compensatory factor. Most persons consider that its deterring influence is the only reason for maintaining it. As a matter of fact, under the circumstances that surround many fatal crimes, responsibility is more or less impaired at the moment of commission. Men, however, put themselves in the conditions in which they know that such impairment may take place and are consequently responsible for their acts, though these may not be done with entire deliberate free will at the moment. If the present trend of medical opinion is not properly safeguarded in its diffusion among the public, many of those who are a little irrational and who are conscious of the fact that these irrationalities and certain hereditary traits may prove sufficient to keep them from capital punishment, will be tempted to the commission of crimes by violence. There are many more people than is ordinarily imagined who are more or less irresponsible, who can not be taken care of by friends, nor committed to asylums. For them the deterrent effect of capital punishment or indefinite loss of liberty is society's only protection. This fact will have to be taken into consideration or we shall have a veritable epidemic of crime against human life (which seems, indeed, to be beginning) because of lack of punishment. Insanity ought not to prevent conviction for murder, but the fact that it is a mitigating circumstance ought to change the punishment to confinement in an asylum.

Andrew D. White said not long since that human life is cheaper in this than in any other country in the world except Sicily. The delays of justice and the many loopholes of our criminal procedure are responsible for this condition. Is it not possible also that the medical expert has added to it? At least we must be careful that all sides of this important question of responsibility be considered. It is better that ninety-nine guilty should escape than that one innocent man should be punished, but impulsive criminals are not innocent in the real sense of the term. The only motive that will keep many of them from cunningly taking advantage of the present trend of opinion is to maintain the sanction of law by properly meted out punishment, whether capital or not depends on circumstances, but with the stigma of a murder verdict properly to characterize the crime.

ROENTGEN-RAY CASUALTIES.

Examples attesting the dangers due to the unskillful use of the *x*-ray are becoming of rather disconcerting frequency. Here we read of the inhibition of muscular action; there of the appearance of indolent malodorous ulcers which take many months to heal. All will recall the fate of Dr. Weigel of Rochester, who was so injured during his experiments that first three fingers of his left hand had to be amputated, then his left hand, then his left arm at the elbow and later at the shoulder. Death, however, was inevitable.

The death of Wolfram C. Fuchs, of Chicago, on April 24, is the most recent in a dreadful series of disasters which must be attributed to the *x*-ray. Mr. Fuchs first became afflicted in 1905, and in the fall of that year the first joint of the right thumb was removed; from that time to his death he underwent five other operations, first for the removal of portions of the fingers of both hands, and later for a removal of the muscles of the right pectoral region. Other victims have been an assistant to Thomas A. Edison, a Boston colleague, and Bertha Fleischman, of San Francisco.

Pitkin[1] some time ago warned us against the destructive properties of the *x*-ray. Its effects are cumulative; the danger to the operator increases in a compound multiple ratio, with nearness to the tube, its size, hardness and degree of excitement, the number, frequency and duration of exposures; with physical conditions below par. The operator is apt to be injured without premonition. After a time the color of the hands and face changes; on this swelling ensues; then a few pruritic papules or pustules, with bran-like scales; or an "itching" warmth, local diaphoresis cutis anserinus and a glossy appearance of the parts, with edema. Muscular action becomes inhibited. Further exposure induces inflammation, disintegration, intense itching, with successive crops of papules, followed by a honeycombing of small, indolent ulcers which may become confluent, with a sanious malodorous discharge. As sequelæ may occur loss of skin, with the appendages, dreadful disfigurements—scars, pits and pigmentation—the loss of sebaceous and sweat glands, anesthesia, hyperesthesia to all forms of radiant energy, increased vasomotor activity; defective vision, and many other most unfortunate manifestations.

That Pitkin's warnings received not nearly the respect that ought to have been paid them was evidenced by the observations subsequently made by Brown and Osgood[2] in some eighteen cases of *x*-ray workers who had consulted them. These colleagues had been men in robust health, whose ages ged from 22 to 40 years. Twelve of them had operated *x*-ray tubes from one-half to four hours at least thrice a week during the greater part of each year for from two to six years past. Six of them suffered more or less severe dermatitis of the hands. It was demonstrated, moreover, that the emanations from the tube are capable of affecting subdermal tissues without apparently affecting the skin itself. Brown and Osgood have found also that repeated prolonged exposure in an *x*-ray atmosphere produces sterility in the human subject. And this phenomenon has received repeated corroboration by Pitkin, Foersterling, Schmidt, Lassar, Geyser and others, who have found the *x*-rays destructive of embryonic life and who have not only sterilized by this means mature rabbits, guinea-pigs and fowls, but have also retarded the growth of the young. The destructibility of this agent when applied to seeds and grasses has been abundantly demonstrated.

The German Roentgen Society, meeting recently in Berlin, has recommended that the use of the *x*-ray be restricted to licensed practitioners. In any event the use of this agent should not be permitted the unscientific or the unscrupulous. Adequate protection to all parts of the patient's body not directly exposed for examination or treatment should be universally provided, else a perfectly just malpractice suit may be incurred.

The physician should learn from the many precautions now set forth in the literature for his benefit how to guard himself against the injurious effects of the *x*-ray, as well as to profit by "the beneficent effects of the force at which we have all marveled since Roentgen's discovery put into the hands of the medical profession this great aid to our diagnosis and gave impetus to the development of a valuable addition to our therapeutic measures."

THE ADVERTISING SWINDLER.

Opinion on any subject is largely dependent on the mental perspective. Only on such an assumption can we explain those incongruities of thought and action which we see daily. A case much to the point is exhibited in an editorial that appeared in a Chicago evening paper of recent date.[1] In referring to the aid given an unscrupulous but plausible advertiser by the press in selling him advertising space in which to exploit his get-rich-quick schemes, the paper sums up as follows: "It is an outrage for any newspaper to trade on the trustfulness of its readers in order to share in the profits of swindlers. Reputable patrons of newspapers should demand that they cease to be the beneficiaries of financial sharks through the acceptance of advertising which has fraud written all over it in the light of ordinary business judgment. A newspaper must be honest in its advertising columns as well as elsewhere in order to be really honest." The sentiments expressed are commendable, though—considering the case—somewhat trite; the policy outlined is praiseworthy—and likewise obvious. The incongruity of the thing becomes apparent when we glance through the advertising pages. The notorious "hypothetical cocktail" Peruna, and the equally well-known alcoholic nostrum, Lydia Pinkham's Compound, are found occupying conspicuous places. Mother's Friend, one of those damnable concoctions whose advertisers play on the feelings of dread, uncertainty and fear that possess the expectant mother, is seen shouting its blatant warnings with scare headlines. Cures for drunkenness, cures for Bright's disease, cures for rheumatism and cures for epilepsy, each has its appointed place in this gallery of frauds. Must we conclude that the editor believes that "Bright's disease of many years standing" was "entirely cured with Warner's Safe Cure;" that Golden Remedy "never fails to cure the worst cases of drunkenness;" that S. S. S. positively "cures skin diseases of every form"? Are we to understand that the editor honestly subscribes to all this? Editorial opinion would seem to oppose the idea that the same rule holds with this paper as obtains in some medical journals: To keep the editorial and advertising departments entirely distinct. But examination of the paper forces us to the conclusion that the business policy of the paper is not reflected in the editorial columns. Is it possible that the returns from fraudulent medical advertisements are sufficiently large to purchase immunity to criticism? This much at least is certain—so long as the paper continues to exploit such frauds, so long is it trading "on the trustfulness of its readers in order to share in the profits of swindlers." In giving space to these nostrums, advertising is accepted "which has fraud written all over it in the light of ordinary business judgment." As is said in another part of this same editorial, the "fact that a trusted newspaper permits him" (referring to the financial instead of the medical shark) "to do his lying under its auspices, convinces the credulous and they place"—not their savings, as in the case written of—but their health and lives "in his unscrupulous hands."

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[1] Pitkin (J. T.): Dangers of the X-ray, Virginia Med. Semi-Mo., Feb. 12, 1904.

[2] Brown (F. T.) and Osgood (A. T.): X-rays and Sterility, Amer. Jour. Surg., April, 1905.

[1] Chicago Daily News, April 16, 1907.

WHAT IS FEVER?

Various definitions of the febrile process have been given, but none is entirely satisfactory by reason of the incompleteness of our knowledge concerning the underlying mechanisms. Fever has been attributed to excessive oxidation, but convincing demonstration is lacking that increased amounts of oxygen are constantly taken up by the body and increased amounts of carbon dioxid are constantly given off, or that an increased amount of heat is generated or a deficient amount dissipated. That fever and pyrexia are not one is generally recognized, although the latter usually, though not always, accompanies the former. Dr. Woods Hutchinson[1] indulges in an interesting disquisition on this subject, expressing the view that the phenomena of fever appear to be due to a general disorganization and perversion of normal metabolism by toxins, with conversion of the energy ordinarily expended in secretion, growth, motion, etc., into the waste product, heat. He holds that metabolism is less active during the febrile process than in health, and that it is chiefly destructive instead of constructive. The resulting harm is due not so much to the elevation of temperature as to the action of toxic substances, which, if present in sufficiently large amounts or of a certain degree of virulence, may actually depress the temperature below the normal. When elevation of temperature does take place it may perhaps play the part of a secondary protective agency, affecting unfavorably the active pathogenic micro-organisms. In Hutchinson's opinion the "standard" of fever should be an increase in the daily range of temperature in excess of 1.5 degrees Fahrenheit.

THE ATLANTIC CITY SESSION.

The fifty-eighth annual session of the American Medical Association will be held June 4 to 7 at Atlantic City, and we devote several pages this week to a description of that popular resort. The preliminary program of each section is also published, and a glance at the titles of the articles will show that a high grade of scientific work is in store for those who attend the meetings. This will make the third time that the Association has met at Atlantic City, and consequently a description of the town is hardly necessary for many of our readers. Since the last meeting there, however, the membership of the Association has nearly doubled, and in any event this seaside resort has so many attractions that its advantages will bear repetition. It is the ideal meeting place for the reason that it has ample hotel accommodations of a character to suit both those who want to pay but a moderate price as well as for those who desire all the luxuries. The railroad rates this year are very low—practically one fare for the round trip—but what is of special advantage is the fact that the time limit is longer than on former occasions. As will be noticed by a reference to the paragraph on railroad rates, members may get an extension to June 18. This will give an opportunity to utilize the clinics, etc., that are to be given in Philadelphia during the week following the Association session, to recuperate on the seashore or to enjoy a side trip to the famous eastern metropolis, New York, or to the Jamestown Exposition, perhaps by a delightful boat trip on the picturesque Chesapeake Bay, or to stop for a few days in the Nation's Capitol. The Atlantic City people are making as elaborate preparations as were made at any former session, and they are evidently determined to make the visit of the members of the Association an agreeable one. While it is impossible to prophesy so early, the present indications are that the attendance at the coming session will equal, if it does not exceed, that of last year at Boston.

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[1] Practitioner, April, 1907, p. 496.

Medical News

ALABAMA.

Medical Journal Company Incorporated.—The Alabama Medical Journal Company has been incorporated at Birmingham with a capital stock of $3,000. The company has purchased the *Alabama Medical Journal* from the estate of the late Dr. John C. LeGrande, and intends to continue the publication of the journal.

Personal.—Dr. Willis W. Scales, Mobile, has been appointed assistant surgeon in the United States Public Health and Marine-Hospital Service.——The following staff of the Mobile City Hospital is announced: Surgeons, Drs. William McD. Mastin, George E. Gavin, Douglas G. Campbell and William G. Ward; physicians, Drs. Joseph Schwartz, Ernest S. Feagin, James J. Peterson and Nicholas A. Madler; obstetrician, Dr. Percy J. Howard; pathologist, Dr. Neal E. Sellers, and dermatologist, Dr. M. Toulmin Gaines.

CONNECTICUT.

Venerable Practitioners.—Dr. Ralph J. Griswold, Greenwich, will celebrate the fiftieth anniversary of his entry into the practice of medicine, April 15.——Dr. Gurdon W. Russell, Hartford, for many years medical director of the Ætna Life Insurance Company, celebrated his ninety-second birthday anniversary, April 10.

Vital Statistics.—The vital statistics of Connecticut for 1905, about to be published, shows that 23,271 births were recorded in the year, an increase of 407 over the previous year, and the highest number ever recorded. The number of marriages recorded was 8,075, or 440 more than for the previous year. There were 16,298 deaths, or 16.4 per 1,000, which is a slight increase as compared with the previous year.

DISTRICT OF COLUMBIA.

Personal.—Dr. Luther H. Reichelderfer, superintendent of the Garfield Memorial Hospital for seven years, has resigned to enter private practice, and has been succeeded by Dr. Wayne F. Cowan.——Dr. Eugene L. LeMerle has been appointed by the commissioners medical inspector in the contagious disease service, vice Dr. C. Norman Howard, resigned.

New York Milk Barred.—The Department of Health of the District of Columbia, in its battle for the certification of all milk, has rejected the permits of certain New York shippers and considers the ordinance at present before the Board of Aldermen in New York City as mild in its requirements as compared with regulations in the District of Columbia. The District also declares that cows imported from the Empire State are more generally affected with tuberculosis than are those from other states farther south.

ILLINOIS.

Personal.—Dr. Edward Hassen, Peoria, has been appointed a member of the local Board of Pension Commissioners, vice Dr. Alvin N. Keith, resigned.——Dr. Downing D. Nice and family, Bowen, will leave in a few weeks for their new home in California.——Dr. and Mrs. Hiram E. Johnson, Fairbury, have returned from Crescent City, Fla., where they spent the winter.

State Society Meeting.—The annual meeting of the Illinois State Medical Society will be held in Rockford May 21 to 23. The local committee announces that the places for holding meetings will be within one block of the principal street of the city and within three blocks of all the hotels. The general session and sessions of sections will be in the Church of the Christian Union, and the House of Delegates and committees will meet in the Soldiers' and Sailors' Memorial Hall. A novel feature of the scientific portion of the meeting is the joint sessions of the medical and surgical sections. A part of the section is to be devoted to medicine, another part to surgery and a third to borderland topics. On Wednesday night a banquet is to be given, at which special honor is to be paid to Drs. John H. Hollister, Chicago, and E. O. Ensign, Rutland, who celebrate the fiftieth anniversary of their membership in the society.

Chicago.

Scarlet Fever Spreads.—Scarlet fever is reported to be prevalent and threatens to become epidemic in South Chicago.

Personal.—Dr. and Mrs. Daniel R. Brower have returned from a trip to Egypt and Palestine.——Dr. and Mrs. Clifford G. Grulee sailed for Europe April 27.

Auto Run to Rockford.—It is reported that 50 physicians of the city expect to participate in an automobile run from Chicago to Rockford, May 20.

Emergency Inspectors Discharged.—The 259 employés of the health office, whose services were secured during the recent scarlet fever epidemic, have been discharged on the expiration of the period for which they were engaged.

X-Ray Expert Dies.—Wolfram C. Fuchs, one of the earliest and best known exponents of the Roentgen ray, died at his home in Chicago, April 24, from cancer, said to have been due to prolonged exposure to the Roentgen rays. Mr. Fuchs was an electrical engineer, but became interested in the *x*-ray treatment of disease when Roentgen's researches were first published, and was one of the first in Chicago to use this method of treatment and to take *x*-ray photographs.

Deaths of the Week.—The deaths for the week ended April 27 were 678, or 61 more than for the preceding week, the respective annual death rates being 16.77 and 16.26 per 1,000. Of the chief death causes, pneumonia was responsible for 118 deaths; heart disease for 63; consumption for 55; Bright's disease for 43; violence, including suicide, for 39; and acute intestinal diseases and cancer, each for 30. Scarlet fever caused 17 deaths, diphtheria 13, influenza 7, whooping cough 6, measles 5 and typhoid fever 3.

The New Health Commissioner's Creed.—In the first communication of Health Commissioner Evans he addresses his co-workers as follows:

> If we succeed it will be due to three factors:
>
> 1. The efforts of Drs. Whalen, Reynolds and their predecessors, who have increased the efficiency of the department year by year until it has reached its present position. I wish sincerely to acknowledge our debt to them.
>
> 2. The support of the men of the department.
>
> I must have their help, not only in matters of routine, but in planning and managing and in solving great community problems. It must be our department.
>
> 3. We must have the support of the people and the press.

MARYLAND.

Site for Sanatorium Bought.—The Maryland Tuberculosis Sanatorium has purchased, for $10,000, 192 acres at Sabillasville, as a site for a tuberculosis sanatorium.

School Rooms for Epileptics.—A canvass of the public schools of Baltimore shows that there are 51 children suffering from epilepsy. The school board has decided to establish two or three special classes for epileptic children, beginning with the next school year.

Society Meeting.—At the annual meeting of the Montgomery County Medical Society, held in Rockville, April 16, Dr. James E. Deets, Clarksburg, was elected president; Dr. Charles Farquhar, Olney, vice-president; Dr. John L. Lewis, Bethesda, secretary and treasurer, and Dr. Horace B. Haddox, Gaithersburg, censor.

Personal.—Dr. Montgomery E. Higgins, Boyds, has returned from Panama, and expects to leave this month for Europe.——Dr. Frederick H. Baetjer, assistant in actinography at Johns Hopkins Hospital, Baltimore, was operated on for appendicitis, April 19.——Dr. Charles G. McGill, Catonsville, is reported to be critically ill.——Dr. L. Gibbons Smart has leased a house with 11 acres of land, near Lutherville, for a private sanitarium.——Dr. Henry W. Hodgson has been elected president of the Lonaconing Club.

Tuberculosis Sanatorium.—About 200 acres of land in Frederick County, near Blue Ridge Summit, has been purchased for the Maryland Tuberculosis Sanatorium. The site is 1,500 feet above sea level and the buildings are already in process of construction. Accommodation will at first be secured for about 75 patients. At present, $90,000 is available for the institution, but it is hoped that $150,000 may be appropriated to complete the buildings and to increase the annual appropriations for maintenance from $15,000 to $20,000.

Baltimore.

Measles Prevalent.—During the week ended April 13 there were 105 cases of measles reported with 5 deaths, as against 10 cases in the corresponding week of last year.

Personal.—Dr. Henry Barton Jacobs has been elected a member of the Maryland Tuberculosis Commission.——Dr. Ira Remsen of Johns Hopkins University was elected president of the National Academy of Sciences at its meeting in Washington, April 17.——Dr. Roland B. Whitridge has gone to Europe for several months.

Hospital for Hebrew Consumptives.—Mr. Jacob Epstein has given $25,000 toward the establishment of a hospital for Hebrew consumptives, with the understanding that the management of the institution shall be assumed by the Federated

Jewish Charities. Four individuals have offered $500 annually toward the maintenance of the hospital, and a special committee has been appointed to consider ways and means.

MASSACHUSETTS.

Diphtheria.—An outbreak of diphtheria is reported at Milton and Dorchester Lower Mills, where more than 50 cases have been reported, with two deaths.

Fitchburg in Line.—Fitchburg has organized an association for the prevention and cure of tuberculosis, and among its officers are Drs. Frederick H. Thompson, Cordelia M. Whittier and Herbert J. Wallace.

Medical Library Committee.—A committee consisting of Drs. Walter H. Chapin, Walter R. Weiser and James B. Comins has been appointed to confer with the physicians and medical societies of Springfield, to determine what amount the physicians of the city will agree to give annually per capita for the support of a medical library.

Personal.—Dr. Thomas J. Scanlan, Dorchester, Boston, has been nominated as physician of the fire department.——Mr. Alexander M. Wilson, Boston, who has been superintendent of the Massachusetts Association for the Relief and Control of Tuberculosis, has resigned, to take charge of the Chicago Tuberculosis Institute, and will take up his work there June 1. ——Dr. Edmond A. Bazin, Haverhill, was seriously injured in a runaway accident, April 18.——Dr. Willis L. Tucker has been appointed town physician of Hinsdale.——Dr. James J. McDevitt, East Boston, has been appointed deputy health commissioner.——Dr. James R. Berwick, Methuen, has been reelected town physician.——Dr. Albert Taft has been removed from his position as resident physician at the Penal Institutions, Deer Island.

MISSOURI.

Graduation.—The annual commencement exercises of the St. Louis College of Physicians and Surgeons were held April 26. Dr. Waldo Briggs, dean of the college, conferred the degrees and Dr. Otto Sutter delivered the faculty address.

Hospital Notes.—The Board of Directors of Provident Hospital, which was established twelve years ago by a number of physicians and citizens for the care and treatment of colored patients, is endeavoring to raise $25,000 to purchase a suitable site on which a permanent hospital building may be erected.

Hodgen Memorial Meeting.—At the meeting held under the auspices of the St. Louis Medical Society of Missouri, April 27, to commemorate the twenty-fifth anniversary of the death of Dr. John T. Hodgen, Drs. John C. Morfit, president of the society, and Warren B. Outten, chairman of the committee of arrangements, jointly presided. A life-size oil painting of Dr. Hodgen occupied a conspicuous place on the stage. Dr. Joseph M. Mathews, Louisville, who spoke on "Dr. Hodgen as a National and International Figure in Medicine," eloquently compared him to Lincoln and Daniel Drake, and asked the question whether the spirit of self-sacrifice, of the public weal, of intense thought and application which distinguished Dr. Hodgen, fills the lives of the practitioners of to-day and whether men have not now become so imbued with the spirit of the present times that they allow other things than sturdy accomplishments, honest motives and high principles to actuate them. He advocated that a tablet to Dr. Hodgen's memory be placed in the "Hall of Fame." Dr. Warren B. Outten, St. Louis, who spoke on "The Educational Influence of Dr. Hodgen in the Mississippi Valley," told how his students reverenced him, and how marked his influence had been on the profession of the West. Dr. Charles H. Wallace, St. Joseph, president of the Missouri State Medical Association, who bore witness to "The Debt of Missouri to His Example and Memory," spoke of the benefit to the human race of Dr. Hodgen's skill and learning. Hodgen, he said, was one of the great men of the age. Hon. Charles Nagel, St. Louis, paid an eloquent tribute to "His Worth as a Citizen." Rarely, he said, were such forces of mind and fundamental principles of character united in one man. He was a universal man, not too great for any one profession, but great enough for any one to make it redound to the benefit of the human race. He was essentially an American citizen, and in everything he did there was the all-pervading influence of the citizen and the man. Dr. Henry C. Fairbrother, East St. Louis, Ill., to whom was assigned "His Power and Influence as a Teacher Over His Classes," referred to Dr. Hodgen as the George Washington of the medical profession. He was beloved and reverenced by his students, each of whom felt that in him his professor took an especial and personal interest. Dr. Le Grand Atwood, Ferguson, Mo., who was a fellow-student and roommate of Dr. Hodgen, spoke on "His Student and Social Life," and narrated many reminiscences of the student life of the great surgeon. He was a physical and mental giant and exhibited all the virtues and excellencies that go to make up the real man. Dr. Charles D. Stevens, St. Louis, secretary of the committee of arrangements, then read letters of regret from physicians who were unable to be present, but added their tribute to the memory of Dr. Hodgen.

NEW YORK.

To Defeat Optometry Bill.—The Medical Society of the County of New York has sent a letter to its members asking them to use personal influence with their representatives in order to secure the defeat of a bill regulating the practice of optometry which makes partial doctors of opticians. This bill passed the Assembly April 23. It would create a new profession, and make an entering wedge for the making of specialists of men who are not qualified by education or training for the work which the bill authorizes them to do. If this bill became a law other bills might follow creating separate professions for makers of orthopedic apparatus, trusses, etc., and for vibrationists and others, so that the profession would consist of divisions of practitioners imperfectly educated and trained and licensed to practice under separate laws, which would not be advantageous to the public or to the medical profession.

New York City.

Personal.—Dr. Marcus E. Peterson, Brooklyn, was thrown from his carriage and seriously bruised in a collision with an automobile, April 18.——Dr. Joseph F. Todd, Brooklyn, has been appointed attending gynecologist to St. Peter's Hospital, Brooklyn.——Dr. Arthur R. Eddy, Manhattan, has been appointed assistant surgeon N. G., N. Y., and assigned to the Seventy-first Infantry.

Many Smoke Protests.—The Anti-Smoke League obtained a conviction against the New York Edison Company on April 22, and since that time numerous complaints have been pouring in from all over the city calling attention to the violation of the sanitary code in the use of soft coal. The disposition of small offenders is to adopt means of preventing smoke where soft coal is used, and it is possible to adjust furnaces to such methods.

New Clinical Society.—The medical staff of the New York Throat, Nose and Lung Hospital has organized a society known as the Clinical Society of the Hospital. Members and ex-members of the staff are eligible to membership. The officers are as follows: President, Dr. Elmer A. Miller; vice-president, Dr. Sam Goldstein; secretary, Dr. Charles F. Walter; treasurer, Dr. M. C. Tracy; hospital committee, Drs. Stephen D. Harrison, James J. Concannon and M. I. Schamberg, and scientific committee, Drs. Samuel J. Kopetzky, F. R. Kemple and John A. MacIsaac.

The Mosquito Doomed.—Dr. Alvah H. Doty, health officer of the Port of New York, says that he will make good his promise of five or six years ago that at this time Staten Island would be practically free from the salt-water mosquito. He began the work in 1900. The only way in which the work could be done was by draining. At first much opposition was encountered, but the system of drainage has resulted in reclaiming much land that was formerly valueless. Dr. Doty intends to turn his attention to the study of the different varieties of mosquitoes of New York and vicinity, and expects to find that much disease is transmitted through this agency.

Aid for Hospitals.—The funds raised by the Saturday Hospital and Sunday Association amounted to $103,110, of which $1,555 was derived from the offer of Mr. and Mrs. James Speyer to duplicate all gifts after $100,000 had been raised. The allotment was made to hospitals on the basis of free work done. The Montefiore Home and Hospital and Mount Sinai Hospital received the largest awards, $8,400 each. St. Luke's Hospital received $4,647; Roosevelt Hospital, $4,427; German Hospital, $4,119; Lebanon Hospital, $4,074; Hospital for the Ruptured and Crippled, $3,673; Postgraduate Hospital, $3,504; New York Infant Hospital, $3,499; Society for Lying-in, $3,295; Orthopedic Dispensary and Hospital, $3,104; St. Mary's Free Hospital for Children, $2,942, and others received lesser amounts.——The Presbyterian Hospital will receive between $120,000 and $150,000 by the will of the late Peter Cumming.

NORTH CAROLINA.

College Commencement.—The fifteenth annual commencement of the North Carolina Medical College, Davidson, was held at Charlotte, April 16, when a class of 14 was graduated. The address to the graduates was given by Hon. Charles P.

Pressly, Augusta, Ga. The new building of the college, which was erected at a cost of $30,000, was opened to the public on this occasion for the first time.

Personal.—Dr. Thomas Stringfield, Waynesville, has been appointed inspector-general of the North Carolina National Guard, with the rank of colonel.——Dr. Charles B. Woodley, Kinston, has been elected supreme ruler of the Fraternal Mystic Circle.——Dr. Gaillard S. Tennent, Asheville, has gone to Baltimore for six weeks' postgraduate work.——Dr. William H. Cobb, Goldsboro, is taking postgraduate work in the University of Pennsylvania laboratories, Philadelphia.——Dr. Henry F. Long, Statesville, is building an addition to the Long Sanatorium to accommodate ten additional patients.

OHIO.

Newspaper Notices.—The Marion County Medical Society, at its last meeting, passed resolutions forbidding the members of the society to give items to newspapers regarding cases in which they are interested.

Graduate Course.—A course of lectures, laboratory work and clinics for graduates at the Medical College of Ohio, Medical Department of the University of Cincinnati, is announced to begin April 15 and to continue until June 1.

Elections.—At the semi-annual election of officers of the Association of Assistant Physicians of Ohio State Hospitals, Dr. Earl E. Garver, Columbus, was elected president; Dr. Frank Day Ferneau, Toledo, vice-president, and Dr. Isabelle A. Bradley, Columbus, secretary.——The Second Councilor District Medical Society, at its annual meeting, held in Springfield, April 11, elected the following officers: Dr. J. Robert Caywood, Piqua, president; the presidents of the various constituent societies, vice-presidents; Dr. Asa C. Messenger, Xenia, secretary, and Dr. Webster S. Smith, Dayton, treasurer.

PENNSYLVANIA.

Spotted Fever in Pittsburg.—Anxiety is felt in Pittsburg on account of the prevalence of cerebrospinal meningitis. During March and April 17 cases occurred, with 11 deaths.

Personal.—Dr. Charles D. Schaeffer has been elected mayor of Allentown, vice Dr. Alfred J. Yost, deceased.——Dr. Gaetano Conti, Pittsburg, is to be the guest of honor at a banquet given by the Italians of the city, May 8.

Philadelphia.

Personal.—Dr. DeForest Willard, who has been ill for a year, has returned from the South greatly improved in health and has resumed professional work.——Dr. John B. Deaver has been appointed consulting surgeon to the Philadelphia Hospital, vice Dr. John H. Brinton, deceased.——Dr. George M. Piersoll, chief resident physician at the University Hospital, was given a banquet by the physicians and nurses of the hospital at which he was presented with a silver loving-cup. He is soon to go abroad.

RHODE ISLAND.

Gives Hospital.—Mrs. Ann Crawford Allen Brown has presented the estate of her late husband at Quidnesset, to the Rhode Island Hospital, to be used as a hospital for children afflicted with tuberculosis of bones. The gift is in memory of her father, the late Crawford Allen, and comprises a large brick residence and 100 acres of land.

Tuberculosis Exhibit.—The traveling tuberculosis exhibit was opened in Providence during the week of March 18. It included both the exhibition of the National Association for the Study and Prevention of Tuberculosis and that of the Boston Association for the Relief and Control of Tuberculosis, together with exhibits from Rhode Island institutions.

Personal.—Dr. Maude A. E. Kenney, Providence, was brutally assaulted in her father's residence by a burglar, recently.——Dr. Henry J. Hoye, Providence, was seriously injured by the fall of a counterweight, used to grip cars on the College Hill incline. His face and hands were badly lacerated.——Dr. E. T. Hoffman, formerly interne at the Good Samaritan Hospital, Providence, has been appointed receiving physician at the City Hospital, Cleveland, Ohio.

GENERAL.

Delegates to Red Cross Meeting.—Surgeon-General Robert M. O'Reilly, U. S. Army, and Medical Director John C. Wies, U. S. Navy, have been selected as delegates from the American Red Cross Society to the International Red Cross meeting in London.

CANADA.

Another Fire at McGill University.—A second fire has occurred at this university within a few weeks. This time the fine four-story building of the medical faculty has been totally destroyed. Dr. F. J. Shepherd, professor of anatomy, has lost his anatomic museum; Dr. Ruttan, professor of chemistry, all his private library which he kept in the building; Dr. J. George Adami, professor of pathology, nearly all his pathologic museum and his private library which he kept in the building for the benefit of the students. The latest report states that he managed to save the manuscript of a new work on pathology on which he has been working for many years. Among the many fine pathologic specimens which had been collected by McGill none was finer than the collection of calculi; in fact, it was said to be the finest in the world. The Osler collection was also entirely destroyed. These specimens Dr. Osler collected while he was pathologist to the Montreal General Hospital. The main building of the Medical Faculty of McGill was erected in 1873. Large additions and alterations were made in 1885 and again in 1893. It was at this time that Lord Strathcona endowed the chairs of pathology and public health with $100,000. Six years after he again contributed $100,000 for the development and extension of the museums, laboratories and library. The latter contained 24,000 volumes and was completely destroyed. This is the seventy-fifth session of McGill, and the students enrolled in the medical department numbered over 400. Coming so quickly on the destruction of the engineering building, incendiarism is suspected and an investigation is proceeding.

FOREIGN.

Politzer's Retirement.—At the end of the summer term, 1907, Prof. A. Politzer will have arrived at the age beyond which, according to the laws of Austria, he may not retain his chair at the University of Vienna. He will therefore resign this position, as well as that of the head of the Vienna ear clinic. The lectures which he has delivered for the past forty-six years will cease. A formal celebration had been planned, but Professor Politzer requested that in view of the fact that a number of deaths had occurred in his immediate family, no public celebration take place. Dr. Hugo Frey, Vienna, informs us that it has been decided to present to Professor Politzer a gold medal bearing his portrait made by a renowned sculptor. Copies of this medal, some in silver and others in bronze, will also be struck off to serve as souvenirs. These will be disposed of at $5 and $2.50 each, respectively, and the names and addresses of all subscribers will be presented with the gold medal and address to Professor Politzer. Dr. D. Kaufmann, Vienna, vi, Mariahilferstrasse 37, will receive all communications and remittances. Any surplus there may be will be put at Professor Politzer's disposal as a fund to further some scientific object.

Thirty-sixth Congress of German Society for Surgery.—As mentioned elsewhere, this congress was held at Berlin, April 3-6, and Rehn opened the proceedings with a summary of what has been accomplished with surgery of the heart since he first attempted it in 1897. He does not approve of cutting a large flap for access, and stated that by temporary compression of the veins with the fingers the suture can be done on the practically empty heart. Riedel and Kümmell reported that exposure of the heart and direct massage had not proved successful in their hands in resuscitating patients in "chloroform death." The momentary effect was remarkable, but actual life was not restored. Küttner related the clinical cure of a patient with leukemic wandering spleen treated by splenectomy, and Bakes an interesting case of hour-glass stomach treated by gastroenterostomy in each half of the stomach, the implanted loops uniting as they entered the intestine below. The second session was devoted mainly to operative treatment of pulmonary affections. A number of surgeons described favorable experiences with surgery of the lungs; some spoke of experimental research with the Sauerbruch under-pressure cabinet. Lenhartz reported 85 cases of gangrene of the lung in which he had operated. In 53 cases the patients were cured, as also in 4 out of 5 cases of abscess. In 26 cases of carcinoma of the lung—diagnosed mainly by the presence of fat granules in the sputa—he operated in 4 instances, and one of the patients is clinically cured for the time being. Körte stated that he had lost 3 patients in collapse in operating on the lungs. Garrè recommends displacement of the lung and pneumolysis to allow the lung to retract and bronchiectasia to subside. The speakers did not seem to consider the Sauerbruch air cabinet indispensable for operating on the lungs. Küttner and Wendel attempted to operate on the esophagus under over-pressure, but both patients succumbed. Kümmell reported 4 deaths in 19 prostatectomies, and Völkers a mortality of 9.7 per cent. in 32 perineal prostatectomies, and 2 deaths in 7 transvesical operations. Rumpel called attention to the psychic disturbances sometimes observed after removal of the entire prostate, in many cases leading to suicide. For these reasons Rovsing avoids prostatectomy whenever possible, and prefers cystostomy with a special catheter left permanently in place. The discussion seemed to show that the transvesical route is coming to be regarded as the easiest and least dangerous. Rovsing reported successful removal of the entire bladder with implantation of the ureters in the groin with receptacles worn to collect the urine, which have proved very satisfactory. Jacoby exhibited a stereoscope with which the interior of the bladder can be inspected. Hoffmann described what he calls "suprahyoid pharyngotomy," a transverse incision for access to a tumor in the nasopharynx. Haberer reported implantation of kidney tissue, but without definite results. Bockenheimer stated that he has noticed that wounds infected with tetanus did not lead to tetanus if they were treated with a salve and Peruvian balsam. He advocates, therefore, the application of antitetanus serum directly to the wound in the form of a salve. Our German and French exchanges for April contain more or less detailed accounts of the congress and of the orthopedic and Roentgen congresses just preceding. They mention the presence of Dr. Keen as guest of honor. The official transactions of the surgical congress are published in a special issue of the *Centrbl. f. Chirurgie*, generally in July.

Pharmacology

ANASARCIN AND ANEDEMIN.

Reports of the Council on Pharmacy and Chemistry and Comments Thereon.

The following reports were submitted to the Council by the subcommittee to which these articles were assigned:

ANASARCIN.

> *To the Council on Pharmacy and Chemistry:*—Your subcommittee to whom Anasarcin (Anasarcin Chemical Co., Winchester, Tenn.) was assigned, herewith submits its report:
>
> This remedy is offered in two forms: "Anasarcin Tablets," a pretended combination of the active principles of oxydendron arboreum, sambucus canadensis, and urginea scilla; and "Anasarcin Elixir," said to contain the active principles of oxydendron, sambucus, hepatica and potassium nitrate. The advertisements of these articles conflict with the rules of the Council as follows:
>
> With Rules 1 and 2: The composition of these articles is kept secret, in that the proportion of the ingredients is not furnished. The statement that it contains the "active principles" is misleading, since these are for the most part unknown.
>
> With Rule 6: The description of the pharmacologic action of Anasarcin agrees practically with that of squill. No material part of its effects can be attributed to the other ingredients. Nevertheless, the advertisement studiously cultivates the impression that Anasarcin has no relation whatever to the digitalis group in which scilla is commonly placed. The claims are therefore misleading. The claim of its infinite superiority to digitalis, the claims that it cures neurasthenia, eliminates uric acid in rheumatism, and is useful in obesity, cystitis, lumbago and eclampsia, dyspepsia and asthma, and that it works wonders in exophthalmic goiter, appear exaggerated or false.
>
> The recommendation of its indiscriminate use in nephritis, for lowering the blood pressure and the statement (contradicted in the firm's own literature) that it is not depressing are actually dangerous.
>
> It is recommended that the articles be refused recognition, and that the report, with explanations, be published.

ANEDEMIN.

> *To the Council:*—Your subcommittee to whom Anedemin (Anedemin Chemical Co., Winchester, Tenn.) was assigned herewith submits its report:
>
> Anedemin is an evident imitation of Anasarcin. It is marketed as tablets, said to contain the isolated active principles of strophanthus, apocynum, squill and sambucus—chemically combined. The quantities are not stated. The therapeutic claims are copied almost literally from the Anasarcin circulars and are equally false. Anedemin, therefore, conflicts with Rules 1, 5, 6 and 7.
>
> It is recommended that this report be published with comments.

The reports were adopted by the Council and are herewith published.

W. A. PUCKNER, Secretary.

REMARKS ON ANASARCIN AND ANEDEMIN.

ANASARCIN.

This wonderful remedy, Anasarcin, has already been exposed in these columns (vol. xlvi, p. 288), but it deserves additional mention, as it teaches several important lessons of general application. It is a typical example of the revival, under a new name and a thin disguise, of an old, time-worn article, squill, the use of which in dropsy has been practically discarded, presumably because experience has demonstrated its general inferiority to other drugs. Anasarcin further illustrates the dangers involved in the use of semi-secret nostrums. It also shows how a short experience with a widely advertised but little understood drug is apt to lead to conclusions which more extensive experience demonstrates to be entirely fallacious.

The first lesson is, that formulas are not always what they seem. A hasty glance at the formula of Anasarcin tablets, the basis of the Anasarcin dropsy cure, creates the impression that it is a non-secret remedy; for it is said to represent a combination of the active principles of oxydendron, sambucus and scilla. As a matter of fact, it is a secret nostrum of the insidious kind. A formula which omits the quantities of its potent ingredients means very little. Further than this, we do not hesitate to charge that the claimed composition is a deliberate deception. The circulars emphasize the claim that Anasarcin consists of the *isolated principles*, and not of the crude drugs. Now, the isolated active principles of cambucus and oxydendron are not on the market, for the good and sufficient reason that no active principles have ever been isolated. Are we to believe that the Anasarcin Company has surpassed the accredited chemists and has discovered such principles and is isolating them? We shall have more to say on this subject presently; but any one in the least familiar with the difficulties attending the isolation of organic principles knows such an idea to be preposterous. Indeed, it is absolutely incompatible with the exhibition of ignorance of the elementary facts of pharmaceutical chemistry which is given by these people when they call the active principles of digitalis and squill "alkaloids."

It is an axiom that the effects of a mixture can only be understood if the actions of its components are known. So far as we know, the physiologic effects of oxydendron and sambucus have never been scientifically investigated, for the simple reason that they are too slight and indefinite to promise results. Both are credited with some slight, obscure diuretic action. Oxydendron, the sour wood or sorrel tree, is a small tree of the heath family, the acid leaves of which are said to be chewed by hunters for their pleasant taste and for the relief of thirst. Sambucus is the common elder. It is most unlikely that these two innocuous substances should play any part in the claimed powerful effect of Anasarcin; they are evidently put in the formula, we do not say in the preparation, to obscure the fact that Anasarcin is composed principally of squill. That this is so can be gathered unmistakably from a study of the pharmacologic action of Anasarcin as described by its promoters:

> Acting primarily on the heart and arterial systems through the nerve ganglia. a natural physiologic balance is established between the arterial and venous systems, whereby effusions . . . are eliminated. . . . Coincident with this action there is a noteworthy *slowing* of the pulse. . . . If the remedy is pushed, can be brought down to 20 or 30 beats per minute. . . . Its physiological action is to stimulate the cardiac motor-ganglia through the cardiac plexus of the sympathetic system and at the same time exert an inhibitory influence upon the cardiac fibers of the pneumogastric, thereby dilating the arterioles, slowing the heart's action, and increasing the force of the systole. . . . The prolonged diastole allows the ventricle time to completely fill, and the more forcible contraction causes the mitral valve to close more thoroughly and at the same time increases pressure in the coronary arteries, serving thereby the double purpose of relieving pulmonary engorgement and increasing heart nutrition.
>
> Anasarcin will nauseate some persons.

To appreciate fully the meaning of this description of the actions of Anasarcin, it should be compared with the effects of the digitalis group, to which squill belongs. The following account is quoted literally from a recent Text-Book of Pharmacology (Sollmann):

> The phenomena of the therapeutic stage of digitalis action are said to be:
>
> 1. Slowing of the heart, with systole and diastole both lengthened.
> 2. Increased strength of beat, leading to greater efficiency of the individual contractions, and to an increase in the total efficiency. . . .
> 3. A tendency to the systolic phase.
> 4. A rise of blood pressure, due mainly to the increased action of the heart, but partly also to a vasoconstriction. . . .
>
> Abnormal dilation of the heart is lessened and irregularities tend to disappear.

The therapeutic effects are explained, in part, as follows:

> A larger amount of blood will be thrown into the aorta and coronary circulation. The first effect will be an improved condition of the heart. . . . The tonic action . . . narrows the ring of the valves, brings them closer together, narrows the orifice. . . . The venous congestion will tend to be relieved. This relief will fall in the first place on the lungs. . . . The lowering of the venous pressure will tend to cause absorption of the effusions. . . .

The nauseant action of squill, which is alluded to in connection with Anasarcin, is too well known to require more than a mention.

In brief, then, it appears from the statements of the Anasarcin Company that the action of the remedy is that of squill and that the other ingredients are a mere blind. It is, of course, well known that squill can be used as a substitute for digitalis in cardiac dropsy, although it is generally considered very inferior to the latter drug. Rose Bradford, for instance, states: "Squill is not used to any extent in the treatment of cardiac disease and cardiac dropsy, digitalis being a far more efficient and less toxic substance." However, it has been frequently observed that digitalis occasionally fails, and it may then be replaced successfully by another member of the group. At all events, it is very likely that squill is a fairly efficient substitute for digitalis, especially when it is supplemented by a very free course of Epsom salts and by potassium nitrate (the active ingredient of Anasarcin Elixir), both of which are stated to be essential adjuvants to the Anasarcin (or squill) tablets. There can be no objection to the use of squill when it is indicated; but any one who wishes to use it should do so with his eyes open, knowing what substance he is using and how much (which he does not in Anasarcin); knowing also that it has the same indications and limitations as digitalis. He should not be misled by such statements as the following:

"Does what dropsy medicaments have hitherto failed to accomplish."

"Superior to digitalis, strophanthus, scoparius, squills, acetate of potash and the hydragogue cathartics all put together."

"The only known relief" (how modest!) "and permanent cure of dropsies."

"Unrivaled heart tonic." "The most powerful agent known."

Any one wishing to use squill should take the trouble to acquaint himself with the results obtained by competent and independent observers, and not rely on it in eclampsia, septicemia, "vices of civilization," all forms of neurasthenia, as "an active eliminator of uric acid in rheumatism," in hepatic cirrhosis, dyspepsia, asthma, obesity, cystitis (!), lumbago, exophthalmic goiter, etc.

He should also learn the contraindications to the use of squill, deducible from the fact that it causes vasoconstriction and raises the blood pressure (prohibiting its use in Bright's disease and arteriosclerosis), and that it produces marked gastric irritation, consequently nausea and depression, that it is a very toxic agent, and that the dangers of cumulative action must be borne in mind. In respect to these the advertisements of the Anasarcin people are little short of criminal, for these state:

"Safe in administration." "Non-toxic as ordinarily administered." "Will nauseate some persons," but "the reaction from the temporary depression is prompt." "In Bright's disease, both the interstitial and parenchymatous forms of nephritis, acute or chronic, no remedy . . . to equal it in efficacy." "Without increasing the debility of the patient or interfering with nutrition by producing loss of appetite." "This treatment is to be continued without cessation until all symptoms of dropsy have disapppeared."

Physicians who are inclined to disregard this warning, and who follow the advice of the Anasarcin people, should remember that their patients—or their friends—will put the blame for the results, which are bound to follow sooner or later, on the prescribers, and not on the deceptive advertisements of the Anasarcin Chemical Company.

There is another little matter which throws an illuminating side-light on the Anasarcin Company. They take every occasion to say that Anasarcin is "not offered to the laity," "never sold to the laity," etc.; but witness the following, which was found in the *Retail Druggist* of May, 1906, p. 179. The italics are ours:

> CURE FOR DROPSY.
>
> As every druggist knows, dropsy has been one of the incurable diseases when caused either from heart, liver or kidney trouble. *A pharmacist* in Winchester, Tenn., *has worked out a remedy* called Anasarcin, which he is exploiting to the physicians, and his remedy is showing itself as possessing great merit. Several hopeless cases have been treated as a last resort by Anasarcin and in a very short time the patient has shown marked improvement and has effected permanent cures.
>
> The result of the cases as handled by the physician with the aid of Anasarcin has been so easily and quickly cured that physicians of Tennessee and the southern states are high in their praises of the remedy. The company which now manufactures and sells it is known as the Anasarcin Chemical Co., of Winchester, Tenn. *Any druggist who knows of a case of dropsy would be conferring a favor on the patient and mankind in general by telling the party* or his physician *of the southern pharmacist*, and we have no doubt but what a prompt relief and permanent cure would be affected. [Probably means effected.—Ed.]

(*To be continued.*)

Correspondence

The German Surgical Congress.

Berlin, April 6, 1907.

To the Editor:—The thirty-sixth annual meeting of the German Surgical Society has just come to an end. It has occurred to me that it might be of interest to some of your readers to learn something of its management. In many respects it is a decided improvement on the conduct of similar meetings with us, and we would do well to imitate them. Of the scientific proceedings I shall say nothing, as these you will get from others.

The society has over 1,600 members and 76 new ones were added this year. It is, therefore, the largest, and I think it is fair to say also the most important surgical society in the world. Over 800 were in attendance. The meetings are always held in Easter week in the Langenbeckhaus, in Berlin. As the hall seats only 500 to 600, cards of admission have to be shown. Even the aisles were well filled. Strangers are admitted to a rather narrow gallery on three sides of the hall.

The arrangement of the hall is excellent. It is nearly square, the seats rising abruptly as in an amphitheater, so that all can see and hear well. It is lighted wholly by a large skylight, and by electricity at night. The president, flanked by the other officers, sits on a long, raised platform and back of him is a higher platform or "tribune" to which each speaker ascends. Back of the speaker is a blackboard with a wainscoted wall on each side on which charts, pictures, etc., were fastened by the thumb-tacks used by artists. Above this wainscoting and on the side walls were hung a number of portraits. In the middle was Langenbeck and, as if to show that surgery includes pathology and the surgical specialties, v. Graefe's portrait hung on his right and Virchow's on his left. Among the others were Billroth, Czerny, v. Esmarch, Thiersch and other Germans, while Lister, Paget, Spencer Wells and Ollier represented the international character of our science. von Bergmann's portrait was appropriately draped in crêpe. The sorrow for his so recent death was universally expressed, and during the president's address, when he had spoken of their loss, the entire audience rose for a moment to express their homage and respect. Few men have wielded a wider influence, especially by his charming personality and his handsome presence. It would be hard to find four finer looking men than Langenbeck, Bergmann, Esmarch and Czerny.

The congress lasts four days instead of three, as is usual with us, and the hall was as full on the last day as on the first. It is a series of serious meetings, with surgery as the important business to be transacted. They meet from 9 to 1 and 2 to 4, beginning and ending promptly. No time is lost at lunch, as this is served in the lobby at a most reasonable price. No social functions interfere with the scientific business of the day. Only in the evening are there any dinners. Attention to the business of the meeting is essential, for though the rule of the society allows only 70 papers, there were 100 on the program this year, and in addition to these there were a few discussions. No wonder that so portly a volume of Transactions is issued every year. There were some unavoidable absentees, and so probably only 80 to 85 papers were actually presented. Moreover, only a few of these were read, and those not usually *in extenso*. Fifteen minutes is the time allowed for papers and five for demonstrations and discussions, though the rule was not very strictly adhered to. If a speaker was dull and uninteresting (of which there were only four or five, I think), the audience did not hesitate to give him notice to stop by slight but very perceptible shuffling and stamping of feet. There was no applause, not even at the end of the president's address. The only expressions of approval were half-murmured "bravos" on a few occasions.

Not only was the blackboard freely used, but there were generally drawings, models, specimens, photographs, skiagraphs and many patients shown, which added greatly to the interest and the comprehension of the audience. While not a few of the papers were by younger men, yet the German deference to age, distinction and official position was much in evidence. The "Ausschuss" members make up a sort of large Executive Committee, who transact most of the business. They are generally among the older and more distinguished men. They are admitted by a separate door and occupy the front seats, and are prominent in the proceedings.

Even the treasurer's report was brief, and a still shorter summary was placed on the blackboard for every one to see.

Readers of papers generally read only abstracts, but publish the papers in full. Most of them instead of reading gave *extempore* the substance of their communications. The speaking, even in debate, was excellent, rarely with hesitation or halting, and the German was fluent and well pronounced. The few who read from manuscript generally made the mistake, so common with us, of reading very closely. A reader should know his manuscript so well that for at least two-thirds or even four-fifths of the time he can look into the eyes of his audience. Only so can he hold their strict attention. A close and especially a droning reader puts them to sleep.

There were few discussions, but these were admirable. Those who took part were well chosen and had evidently prepared themselves. They added something to the subject discussed. *Per contra* there was very little spontaneous debate, that is, debate properly so called; little of quick expert fencing, few sparks from the clashing of firm but differing views, little of that ready repartee which is often seen with us. Most of the papers were not even submitted for discussion. When one was held it was generally on a group of allied papers. Indeed, there was no time for more.

Professor Riedel of Jena was an admirable presiding officer, with a clear voice, clean-cut enunciation and a fund of humor which lightened most agreeably the sometimes over-serious proceedings. Never was an audience more responsive. They "caught on" instantly.

Professor Riedel is succeeded by v. Eiselsberg of Vienna, a most excellent choice.

In one respect we certainly should institute a reform—our long-drawn-out dinners. Rarely do we get away till 12 or 1 o'clock, and I am sure that no one who was present at the British Medical Association dinner at Montreal in 1897 will forget his weary wending to his hotel toward 3 a. m. Here the single official social function was the dinner on Thursday evening. The invitation named 5:30 p. m. as the hour. We sat down at 6. The dinner consisted of only six courses, besides cheese, fruit and coffee. The speeches began after the first course, and while they were being made the waiters waited. Professor Riedel, of course, gave as the first toast "The Kaiser." He was followed by König, Küster, Czerny, v. Eiselsberg and Rovsing of Copenhagen. The president introduced no one. Each rose, apparently spontaneously, called attention by klinking his glass, spoke for three to five minutes, and after the three "Hochs," the next course was served. By 8:30 we broke up into little groups, and many went home, and by 9 o'clock—when we would be only at the beginning—nearly everybody had gone. One private dinner was at 5:30, the others at 6:30 p. m. If I can persuade American medical men to adopt such a sensible procedure, I shall not have written in vain. I can not see that there is any real obstacle to prevent such a genuine and welcome reform.

Most of the leading men were here. In addition to those I have mentioned there were Rehn, Lauenstein, Helferich, Gluck, Garrè, Lenhart, Körte, Bardenheuer, Kümmell, Rydygier, Kausch, Krause, Mr. Arthur E. Barker of London, and many others. Unfortunately, Trendelenburg, Kocher, Bier and some others were unable to come.

The relic of medieval barbarism, the deformities resulting from scars received in student duels, I thought less in evidence than in former visits to Germany. Such scars only make handsome men ugly and ugly men *noch hässlicher*. In a country so highly developed intellectually, it is a marvel that such a custom can persist at all. If my observation is correct, it would seem that it is dying out—a consummation devoutly to be wished. Whether I am right in this or not, I am surely right when I say that nowhere will an American surgeon receive a heartier welcome than from his German colleagues, and nowhere will he be apt to learn more.

W. W. Keen.

P. S.—Just as I finished this letter Dr. James H. Honan called to invite me to a meeting of the "Anglo-American Medical Association," which was founded by him and of which he is still president. Its headquarters are in Rothacker's Buchhandlung, 105 B Friedrichstrasse. Every Saturday night they dine at 7:30 in Room No. 1, Heidelberg Restaurant, in the same building as the Central Hotel, opposite the Friedrichstrasse station and only five minutes' walk from the Langenbeckhaus. At 8:30 they have a lecture, or informal talk, by a German professor or docent. This evening's lecture was by Schleich—him of the "fluid"—and was excellent. The association numbers usually from sixty to eighty. The entrance fee is only $1. They are doing an admirable work in helping American students in selecting their courses of study and giving information and help in every possible way. A similar Anglo-American club exists in Vienna, with its headquarters at the Café Polyklinik, opposite the Allgemeines Krankenhaus.

Not only should every American student in these cities join these clubs, but the older men should visit them and encourage our younger hard-working colleagues. If I may judge by my experience to-night, such visits are most highly appreciated.

W. W. K.

Miscellany

The "Lancet" on the Work of the Council on Pharmacy and Chemistry.

Under the caption "The American Medical Association and Proprietary Remedies," the *Lancet* (April 20, 1907), has this to say:

The Council on Pharmacy and Chemistry of the American Medical Association is making excellent progress in its campaign for the reform of the trade in proprietary medicines. For over two years a body of experts has been systematically collecting information concerning proprietary medicines sold in the United States, with a view to separating those which comply with a certain ethical standard from those which do not.

The Association has just issued two publications which indicate the results of this investigation up to the present time. One of these booklets contains monographs on a number of unofficial and proprietary drugs tentatively approved by the Council on Pharmacy and Chemistry. This is to form the basis of a volume to be called "New and Non-official Remedies." The other booklet contains a number of reports by committees and analysts on proprietary medicines to which recognition in that volume is to be refused. No article advertised to the public is accepted for inclusion in "New and Non-Official Remedies," nor is a recommendation for the treatment of any particular disease permitted on the label or on an accompanying circular. A false statement by the manufacturer as to the origin, source, or therapeutic value of this drug prevents recognition, and the Council insists that in the case of every compound the names and proportions of all active medicinal ingredients and of alcohol, together with the identity of any preservative used, shall be honestly disclosed. In the case of chemical substances, structural formulas are also required. The manufacturer's statements are checked when necessary by analysis in the laboratory. If the trade name of an article be insufficiently descriptive the Council reserves the right to include in "New and Non-Official Remedies" a descriptive title as well as the trade name. The Council is careful to state that even when all these conditions have been duly complied with, acceptance does not connote a recommendation but merely implies that so far as is known the fixed ethical standard has been reached. The monographs in the booklet thus tentatively approved follow to some extent the model set by pharmacopeias. As nearly all the remedies included are the subject of proprietary rights, the trade name—whether this be registered trade-mark or not—forms the title of each monograph, a fact which will greatly benefit firms owning any kind of proprietary interest in the names of remedies. Following this are synonyms, then the description of the remedy, its method of preparation, distinctive characters and tests, actions and uses, and dosage. Finally, the name of the manufacturer and the nature of his rights, whether arising through a patent or a trade-mark, are given.

The second of the two booklets issued by the American Medical Association contains, as has been stated, reports on certain proprietary articles which do not reach the ethical standard laid down by the Council on Pharmacy and Chemistry. Sometimes the report consists merely of quotations from advertising literature, the language of which is itself sufficient to explain to the medical profession why the articles referred to have not been acceptable. In one or two cases letters from irate manufacturers objecting to give away their trade secrets are printed. Analytical reports show that proprietary brands of "metabolized cod-liver oil" and "cod-liver oil cordial" contain no cod-liver oil at all. A preparation freely advertised both in the United States and in Great Britain as a "laxative salt of lithium" was found to consist almost wholly of sodium citrate and sodium sulphate. A number of proprietary powders and tablets were found to contain so large a proportion of acetanilid as to disentitle them to the recognition of the Association. A proprietary "coca wine" emerges unsuccessfully from the ordeal of analysis accompanied by a scrutiny of the advertisements of the wine. The committee believes that this wine is intended primarily to be a beverage, not a medicine. For one reason or another a considerable number of substances have been weighed in the balance and found wanting.

This authoritative separation of proprietary remedies into two distinct classes is a notable step in advance of previous attempts to deal with a growing difficulty and a grave evil. Many proprietary compounds and so-called synthetic drugs are articles which ought not to be prescribed by medical practitioners in any circumstances. The difficulty has been that the medical profession has had no satisfactory means of distinguishing between the worthless and the useful. For it is undoubtedly true that some remedies which are the subject of proprietary rights are valuable and almost necessary additions to the therapeutic agents at the service of physicians. However much we may object to the principle of private monopolies in things which are a public necessity, it would be too much to expect that a manufacturer who spends large sums of money on chemical and clinical research should dedicate to his trade competitors the advantages of the genuine discoveries of his employés. The American Medical Association has recognized this at the onset and has begun its work with conspicuous wisdom. For the future it contemplates the formation of a corps of medical consultants connected with large hospitals and also the establishment of a chemical and pharmaceutical laboratory in the Association's premises. Many more substances still have to be investigated, but from the work which has already been accomplished it may fairly be anticipated that the publication of "New and Non-Official Remedies" when completed will serve a most useful purpose. There will then no longer be any excuse for the prescribing by medical practitioners of discreditable proprietary medicines, or for the acceptance by newspaper proprietors of fraudulent advertisements in respect of such nostrums. If medical men, pharmaceutical chemists and druggists are willing to take active steps to educate public opinion in the matter of quack medicines, educative material in plenty will be supplied by the American Medical Association, whose action will only need their energetic support in order to confer a conspicuous benefit on the body politic.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

"What Fools These Doctors Be."

In the April number of the *Memphis Medical Monthly* appears an article with the above title by Dr. Buford of Memphis. The arguments he uses to establish the truth of his statement are many. The paper is too long to quote in full, but some of Dr. Buford's remarks are entitled to reproduction. He says: "Physicians are not diplomats, but they do more for the advancement and welfare of mankind than do all the statesmen combined. They are poor, yet they do more charity than all the philanthropists put together. They are not over-religious, but they practice more Christianity than do the clergy. They are not over-virtuous, but they are the custodians, often, of a woman's purity, and too often of her good name. They are the public servants, yet they carry more secrets in their innermost souls than ever were confessed to priests. The average doctor's influence is great in his community, yet he is the tool of every demagogue and politician."

As to the manner in which the profession has been duped by the proprietary medicine manufacturer, Dr. Buford, as might be expected, has very positive ideas. He says: "We are especially used by proprietary medicine men, and, like the patient ass, we meekly submit to their burdens and only occasionally kick when we are prodded too deep. They approach us with samples and bait us until we begin to prescribe their products, without knowing what they contain, and most of us don't care so long as they are palatable, give results and have names which are easy to write."

Dr. Buford carefully sets forth the way in which physicians are victimized by professional dead beats. He says: "If you fail to meet your obligation at the bank promptly, this becomes known to every banker in the city, and when you again stand in need of money, the banker will tell you that he is sorry, but he has no funds to loan. But when the patient who has worked Dr. S. as long as he can, rings up Dr. B. and tells him to come right up to his house, Dr. B. goes in all haste to see him and gives him his best efforts and is fed on promises as long as they will last, after which the patient sends for Dr. J. There are enough doctors in Memphis for him to have a new one every week or so for several years."

His conclusions are that physicians themselves are responsible for most of the charges in the indictment and that, if it is true that doctors are fools, they have no one to blame but themselves.

Contract Practice and Township Trustees.

Dr. Albert S. Barnes, Botkins, Ohio, sends the following discussion:

"In view of the prevailing interest more recently manifested in our profession's material welfare, I take pleasure in reporting the following resolutions, which are self-explanatory: Under date of Jan. 29, 1907, these resolutions were signed by the seven physicians residing in the township. It is to be hoped that similar concerted action of the members of our profession throughout the country may 'hasten the day' when we shall state our terms to all corporations, private and public, with the same freedom that we do to our ordinary patients. When this shall have been accomplished, we shall be justly entitled to, and may hope to receive, due consideration."

Whereas, The trustees of Dinsmore Township, Shelby County, Ohio, have objected to paying regular fees for medical services rendered to paupers and have announced their intentions to "advertise for the lowest bidders" for this work; be it

Resolved, That we, the physicians of the said township whose names are hereunto annexed, disapprove this action of the trustees for the reasons, among others, that such action would, in many cases, curtail the liberty of the patient in his choice of a physician and so cannot subserve the best interests of the patient in his betterment or recovery; and, that such proposed action of the trustees would, if concurred in by us, contravene the Principles of Medical Ethics of the medical fraternity; and, be it further

Resolved, That we will not individually nor collectively bid in the township work, but that we will present bills for payment at the regular fees of the Shelby County Medical Society for any work done for the township's paupers.

"For the benefit of those who doubt the possibility of such action among the physicians of his own neighborhood, it may be proper to add that only three of the seven signing these resolutions are members of the county society, and that no greater harmony prevails here than in other sections. But we hope this action may be a step toward greater harmony and increased membership in the society, with all the professional betterment thus attainable. Surely an enlightened profession with as great demands for money as assail present-day physicians should be able to agree at least in the one point of fairly adequate 'pecuniary acknowledgment' from their patients."

New York Law Not Responsible.

In a recent letter a correspondent states that several life insurance companies are circulating the report that all companies having home offices in New York state are prevented by the new insurance law recently adopted in that state from paying more than $3 for medical examinations for policies under $3,000, and that the responsibility for the reduction in life insurance examination fees rests with the New York legislature and not with the officers of the companies. This matter has already been discussed in The Journal, Dec. 8, 1906, but, as the statement is still being made by insurance promoters, we take this opportunity to call attention to the misleading nature of this claim. The New York law does not limit the amount paid for medical examinations. Several of the larger companies reduced their fees long before the New York law was passed.

Education in Sexual Hygiene.

The Ottawa County (Mich.) Medical Society held a public meeting on April 11 for men, particularly college and high-school students and young men just entering business life. The topic was the prevalence of diseases incurred through immorality and the best methods for their prevention. The physician's side of the case was given by Dr. H. Kremers, whose paper was discussed by Dr. T. J. Huizinga. Local clergymen, prominent lawyers of the town, the president of the local college and the county and town superintendents of schools all took part in the discussion. The meeting was well attended, and it is felt that much good resulted. The secretary of the society reports that the meeting is largely the result of the visit of Dr. McCormack to Ottawa last October.

Non-Repetatur.

In harmony with the local druggists' association, the Summit County (Ohio) Medical Society has taken action to prevent the refilling of prescriptions issued by its members without an order from the prescribing physician. A statement of the action of the society and an explanation of the reasons therefor and the relation to the health and well-being of the public were published in a local paper.

McCormack in Iowa.

Reports received from Iowa, in which Dr. McCormack has spent the greater part of April, indicate that the meetings held in that state have been unequaled in interest and attendance. The engagements had been well advertised and thoroughly worked up among the physicians and the public. The newspapers, almost without exception, showed great interest in the work, printing lengthy notices and announcements of the meeting in advance and long reports of the lecture after the meeting. Details regarding the Iowa meetings will appear later.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LITERATURE ON OPSONIC THERAPY.

Menominee, Mich., April 17, 1907.

To the Editor:—Can you furnish me with a list of articles on the opsonic index and opsonins? H. A. Vennema.

Answer.—As others have asked similar questions, we give a list of recent literature. The following articles on the opsonic theory have appeared in The Journal A. M. A. during the last few months:

Phagocytosis and Opsonins, L. Hektoen, Chicago, The Journal, May 12, 1906. p. 1407.

Abstract of Sir Almroth E. Wright's address at the Boston Medical Library meeting, Nov. 3, 1906, p. 1905.

The Opsonic Index in Medicine, N. B. Potter, N. E. Ditman, and E. B. Bradley, New York City, Nov. 24 and Dec. 1, 1906.

The Opsonic Index in Typhoid Fever, C. P. Clark, Chicago, Dec. 29, 1906, p. 2159.

A Series of Medical and Surgical Affections Treated by Artificial Autoinoculation, A. P. Ohlmacher, Feb. 16, 1907, p. 571.

Study of the Opsonins, E. A. Knorr, Baltimore, April 13, 1907, p. 1255.

A Convenient Method of Obtaining Clump-Free Emulsion for Opsonic Work, J. E. Pottenger, Monrovia, Cal, April 13, 1907.

The Percentage Index Versus the Bacillary Index in the Estimation of the Opsonins, C. E. Simon, Baltimore, Jan. 12, 1907, p. 139.

The following articles have appeared in American, British and Canadian journals as indicated:

The Opsonic Theory and Its Practical Application to Medicine and Surgery, G. W. Ross, *Brit. Med. Jour.*, London, July 7, 1906; abstracted in The Journal A. M. A., Aug. 4, 1906, p. 390.

Observations on the Opsonic Index and the Antipneumococcal Power of the Blood in Pneumonia, H. E. Wolf, Chicago, *Jour. Infect. Dis.*, October, 1906; abstracted in The Journal, A. M. A., Nov. 24, 1906, p. 1766.

Opsonic Index of Tuberculosis Patients Undergoing Sanatorium Treatment, G. A. Crace-Calvert, *Brit. Med. Jour.*, July 7, 1906; abstracted in The Journal A. M. A., Aug. 4, 1906, p. 391.

Vaccine Therapy and Passive Hyperemia in Surgery, J. C. Hollister. Chicago, *Surgery, Gynecology and Obstetrics*, December, 1906.

Wright's Latest Opsonic and Bacterial Vaccine Work, G. B. Webb, Colorado Springs, *Colorado Medicine*, January, 1906; abstracted in The Journal A. M. A., Feb. 16, 1907, p. 647.

Opsonins and Their Utility in Practical Medicine, H. French, *Brit. Med. Jour.*, Feb. 2, 1907; abstracted in The Journal A. M. A., March 2, 1907, p. 836.

Value of Tuberculo-Opsonic Index in the Diagnosis of Strictly Localized Tuberculosis, W. R. M. Kellogg, Seattle, Wash., *Northwest Medicine*, Seattle, January, 1907; abstracted in The Journal A. M. A., Feb. 23, 1907, p. 734.

Study of Opsonins, C. E. Simon, R V Lamar and W. N. Bispham, *Jour. of Exper. Med.*, New York, December, 1906; abstracted in The Journal A. M. A., Feb. 2, 1907.

The Opsonic Theory, Sir A. E. Wright, London, *Canadian Practitioner,* November, 1906.

A Clinician's Observations of Opsonic Therapy, C. D. Aaron, Detroit, *N. Y. Med. Jour.,* Dec. 1, 1906.

Note on the Opsonic Index, B. Brooke, *Dublin Jour. Med. Sci.,* September, 1906.

Opsonic Factors, Their Estimation and Use in Therapeutics, R. E. French, *Practitioner,* London, July, 1906.

Effect of Bodily Exertion on the Opsonic Index of Healthy Persons. G. C. Ellett, *Brit. Med. Jour.,* July 21, 1906.

Opsonins and the Opsonic Index and Their Practical Value in Treatment of Disease, G. A. Crace-Calvert, *Lancet,* London, Feb. 2, 1907.

The Opsonic Index as a Guide for Therapeutic Inoculation, with Some Results of Treatment by Vaccines, T. P. Dunhill, *Intercolonial Med. Jour. of Australia,* Melbourne, November, 1906.

Combining Properties of Opsonins and Normal Serums, R. Muir and W. B. M. Martin, *Brit. Med. Jour.,* London, Dec. 22, 1906.

The Opsonins in Surgery, J. G. Mumford, Boston, *Boston Med. and Surg. Jour.,* March 28, 1907.

Opsonins and Bacterial Vaccines, G. W. Ross, Toronto, Ont., *Canada Lancet,* Toronto, January, 1907.

Opsonins and Immunity, J. L. Bunch, *Lancet,* London, March, 1907.

Directions for Determining the Opsonic Index of Blood, E. C. L. Miller, Detroit, *Therapeutic Gazette,* Detroit, March, 1907.

Value of Tuberculo-Opsonic Index in Diagnosis, E. T. Fraser, *Glasgow Med. Jour.,* March, 1907.

Review of Opsonins and Bacterial Vaccines, E. M. Houghton, Detroit, *Therapeutic Gazette,* Detroit, January, 1907.

Opsonins and Treatment of Bacterial Vaccines, J. L. Bunch, *Lancet,* London, Jan. 19, 1907.

Newer Facts Concerning Phagocytosis; the Opsonins, L. W. Famulener, Bloomington, Ind., *Central States Med. Monitor,* Indianapolis, January, 1907.

Opsonins, E. B. Bradley, New York City, *Physician and Surgeon,* Detroit, December, 1906.

WHAT IS CRYOSCOPY?

WASHINGTON, D. C., April 26, 1907.

To the Editor:—In THE JOURNAL, April 20, 1907, on page 1349, second column and second line of last paragraph, appears the word "cryoscopy." I am unable to find this word in either of my three dictionaries, and would appreciate an explanation of the meaning of the word. C. C. A.

ANSWER.—The word cryoscopy comes from the Greek *kryos,* cold, frost, and *skopeo,* to see. As used in physics it means the determination of the freezing-point of a liquid. In medicine it has reference to the process of comparing the freezing-point of blood, urine, liquor amnii, effusions, etc., with that of distilled water. Cryoscopy of the blood is of value in determining the functional activity of the kidneys. Cryoscopy of the urine is of comparatively little value, in fact Sahli believes that the freezing point of a urine, free from sugar and proteid, may be estimated by multiplying the last two figures of the specific gravity, carried to the third decimal place, by .075 C. Its value is based on the principle that the freezing point of any liquid depends on the kind and amount of solids held in solution by that liquid. The lower the freezing point the greater the concentration. Definitions of this term are found in Gould's, Appleton's, and Dorland's medical dictionaries, and in the Standard dictionary and it has been frequently mentioned in THE JOURNAL during the last four or five years, as will be seen by referring to the index of the various volumes. Determination of the lowering of the freezing point of the urine in case of suspected kidney disease is now among the routine "functional tests" in some clinics and hospitals abroad. Some consider it important in determining the functional capacity of the other kidney in contemplating nephrectomy. The technic of cryoscopy was mentioned in THE JOURNAL, June 4, 1904, page 1518, and was described again May 26, 1906, page 1654, with accumulating evidence as to its diagnostic value.

TREATMENT OF EARACHE.

CHICAGO, April 25, 1907.

To the Editor:—If Dr. Young (THE JOURNAL, April 20, page 1368), will use the following prescription for his patients with earache, he will certainly relieve the sufferers:

℞.	Phenol (acidi carbolici)	m. x		65
	Chlorali hydrati			
	Camphoræ, āā	gr. x		65
	Olei ricini, q. s. ad	ʒ iv	15	

M. Heat the mixture and fill the ear with it and then cover the ear with a hot damp cloth. I have used this prescription for seven years with perfectly satisfactory results. J. P. PICKARD.

The Public Service

Army Changes.

Memorandum of Changes of Stations and Duties of Medical Officers, U. S. Army, week ending April 27, 1907:

Lyster, W. J. L., asst.-surgeon, will procced from Fort McIntosh, Texas, to Fort Sam Houston, Texas, for temporary duty.

Rhoads, T. L., asst.-surgeon, granted leave of absence for one month, effective about May 1, 1907.

Sweazey, V. E., asst.-surgeon, granted 30 days' leave of absence, effective about May 20, 1907.

Heard, G. P., asst.-surgeon, will proceed from Fort Wingate, N. M., to Fort Huachuca, Arizona, for duty as member of board of officers to examine candidates for admission to U. S. Military Academy.

O'Connor, R. P., asst.-surgeon, will proceed from Fort Leavenworth, Kan., April 29, 1907, to Fort Crook, Neb., for temporary duty.

Byrne, C. B., asst.-surgeon general, relieved from duty in the Philippines Division, to take effect at such time as will enable him to comply with this order, and will proceed on transport to sail from Manila about July 15, 1907, to San Francisco, Cal., and on arrival report by telegraph to the Adjutant General of the Army for further orders.

The following named medical officers are relieved from duty at the posts designated after their respective names, to take effect at such time as will enable them to comply with this order, and will proceed at the proper time to San Francisco, Cal., and take transport to sail from that place about June 5, 1907, for the Philippine Islands, and on arrival at Manila will report in person to the Commanding General, Philippines Division, for assignment to duty:

Wyeth, M. C., surgeon, Fort Wadsworth, N. Y.
Snyder, H. D., surgeon, Fort Sam Houston, Texas.
Smith, A. M., surgeon, Fort Douglas, Utah.
Fuller, L. A., asst.-surgeon, U. S. Military Prison, Fort Leavenworth, Kan.
Skinner, G. A., asst.-surgeon, Fort William Henry Harrison, Montana.
Robbins, C. P., asst.-surgeon, Fort Ethan Allen, Vermont.
Rhoads, T. L., asst.-surgeon, Fort Crook, Neb.
Wilson, J. S., asst.-surgeon, Fort Oglethorpe, Ga., to accompany the 26th Infantry from Fort Sam Houston, Texas.
Edger, B. J., Jr., asst.-surgeon, Fort Reno, Okla., to accompany the 26th Infantry from Fort Sam Houston, Texas.
Lyster, W. J. L., asst.-surgeon, Fort McIntosh, Texas, to accompany the 26th Infantry from Fort Sam Houston, Texas.
Reno, W. W., asst.-surgeon, Fort Riley, Kan., to accompany the 10th Cavalry from Fort Robinson, Neb.

Ives, F. J., surgeon, relieved from duty in the Philippines Division, and will proceed from Manila, about June 15, 1907, to San Francisco, Cal., thence to the Presidio of San Francisco, Cal., for duty at that station.

Kendall, W. P., surgeon, relieved from duty in the Philippines Division, and will proceed from Manila about June 15, 1907, to San Francisco, Cal., thence to Fort Sam Houston, Texas, for duty at that station.

Winter, F. A., surgeon, relieved from duty in the Philippines Division, and will proceed from Manila about June 15, to San Francisco, thence to Fort Myer, Va., for duty at that station.

The following named medical officers are relieved from duty in the Philippines Division, to take effect at such time as will enable them to comply with this order, and will proceed on the transport to sail from Manila on or about July 15, 1907, to San Francisco, thence to the posts designated after their respective names, and report to the commanding officers thereof for duty:

Shillock, Paul, surgeon, Fort Robinson, Neb.
Fisher, H. C., surgeon, Fort D. A. Russell, Wyo.
Kulp, J. S., surgeon, Fort Meade, S. D.

Stark, A. N., surgeon, relieved from duty in the Philippines Division, to take effect June 15, 1907, and on expiration of his leave of absence will proceed to Vancouver Barracks, Wash., for duty at that station.

Yost, J. D., Field, P. C., Banta, W. P., asst.-surgeons, relieved from duty in the Philippines Division, and will proceed on the transport to sail from Manila about July 15, 1907, to San Francisco, and on arrival report by telegraph to the Adjutant General of the Army for orders.

Barney, C. N., asst.-surgeon, will proceed to Denver for special surgical treatment, and on the conclusion thereof will return to his proper station.

Davidson, W. T., asst.-surgeon, is detailed as a member of the Army retiring board appointed to meet at Denver, by Par. 12, S. O. 122, May 22, 1906, War Department, vice Captain George P. Heard, asst.-surgeon, hereby relieved.

Maus, L. M., deputy surgeon general, relieved from duty as chief surgeon, Department of Texas, and will proceed to San Francisco, Cal., and take transport to sail from that place July 5, 1907, for the Philippine Islands, and on arrival at Manila will report to the Commanding General, Philippines Division, for assignment to duty.

Moseley, E. B., asst.-surgeon general, will report in person to Brigadier General William P. Hall, adjutant general, President of the Army Retiring Board, appointed by Par. 8, S. O. 239, Oct. 9, 1906, War Department, at such time as he may designate, for examination by the board, and on completion of his examination will return to the place of receipt by him of this order.

Newgarden, G. J., surgeon, retired from active service on account of disability incident thereto, on April 24, 1907.

Shaw, H. A., surgeon, left Fort Slocum, N. Y., with recruits en route to San Francisco, Cal.

Long, C. J., dental surgeon, left Fort William Henry Harrison, Mont., for duty at Fort Missoula, Mont.

McAlister, John A., dental surgeon, left Fort Sheridan, Ill., for duty at Fort Wayne, Mich.

Halliday, F. A., cont.-surgeon, granted leave of absence for one month.

Whitney, Walter. cont.-surgeon. relieved from duty at Fort Preble, Me., and ordered to Fort McPherson, Ga., for duty.

O'Day, S. F., cont.-surgeon, ordered from New York City to Fort Totten, N. Y., for duty.

Wren, R. J., cont.-surgeon, relieved from duty at Fort Totten, N. Y., and ordered to Fort Slocum, N. Y., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending April 27, 1907:

F. A. Asserson, passed asst.-surgeon, detached from the *Columbia* when placed out of commission, and ordered to the *Kansas*.

J. T. Kennedy, passed asst.-surgeon, detached from the *Hancock* and ordered to attend course instruction at the Naval Medical School, Washington, D. C.

R. C. Ransdell, asst.-surgeon, detached from the *Maine* and ordered to *Connecticut*.

H. A. May, asst.-surgeon, ordered to the Navy Yard, Norfolk, Va.

M. C. Baker, acting asst.-surgeon, detached from the Navy Yard, Norfolk, Va., and ordered to duty at the Naval Hospital at that place.

J. G. Field, surgeon, detached from duty with Marine Recruiting party at Dallas, Tex., and ordered to duty with the Marine Recruiting party at Houston, Tex., May 12.

E. L. Jones, asst.-surgeon, orders of March 20 modified; ordered to the *Milwaukee*.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 24, 1907:

Carrington, P. M., surgeon, detailed to represent the service at the meetings of the National Association for the Study and Prevention of Tuberculosis, and the twenty-fourth annual meeting of the American Climatological Association, to be held in Washington, D. C., May 6-9, 1907.

Lavinder, C. H., passed asst.-surgeon, granted leave of absence for one month from April 24, 1907.

Hobdy, W. C., passed asst.-surgeon, directed to proceed to San Francisco, Cal., for special temporary duty, on completion of which to rejoin station.

Boggess, J. S., passed asst.-surgeon, directed to proceed from St. John, N. B., to Quebec, Canada, for duty in connection with the examination of alien immigrants.

Bailey, C. W., acting asst.-surgeon, granted leave of one day, April 23, 1907.

Bullard, J. T., acting asst.-surgeon, granted leave of absence for nine days from March 23, 1907, account sickness.

Foster, S. B., acting asst.-surgeon, granted six days' leave of absence from April 19, 1907.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for three days from April 16, 1907, under Paragraph 210 of the Regulations.

Onuf, B., acting asst.-surgeon, granted leave of absence for two days from April 10, 1907, account sickness.

Schwartz, Louis, acting asst.-surgeon, granted leave of absence for four days from April 7, 1907, account sickness.

Schug, F. J., acting asst.-surgeon, granted leave of absence for fifteen days from May 3, 1907.

BOARD CONVENED.

Board of medical officers convened to meet at Galveston, Texas, April 22, 1907, for the physical examination of an officer of the revenue cutter service. Detail for the board: Passed Asst.-Surgeon G. M. Corput, chairman; Acting Asst.-Surgeon William H. Gammon, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended, April 26, 1907:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 31-April 7, 1 case.

District of Columbia: Washington, April 13-20, 1 case.

Florida: Duval County, Jacksonville, April 6-13, 1 case; Hillsboro County, Tampa and Port Tampa, April 6-20, 14 cases; Polk County, April 6-20, 8 cases; Santa Rosa County, April 6-20, 16 cases.

Illinois: Chicago, April 13-20, 1 case; Galesburg, April 6-20, 3 cases.

Indiana: Elkhart, April 6-20, 6 cases; Indianapolis, April 14-21, 5 cases; Lafayette, April 8-15, 1 case; South Bend, April 6-20, 6 cases.

Iowa: Davenport, April 8-15, 1 case.

Kentucky: Louisville, April 11-18, 5 cases.

Louisiana: New Orleans, April 8-20,, 15 cases (4 imported), 2 deaths; Shreveport, April 6-13, 1 case.

Massachusetts: Chelsea, April 6-20, 3 cases; Lawrence, April 6-20, 25 cases.

Michigan: Detroit, April 13-20, 3 cases; Saginaw, April 6-20, 2 cases.

Minnesota: Stillwater, March 1-31, 1 case; Winona, April 6-20, 4 cases.

Missouri: St. Joseph, April 6-20, 17 cases; St. Louis, April 13-20, 3 cases.

New York: New York, April 6-20, 3 cases, 1 death.

North Carolina: Greensboro, April 6-20, 7 cases.

Ohio: Toledo, March 26-April 20, 5 cases.

South Carolina: Charleston, March 1-31, 1 case.

Texas: Corpus Christi, April 13, 2 cases; Houston, March 30-April 13, 18 cases; Laredo, April 13, 1 case (imported from Mexico).

Utah: Ogden, March 1-31, 3 cases.

Washington: Spokane, April 6-13, 12 cases.

Wisconsin: La Crosse, April 6-13, 1 case; Milwaukee, March 30-April 20, 21 cases.

SMALLPOX—FOREIGN.

Brazil: Bahia, March 9-23, 6 cases: Para, March 16-31, 7 cases, 2 deaths; Pernambuco, Feb. 15-28, 55 deaths; Rio de Janeiro, March 10-31, 5 cases, 1 death.

Canada: : Sherbrooke, April 13-20, 7 cases.

Italy: General, March 28-April 4, 9 cases; Naples, March 23-April 13, 18 cases; Turin, March 16-31, 4 cases.

Luxembourg: March 9-30, 3 cases.

Madeira: Funchal, March 16-April 17, 10 cases, 3 deaths.

Mexico: Aguas Calientes, March 31-April 13, 18 deaths; Mexico City, March 9-23, 24 deaths; Monterey, April 7-14, 1 death; Nogales, March 2-April 6, 9 cases.

Portugal: Lisbon, March 29-April 6, 10 cases.

Russia: Moscow, March 16-30, 10 cases, 2 deaths; Odessa, March 16-30, 62 cases, 9 deaths; Riga, March 23-30, 5 cases; St. Petersburg, March 16-23, 3 cases; Warsaw, March 16-23, 1 death.

Siberia: Vladivostok, Feb. 22-28, 1 case, 1 death.

Spain: Barcelona, March 16-April 10, 9 deaths; Cadiz, March 1-31, 6 deaths; Cartagena, March 23-30, 1 death; Seville, March 1-31, 8 deaths; Valencia, March 23-April 7, 7 cases.

Syria: Damascus, March 9-30, present.

Switzerland: Geneva, March 23-30, 2 cases.

YELLOW FEVER.

Brazil: Manao, March 16-23, 1 death; Para, March 16-31, 7 cases, 5 deaths; Rio de Janeiro, March 17-24, 4 cases, 4 deaths.

Ecuador: Guayaquil, March 16-30, 15 deaths.

West Indies: Trinidad, Port of Spain, March 23-April 6, 7 cases, 2 deaths.

CHOLERA.

India: Bombay, March 19-26, 5 deaths; Calcutta, March 2-16, 50 deaths; Madras, March 19-23, 12 deaths; Rangoon, March 9-16, 25 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, April 19-23, 1 case, 4 deaths.

PLAGUE—FOREIGN.

Japan: Formosa, March 16-23, 98 cases, 77 deaths.

Peru: Callao, March 9, 1 case; Chepen, March 13, 1 death; Chiclayo, March 7-13, 8 cases, 6 deaths: Eten, March 7-13, 10 cases, 5 deaths; Mollendo, March 13, 1 case (imported from Arequipa); Paita, March 7-13, 20 cases, 13 deaths; San Pedro and Pacasmayo, March 13, 1 case, 1 death; Trujillo, March 7-13, 18 cases, 11 deaths.

Straits Settlements: Singapore, March 2-9, 1 case, 1 death.

Russia: Cronstadt, March 29, 1 case at laboratory of Imperial Institute.

PLAGUE—FOREIGN.

Brazil: Para, March 16-31, 5 cases, 4 deaths; Pernambuco, Feb. 4-28, 3 deaths; Rio de Janeiro, March 10-31, 9 cases, 2 deaths.

Chile: Antofagasta, March 16-23, 42 cases, 23 deaths; Santiago, Feb. 23-March 2, 24 deaths.

China: Hongkong, March 2-9, 1 case, 1 death.

Egypt: Assiout Province, March 23-27, 5 cases, 6 deaths; Girgeh Province, March 23-25, 3 cases, 2 deaths; Kenck Province, March 20-27, 27 cases, 20 deaths.

India: General, March 9-16, 58,099 cases, 49,440 deaths; Bombay, March 19-26, 633 cases, 152 deaths; Calcutta, March 2-16, 153 cases; Rangoon, March 9-16, 72 deaths.

Marriages

William C. Lawrence, M.D., to Miss Florence Lamke, both of Detroit, April 18.

Henry B. Lemere, M.D., to Miss Louis Van Gieson, both of Omaha, Neb., April 6.

Charles E. Rich, M.D., Lynn, Mass., to Miss Mary Hodson, Center Ossipee, N. H., recently.

Leroy Elmer Rayhorn, M.D., to Miss Mary Francis Hudson, at Richmond, Va., April 17.

Washington Waters, M.D., to Miss Elizabeth Melinda Yearley at Rockville, Md., April 17.

Clifford Groselle Grulle, M.D., Chicago, to Miss Margaret Freer of Hinsdale, Ill., April 24.

James Marshall Price, M.D., to Miss Josephine Blanche Oder, both of Frostburg, Md., April 17.

Charles Henry Blake, M.D., Newark, Del., to Miss Helen Jenness Calvert, at Baltimore, April 17.

John D. Moore, M.D., Bloomfield, N. J., to Miss Agatha Lenahan of New Haven, Conn., April 20.

George Fraser Wilson, M.D., Charleston, S. C., to Miss Anna Preston, at Leesburg, Va., April 18.

James Allan Stewart, M.D., Plainfield, N. J., to Miss Mary E. Walker, at Baltimore, April 16.

James P. Reed, M.D., to Mrs. Rose Anteau, both of Rockwood, Mich., at Newport, Mich., April 19.

Winslow C. Chambers, M.D., Owatonna, Minn., to Miss Gertrude M. Wolfer of Stillwater, April 18.

William Samuel Bellows, M.D., Waukegan, Ill., to Miss Isabelle Elizabeth Suess of Chicago, April 23.

Cary D. Langhorne, M.D., U. S. Navy, to Miss Zaidee Forsyth Gaff, at Washington, D. C., April 30.

Samuel Stevens, M.D., Kalamazoo, Mich., to Miss Ruby Pearl Berger, at White Pigeon, Mich., April 16.

Charles Forest Henderson, M.D., South McAlester, I. T., to Miss May West of Bloomington, Ill., March 19.

William Curtis Caywood, M.D., Richmond, Ky., to Miss Daisy Frances Sipples of Lexington, Ky., July 12, 1906.

Robert E. Bratton, M.D., Willard, Tenn., to Miss Annie D. Wakefield of near Echo, Macon County, Tenn., April 17.

Deaths

William Baldwin Fletcher, M.D. College of Physicians and Surgeons in the City of New York, 1860; of Indianapolis; a member of the American Medical Association; formerly president of the Indianapolis Medical Society; a member of the Mississippi Valley Medical Association; who served as a scout in the early part of the Civil War, and was captured and imprisoned and later was a member of the medical corps of the Army; a member of the Indiana State Senate in 1882 and 1883; from 1883 to 1888 superintendent of the Indiana Hospital for the Insane; who established in 1888 a private sanitarium at Indianapolis for the treatment and care of the insane, known as Neuronhurst, of which he was superintendent until his death; professor and later professor emeritus of nervous and mental diseases in the Medical College of Indiana, the school of medicine of Purdue University; and eminent as an alienist and medicolegal expert, died April 25 at Orlando, Fla., from the effects of a cerebral hemorrhage, aged 69.

Mads Christian Christensen, M.D. University of Nebraska College of Medicine, Lincoln and Omaha, 1892; a member of the Council Bluffs (Iowa) Medical Society and Medical Society of the Missouri Valley; alderman of Council Bluffs from 1900 to 1902 and one of the most esteemed Scandinavian practitioners of Council Bluffs, died at his home in that city, April 16, from nephritis, after an illness of two weeks, aged 55.

John W. Talbott, M.D. University of Pennsylvania Department of Medicine, Philadelphia, 1861; a surgeon in the Confederate service during the Civil War, a pioneer settler of Texarkana, Texas, and a member of the Miller County Medical Society, died at the Pine Street Sanitarium, Texarkana, from shock, two hours after an operation for cancer of the tongue, February 2, aged 67.

Richard F. Michel, M.D. Medical College of the State of South Carolina, Charleston, 1847; a member of the Medical Association of the State of Alabama and Montgomery County Medical Society; surgeon in the Confederate service during the Civil War, and widely known throughout the South as a physician and scientist, died at his home in Montgomery, April 19, aged 80.

Herbert Smith Olney, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1901; formerly pathologist in the hospital of the Colorado Fuel and Iron Co., Pueblo, and later a practitioner of Detroit, died at the home of his father in Fresno, Cal., April 15, from tuberculosis, after an illness of nearly two years, aged 30.

Christopher B. Currier, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1860; one of the founders and first dean of the Homeopathic Medical College of San Francisco, and president of the State Homeopathic Society, died in the Homeopathic Hospital, San Francisco, April 16, after a long illness, aged 78.

Alfred J. Yost, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1893; a member of the Medical Society of the State of Pennsylvania and Lehigh County Medical Society; mayor of Allentown; coroner of Lehigh County in 1895 and 1898, died at his home in Allentown, April 16, from tuberculosis, aged 36.

William Wilson, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1884; a member of the American Medical Association; a well-known practitioner and clergyman of Coldwater, Mich.; died in Harper Hospital, Detroit, from abscess of the lung, April 14, after a prolonged illness, aged 84.

Francis Edmonds Corbin, M.D. Detroit Medical College, 1870; a member of the American Medical Association; until 1896 a practitioner of northern Michigan, and since that time a resident of Los Angeles, Cal., died at his home in that city, April 15, from uremia, after an illness of two days, aged 59.

Junius F. Smith, M.D. Long Island College Hospital, Brooklyn, 1890; a member of the Connecticut State and Fairfield County medical societies; representative from Brookfield in the General Assembly, died at his home in Brookfield, April 22, from pneumonia, after an illness of two weeks, aged 42.

Charles C. Blanchard, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1883; physician at the Delavan (Wis.) State School for the Deaf, a veteran of the Civil War, and formerly alderman and health commissioner of Delavan, died at his home in that city, April 19, aged 63.

William Troy, M.D. McGill University, Medical Faculty, Montreal, 1891; some-time president of the Ottawa (Ont.) Medical Association, and one of the staff of the Water Street Hospital in that city, died at his home in Ottawa, April 13, after an illness of a year and a half, aged 45.

James Hogan, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1842; a practitioner of Henry County, Mo., for nearly 30 years, and later on of Fort Scott, Kan., and Springfield, Mo., died at the home of his nephew in Knobnoster, Mo., April 12, aged 91.

G. Ernest Roy, M.D., Medical Department, Victoria College, Toronto, 1861; surgeon-major of the Sixty-fifth Regiment; government inspector of anatomy; who served during the rebellion in Cuba, died at his home in Hochelaga, Montreal, from diabetes, April 14, aged 74.

Samuel Jefferson Montgomery, M.D. Louisville (Ky.) Medical College; a member of the Arkansas State and Conway County medical societies, died at his home in Morrillton, Ark., February 2, from cirrhosis of the liver, after an illness of three years, aged 57.

Henry Wells Spillman, M.D. New England Botanico-Medical College, Worcester, Mass., 1848; who retired from practice 45 years ago; died at his home in Edgerton, Wis., April 1, one week after a fall in which he sustained a fracture of the head of the femur, aged 87.

Joseph B. E. Gates, M.D. University of Tennessee, Medical Department, Nashville, 1876; a member of the Kentucky State and Filton County medical societies, died at his home in Fulton, Ky., from abscess of the liver, March 15, after an illness of six weeks, aged 62.

Edwin Gaylord, M.D. Rush Medical College, Chicago, 1856; Medical Department University of Nashville (Tenn.) 1859; a veteran of the Civil War, and for many years a practitioner of Magnolia, Ill., died at his home in Pontiac, Ill., April 16, from pneumonia, aged 73.

Addison W. Guernsey, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1854; for more than half a century a practitioner of Almond, Wis., died at his home in that village, March 3, after a long period of invalidism, aged 78.

Charles A. Fortin, M.D. University of Bishop College, Faculty of Medicine, Montreal, 1897; of Lewiston, Maine; a member of the Maine Medical Association and Androscoggin County Medical Society, died in Las Palmas, Canary Islands, March 22, aged 34.

William M. Kern, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1847; surgeon in the Federal service during the Civil War; who retired from practice 15 years ago, died at his home in Germantown, Philadelphia, April 17, aged 86.

Robert Wilkie Martin, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1865; a veteran of the Civil War; for many years a practitioner of Philadelphia; died at his home in that city, April 11, after an illness of three years, aged 65.

Cecil Metcalf Ross, M.D. Cornell University Medical College, New York City, 1902; formerly interne at the Smith Infirmary, Staten Island, and the Sailors' Snug Harbor Hospital, died in La Paz, Bolivia, South America, March 24, from pneumonia, aged 30.

Jonathan F. Leaming, M.D. Jefferson Medical College, Philadelphia, 1846; an aged practitioner of Cape May Court House, N. J., died in that place, April 25, from the effects of burns received during a fire at his home, two days before, aged 85.

Morris P. Roe, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1873; a member of the Medical Society of Guthrie, Okla.; died at his home in Fallis, Okla., April 7, from cerebral hemorrhage, after an illness of two hours, aged 58.

Ezra Weis, M.D. University of Maryland School of Medicine, Baltimore, 1851; surgeon of the Ashland (Ky.) General Hospital during the Civil War; a practitioner of Peoria, Ill., for 20 years, died at his home in that city, April 12, aged 87.

James W. Gray, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1873; an old practitioner of Calhoun, Mo., died at St. Joseph's Hospital, Kansas City, Mo., April 16, two days after an operation on the intestines, aged 62.

Charles W. Austell, M.D. Atlanta (Ga.) Medical College, 1893; a member of the South Carolina Medical Association and Union County Medical Society, died at his home in Union, S. C., April 13, after an illness of one month, aged 45.

Edwin D. Q. Lowther, M.D. Kentucky School of Medicine, Louisville, 1883; a member of the Clarke County (Ark.) Medical Society, died recently at his home in Hollywood, from pneumonia, after an illness of 13 days, aged 40.

Cary Randolph Bankhead, M.D. St. Louis Medical College, 1856; a member of the Pike County (Mo.) Medical Society, died recently at his home in Paynesville, Mo., from catarrh of the bowel, after an illness of one week, aged 71.

Joseph E. Morr, M.D. Fort Wayne (Ind.) College of Medicine, 1894; of Orland, Ind.; formerly of Albion, Ind., died at Bronson, Mich., April 13, from the effects of morphin self-administered with suicidal intent, aged 40.

Josephus B. Charlton, M.D. University of Iowa College of Medicine, Iowa City, 1872; a member of the Iowa State and Cerro Gordo County medical societies, died at his home in Clear Lake, Iowa, April 24, aged 67.

John H. Givens, M.D. Louisville (Ky.) Medical College, 1872; a member of the Louisiana State and Bienville Parish medical societies, died at his home in Arcadia, April 18, after a lingering illness, aged 60.

James H. O'Hara, M.D. Medical Department of the Tulane University, New Orleans, 1874; died at his home in Grandview, Texas, April 13, from cerebral hemorrhage, after an illness of one day, aged 58.

Alfred J. Butterfield, M.D. Eclectic Medical Institute, Cincinnati, 1882; died at his home in Binghamton, N. Y., April 18, after an illness of nearly two years, aged 55.

John Fletcher Tidwell (Years of Practice, Illinois), a veteran of the Civil War, died at his home in Marion, Ill., from appendicitis, April 15, aged 66.

Harry M. Clark, M.D. Southern Medical College, Atlanta, Ga., 1887; died at his home in Atlanta, Ga., April 14, after an illness of two days, aged 49.

Desire Drainville, M.D. Medical Department of Victoria College, Toronto, 1868; died at his home in Montreal, P. Q., April 9, aged 65.

Deaths Abroad.

A von Mosetig-Moorhof, M.D. The cable brings word of the accidental drowning of this well-known professor of surgery at Vienna, April 26, aged 69. He took a prominent part in military surgery during all the campaigns in Europe after he graduated in 1861, and has been a frequent contributor to the literature. His name has become familiar during the last few years by his method of "Iodoform-Plombierung" or filling for cavities in bones.

O. Rosenbach, M.D. formerly professor of internal medicine at Breslau, died March 19, aged 56. He published numerous works on various medical questions, preaching constantly the importance of functional diagnostics and calling attention to a number of previously disregarded signs, symptoms and syndromes, especially the digestive reflex neuroses, emotional dyspepsia and psychic treatment of functional nervous affections.

X. Galezowski, M.D., a well-known ophthalmologist of Paris, died March 25, aged 74. He was one of the first to study the pathology of the fundus and retina in relation to affections of the nervous system, and published numerous works on this and allied subjects.

G. v. Hirsch, M.D., body physician to the Czar of Russia, died at St. Petersburg, March 20, aged 79.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Nevada State Board of Medical Examiners, Carson City, May 6. Secretary, Dr. S. L. Lee, Carson City.

Illinois State Board of Health, East St. Louis, May 8-10. Secretary, Dr. J. A. Egan, Springfield.

Louisiana State Board of Medical Examiners, New Orleans, May 9-10. Secretary, Dr. F. A. Larue, 211 Camp St., New Orleans.

Mississippi State Board of Health, State Capitol, Jackson, May 14. Secretary, Dr. J. F. Hunter, Jackson.

Massachusetts Board of Registration in Medicine, Room 15, State House, Boston, May 14-16. Secretary Dr. E. B. Harvey, Boston.

Florida State Board of Medical Examiners (Regular), Jacksonville, May 15-16. Secretary, Dr. J. D. Fernandez, Jacksonville.

New York State Boards of Medical Examiners, Albany, May 21-24. Chief of Examining Division, Charles F. Wheelock, Albany.

Nebraska State Board of Health, State House, Lincoln, May 28-29. Secretary, Dr. Geo. H. Brash, Beatrice.

Indiana Board of Medical Registration and Examination, Room 120, State House, Indianapolis, May 28-31. Secretary, Dr. W. T. Gott, Indianapolis.

Third Annual Educational Conference.

The Council on Medical Education held its third annual conference Monday, April 29, in the Auditorium Hotel, Chicago. Besides the members of the Council, 84 delegates were present, representing 22 state examining boards, 18 state medical societies, the 3 departments of the government services, 3 college associations and 7 colleges of liberal arts. A most interesting session was held. Reports for the work of the past year included an account of the inspection of medical schools and the classification of schools based on the state board examinations during 1904 and 1905 inclusive. Forty-four colleges have adopted the requirement for admission to medical study of at least one year in a college of arts to be devoted to physics, chemistry, biology and one language, to become effective Jan. 1, 1910; 18 of these will require two years or more of university work, or plan to give the combined course for the degrees of B.S. and M.D. Dr. John M. Dodson gave an exhaustive committee report on the advisability of the medical school allowing advanced standing to graduates of colleges of liberal arts. It was recommended that such advanced standing be given if by inspection it be found that the institutions are properly equipped to teach the branches for which advanced credits are claimed.

Another committee, of which Dr. John H. Long was chairman, reported on the details for the year in physics, chemistry, biology and languages to be required in addition to a four-year high school education preliminary to the study of medicine. The committee believed that if this work were required, the liberal arts colleges would soon adjust their work that the subjects could all be taken in the freshman year by prospective medical students.

Chancellor J. H. Kirkland of Vanderbilt University spoke at length, showing that opportunities for liberal education in the South are lacking, particularly along the line of good high schools.

In the absence of Dr. Dudley Tait, the discussion of the inspection of preliminary credentials by an officer of the examining board was opened by Dr. S. D. Van Meter. The general opinion was that such a measure was desirable.

Following the discussion of "What Constitutes a Reputable Medical College," which, in the absence of Dr. Howard J. Rogers, was opened by Dr. Victor C. Vaughan, a committee was appointed by the chairman to give more consideration to the subject and to report at the next conference. The committee appointed is Dr. Victor C. Vaughan of the University of Michigan, Dr. W. J. Means of the Ohio Medical University, and Dr. George W. Webster, president of the Illinois State Board of Health.

"Methods of Conducting a State Board Examination" was the subject of a paper read by Dr. Beverly D. Harison, secretary of the Michigan State Board of Registration. The use of a laboratory and clinical tests in addition to oral and written examinations were advocated. This was followed by "A Plea for a Licensure Examination in Two Parts" by Dr. W. J. Means, chairman of the Judicial Council of the Association of American Medical Colleges. Considerable discussion followed the last two papers, and opinions were much at variance except that present methods are not satisfactory.

On the whole, great interest was manifested in the reports, papers and discussions, and doubtless much good will result from the conference. A full report will appear later.

Vermont January Report.—Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Montpelier, Jan. 8-10, 1907. The number of subjects examined in was 13; total number of questions asked, 95; percentage required to pass, 75. The total number of candidates examined was 11, of whom 8 passed, 1 failed and 2 did not complete the examination. The following colleges were represented:

College.	Year Grad.	Per cent.
PASSED.		
College of P. & S., Boston	(1906)	80.6
Dartmouth Med. Coll	(1897)*	....
Bellevue Hospital Med. Coll	(1892)	75.3
University of Vermont	(1906)	78.1, 78.5, 81.5, 82.1
McGill University, Quebec	(1906)	75.3
FAILED.		
Tufts Coll. Med. School	(1906)	74.3

*Percentage not given.

Reciprocity Convention.—The American Confederation of Reciprocating Examining and Licensing Medical Boards held its meeting in Chicago the day after the meeting of the Council on Medical Education, noted above. A committee was appointed to secure data regarding the medical colleges in the country and to report at the next meeting with recommendations looking to the better control of colleges by the states in which they are situated. Drs. William A. Spurgeon, Muncie, Ind; Beverly D. Harison, Detroit; Benjamin F. Bailey, Lincoln, Neb.; John V. Stevens, Jefferson, Wis., and Albert H. Hamel, De Soto, Mo., were named as the committee. At the conclusion of the session Dr. William A. Spurgeon was re-elected president and Dr. Beverly D. Harison, secretary. A complete report of the meeting will appear later.

New Practice Acts in Texas and New Mexico.—We learn that the new medical practice act of Texas has been signed by the governor and will become effective June 1. This provides for a single examining board in place of the three separate boards, requires applicants for license to be graduates from reputable medical colleges, provides for reciprocity, for a register to be kept of all licensed physicians and for the revocation of licenses for cause.——New Mexico has just secured a new medical practice act, which provides for a written examination and graduation from a reputable medical college, with reciprocity at the discretion of the board.

Tennessee Secures Higher Requirements.—Dr. E. E. Hunter, president of the Tennessee State Board of Medical Examiners, reports that an amendment to the laws of that state has been passed making provision for reciprocity, and also requiring that hereafter to secure a license to practice the applicant must have graduated from a recognized medical college.

New Officers of Connecticut Eclectic Examining Board.—Word has just come to us that at a meeting of the Connecticut Eclectic Board, held at New Haven, March 12, 1907, the following officers were elected: President, Dr. John W. Fyfe, Saugatuck, to succeed Dr. L. Bailey; secretary, Dr. T. S. Hodge, Torrington, to succeed Dr. George A. Faber.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

Association of American Medical Colleges, Washington, May 6.
Amer. Assn. of Genito-Urinary Surgeons. Washington, May 7-9.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 7-9.
Amer. Climatological Association, Washington, May 7-9.
American Gynecological Society, Washington, May 7-9.
Amer. Laryngological Association, Washington, May 7-9.
Amer. Medico-Psychological Association, Washington, May 7-9.
American Ophthalmological Society, Washington, May 7-9.
American Orthopedic Society, Washington, May 7-9
American Pediatric Society, Washington, May 7-9.
American Assn. of Physicians, Washington, May 7-9.
American Surgical Association, Washington, May 7-9.
Nebraska State Medical Association, Omaha, May 7-9.
Texas State Medical Association, Mineral Wells, May 7.
Utah State Medical Association, Salt Lake City, May 7-8.
New Mexico Medical Association, Las Cruces, May 8-9.
Kansas Medical Society, Kansas City, May 8-10.
Oklahoma State Medical Association, Shawnee, May 14-15.
North Dakota State Medical Association, Minot, May 14-15.
Louisiana State Medical Society, New Orleans, May 14-16.
Missouri State Medical Association, Jefferson City, May 14-16.
Arkansas Medical Society, Little Rock, May 15-17.
Iowa State Medical Society, Cedar Rapids, May 15-17.
Michigan State Medical Society, Saginaw, May 15-16.
Montana State Medical Association, Billings, May 15-16.
New Hampshire Medical Society, Concord, May 16-17.
West Virginia State Medical Association, Huntington, May 15-17.
Illinois State Medical Society, Rockford, May 21-23.
Connecticut State Medical Society, Hartford, May 22-23.
Indiana State Medical Association, Indianapolis, May 22-24.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Fortieth Annual Session, held at Gulfport, April 9-12, 1907.

The President, Dr. Walter W. Crawford, Hattiesburg, in the Chair.

Welcome.

At the opening session the address of welcome was delivered by Hon. James H. Neville, Gulfport. A response was made by Dr. Robert S. Curry, Columbus.

Life Insurance Fees.

In the House of Delegates, the insurance question was carefully considered and resolutions were unanimously adopted pledging the members of the association to make no examinations for old-line companies for less than $5, and requesting the officers of all county societies to obtain from all reputable physicians, whether members or non-members, an agreement to cooperate in the enforcement of these resolutions. It was also resolved that no member of the association should accept an appointment as examiner for any corporation or society to take the place of any physician who was removed on account of adherence to the action of the society.

Increase Requirements for License.

A resolution was adopted memorializing the state legislature to increase the requirements for license to practice medicine by exacting from all applicants a diploma from a regular, recognized medical college before being allowed to take the examination. A committee of five, of which the president is chairman, was appointed to present this resolution to the legislature.

Apportionment of State Board.

A committee of five appointed by the president was instructed to endeavor to secure for the association the appointment of one member of the State Board of Health from every congressional district, instead of five for the entire state, as at present.

Papers Read.

Among the more important papers presented at this session were those by Dr. Walter H. Rowan, Wiggins, on "Forceps and Their Uses;" by Dr. Amadee P. Granger, New Orleans, on "Electric Treatment of Dysmenorrhea;" by Drs. Dudley W. Jones, Fernwood, and Hugh L. Sutherland, Rosedale, on "Quinin," and by Dr. Thomas Purser, McComb, on "The Need of a More Thorough Knowledge of Materia Medica."

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Robert S. Curry, Columbus; vice-presidents, Drs. Harley R. Shands, Jackson, Thomas F. Elkin, Tupelo, and Richard D. Sessions, Natchez; secretary, Dr. Ewing F. Howard, Vicksburg; delegate to the American Medical Association, Dr. Walter W. Crawford, Hattiesburg, and alternate, Dr. H. B. Powell, Ocean Springs.

State Board Named.

The following were elected members of the State Board of Health: Drs. Daniel J. Williams, Ellisville; Elbert A. Cheek, Arcola; Giles S. Bryan, Amory; John Darrington, Yazoo City, and Louis D. Dickerson, McComb.

Natchez was selected as the next place of meeting.

Local Comment.

The *Mississippi Medical Monthly*, speaking of the meeting editorially, says: "The 1907 meeting of the state association passes into history as one of the most successful yet held. While the number of papers read was not so great as at the 1906 meeting, ample scientific work was done and all present returned to their homes feeling benefited by the meeting. The sessions of the House of Delegates were interesting in the extreme. Gulfport has set a rapid pace for Natchez to follow if she proposes to equal in 1908."

MEDICAL ASSOCIATION OF GEORGIA.

Fifty-Eighth Annual Session, held at Savannah, April 17-19, 1907.

(*Continued from page 1452.*)

Vincent's Angina.

Dr. T. E. Oertel, Augusta, reported the following case of this rare disease in Georgia:

Sept. 7, 1906, Mrs. E. C., aged 37, presented herself for treatment. For the past three years she had been in poor health and had had repeated attacks of sore throat, which, in fact, had never been entirely well. She had been under the treatment of her family physician. When the attacks come on there is usually a marked swelling of the glands of the neck on the affected side. Pain is intense and for days she is scarcely able to swallow food. She always has considerable fever. The throat becomes ulcerated and the breath offensive. Until recently only the left side has been involved. On the left there is now little soreness, the chief trouble being with the right tonsil, which has been ulcerated for some weeks. Inspection of the neck shows the right cervical glands are enlarged to such an extent as to form a tumor mass extending from the angle of the jaw to the clavicle. The tumor is tender to the touch, hard, and shows no fluctuation. On the right tonsil there is a ragged ulcer about 3 cm. in diameter, the sides of which are irregular, the base moth-eaten, and the entire surface covered with a thick, pseudo-membrane, yellowish, tough and adherent. When this is removed the underlying surface bleeds slightly and is raw and granular. On the left side the mucous membrane is thickened and the tonsil enlarged. In the left tonsil there is a deep fissure, the site of the former ulceration. The mucosa of the pharynx shows no ulcerations, but is hypertrophied and hyperemic. Smears from the ulcer and also from the fissure show the characteristic organisms of Vincent's angina. Treatment with antiseptics locally and a tonic mixture caused a rapid healing of the ulcer, and with its disappearance the glandular symptoms subsided. At the end of two weeks the patient was sent to the country. On her return she passed again under the care of her family physician, Dr. Holliday. Through his courtesy the author has been able to examine smears recently made from her throat. The spirochetæ of Vincent are still present, although there are now no ulcerations and the general condition of the patient is vastly improved.

Relation of Albuminous Putrefaction in the Intestines to Arthritis Deformans.

Drs. C. R. Andrews and Michael Hoke, Atlanta, presented the histories of a few cases, one of which was, in brief, as follows: The patient was a woman, aged 24, who had had chronic deforming arthritis for nine years. She was bedridden, and unable to turn herself without assistance. Emaciation was extreme. The spine from the occiput to the sacrum, the elbows, the wrists, the hands, the hips, knees and ankles were involved. The case is one of chronic arthritis presenting bone absorption, bone hypertrophy, flexion and extension deformities, periarticular and peritendinous fibrous tissue, spindle-shaped swellings. All the subjective symptoms and the temperature and soft tissue swelling disappeared under a fermented milk diet.

After reporting four additional cases in which the results so far obtained are more promising and hopeful, the authors stated that the constant finding of evidences of albuminous putrefaction in the intestine in connection with the cases they have investigated, leads them to believe that the metabolic form of arthritis is directly traceable to the albuminous putrefaction. The uniform improvement of the symptoms, however varied they may have been, the unvarying disappearance most usually of all the soft tissue thickening around the joints when these patients have been put on a fermented milk diet, demonstrate beyond a shadow of a doubt that fermented milk diet is par excellence the food for these patients.

Treatment of Typhoid Fever.

Dr. A. R. Scott, McDonough, believes that turpentine, if given in ten-drop doses after each stool, will control the diarrhea. Sometimes, when constipation exists, he advocates giving large doses of castor oil with the turpentine, giving enough to keep the bowels moving two or three times daily. While turpentine given in small doses does not prevent hemorrhage, he has never seen a severe hemorrhage when this agent has been given, and it does not occur so frequently. When hemorrhage occurs he gives it in ten-drop doses after each stool that contains blood, and in patients who have not been taking turpentine in whom hemorrhages have occurred, he has never seen a case where ten-drop doses, repeated, did not control the hemorrhage.

Home Treatment of Tuberculosis.

Dr. J. E. Sommerfield, Atlanta, reported one case of the disease as typical of several The patient had a cough, night sweats and pain in the chest. There was diminished breathing on the left side of the chest. Percussion disclosed dulness over apex of left lung, and on auscultation moist râles are heard anteriorly and posteriorly over left apex. The patient's home was damp, and he advised her to move, which she did. Careful instructions were given as to fresh air, ventilation and cuspidors, and nourishing food was prescribed. At first she took one quart of milk and four raw eggs daily, and in three weeks she was taking half a gallon of milk and ten raw eggs daily. She improved rapidly. An examination recently made shows that the dulness has disappeared and only normal breathing is heard. The first examination of the sputum was positive, but several examinations made within the past six months were negative. The only medication given was a capsule containing guaiacol carbonate, with occasionally a mild laxative added to counteract constipation.

Paranoia.

Dr. W. Herbert Adams, Savannah, defined paranoia as a chronic, progressive form of insanity, beginning in early adult life, in persons of bad neurotic heredity. The characteristic symptom is always the systematized and fixed delusion. Recovery practically never occurs. These persons are all liable to become dangerous; they are the most difficult of all forms to prove insane, and their insanity is frequently not recognized until they have committed some overt act; they have possibly been previously recognized as being eccentric or cranks. Dr. Adams urged that this form of insanity be studied more carefully and intelligently to the end that the public may be more safely guarded.

Practical Points on Infant Feeding.

Dr. Samuel A. Bisanska, Atlanta, said that it is a bad practice to give sterilized milk for too long a period for fear of producing scurvy. His practice is: Sterilize during summer; pasteurize in the spring and fall, and give raw milk during the winter months. During the period of sterilization it is well to give a little orange juice, and by close observation one can prevent scurvy. He has yet to see a case of scurvy among his patients. It is necessary to have a rigid milk inspection in all cities.

President's Address.

Dr. H. H. Martin referred to the Council on Pharmacy and Chemistry of the American Medical Association, and spoke of the excellent work it is doing in exposing frauds and publishing formulas of worthy preparations. He said that there is absolutely no excuse for prescribing any others. If members of the medical profession could get together on this question, the doom of the proprietary nostrum would be seen. He recommended that the Association endeavor to secure the enactment of laws that will not only make the conviction of the abortionist easier, but punishment sure and of a character to fit the crime. He recommended also that the Association endorse and aid the movement to establish a state sanatorium for the isolation and treatment of tuberculosis. He suggested unanimous action on the part of county medical societies in regard to establishing a minimum fee of $5 for licensing examination. Finally, he recommended the establishment by the Association of an official journal in lieu of the annual volume of transactions.

(*To be continued.*)

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Antiseptic Powder.

The *Druggists Circular*, April, 1907, publishes the following formula for antiseptic powder, furnished by F. E. Dudson, Charleston, S. C.:

℞.	Sodii salicylatis			
	Acidi borici, āā	℥ss	15	
	Sodii bicarbonatis	℥iii	90	

M. Sig.: Two teaspoonfuls in a pint of warm water. Use as a douche.

Erythematous Eczema.

Shoemaker, in the *Nashville Journal of Med. and Surg.*, gives the following treatment of this condition:

The patient is kept at rest in bed, and is allowed only milk diet. Calomel, gr. ii (0.13), is given in doses of a tenth of a grain (.006) every half-hour; this is followed by administration of magnesium sulphate, ℥iss (45.). In addition, the patient is given internally vinum antimonii, min. x (0.6) every three hours in water.

Externally, to allay the itching, the following combination is applied with a sponge:

℞.	Creosoti	m. x		6
	Magnesii carbonatis	ʒss	2	
	Zinci carbonatis precip	ʒvi	24	
	Glycerini	fʒi	4	
	Liquoris calcis	fʒiv	15	
	Aquæ hamamelidis q. s. ad	f℥i	30	

M. Ft. lotio.

Tinea Sycosis.

In the treatment of this condition, the same author, in the *Hot Springs Med. Jour.*, states that in order to bring about a cure daily local applications of some anti-parasitic remedy are all that is required. Constitutional remedies are not absolutely necessary. A 10 per cent. ointment of the oleate of mercury is applied twice daily. This at once lessens the infiltration and induration of the parts and destroys the parasite. To prevent extension of the infection a 10 per cent. solution of thymol in olive oil should be rubbed in over the entire bearded surface.

The prognosis in this condition is always favorable, but the time required to effect a cure varies considerably. In some cases the simplest measures suffice, while in others months may elapse before the disease is eradicated. Occasionally the disease may terminate in spontaneous recovery, but as a general rule if untreated it assumes a chronic form and persists for years.

Coryza.

This complaint occurs most frequently in the spring and autumn months, though to some extent it is always with us and is one of the most common conditions which we have to treat. The disease is probably caused by a micro-organism, though in some cases it seems to be caused by irritation as from the fumes of certain drugs or by dust.

E. S. McKee, in the *Therapeutic Gazette*, advises spraying the nose once daily with an alkaline and antiseptic solution, then with a 1 per cent. solution of cocain with 0.40 per cent. of boracic acid. Five minutes later he uses a 2 per cent. spray of antipyrin, and five minutes later insufflates with calomel; lastly, 1 per cent. of menthol in liquid petrolatum is sprayed into the nose.

Among a host of sprays for coryza he recommends the following:

℞.	Menthol	gr. viii		5
	Camphoræ	gr. v		3
	Petrolati liq.	f℥i	30	

M. Sig.: Use as a spray.

℞.	Adrenalin chlorid	ʒi	4	
	Cocain hydrochlorid	gr. i		06
	Salt solution (.8 per cent.)	f℥ii	60	

M. Sig.: Use as a spray two or three times daily.

The patient should lie down for a few minutes after using this spray and should remain indoors for some time afterward.

[The cocain spray should only be used or dispensed by the physician. The patient should not be given a prescription. —Ed.].

℞.	Sodii salicylatis			
	Sodii chloridi			
	Sodii bicarbonatis, āā, q. s.	℥iii	100	

M. Sig.: A teaspoonful in one-half pint of water and use as a spray.

℞.	Hydrogenii peroxidi	f℥i	30	
	Hydrargyri chloridi corrosivi	gr. i		06
	Zinci sulphocarbolatis	gr. xx	1	33
	Aquæ dest.	f℥v	148	

M. Sig.: Use as a spray after cleansing.

As a stimulant to the mucous membranes the following may be used:

℞.	Thymol	gr. 1/3		02
	Olei carophylli	m. iii		19
	Petrolati liq.	f℥i	30	

M. Sig.: To be sprayed in the nares two or three times a day.

℞.	Phenol (acidi carbolici)			
	Menthol			
	Olei gaultheriæ, āā	gr. i		06
	Petrolati liq.	f℥i	30	

M. Sig.: Use as a spray three or four times a day when an antiseptic is needed.

As a sedative the following may be used:

℞.	Olei carophylli	m. viii		50
	Terebeni	m. xii		70
	Petrolati liq.	f℥i	30	

M. Sig.: Use as a spray.

℞.	Olei cassiæ	m. ii		13
	Menthol	m. iii		19
	Petrolati liq.	f℥i	30	

M. Sig.: Use as a spray.

Snuffing of liquids of an alkaline and antiseptic character is often beneficial. McKee recommends the following simple alkaline and antiseptic wash which can be made up at home: Salt, one-half teaspoonful; carbonate of soda, one teaspoonful; phenol (carbolic acid), 10 drops; water, one pint. This is best used lukewarm, the patient stooping over, snuffing it through the nose and spitting it out of the mouth. If snuffed through the nose in the erect posture or with the head thrown backward there is danger of the solution passing through the Eustachian tubes into the ear and causing trouble. These alkaline solutions, if used regularly in flushing out the nares, are very beneficial in preventing coryza.

Another consists of equal parts of salt, borax and bicarbonate of soda, one teaspoonful to a pint of water, use lukewarm.

Hare's "Practical Therapeutics" states that camphor may be inhaled or taken internally in the early stages of cold in the head, with great relief, and that it exercises a decided influence in aborting an attack. The following formula may be employed:

℞.	Camphoræ			
	Quininæ sulphatis, āā	gr. ii		12
	Fluidextracti belladonnæ	m. iss		09

Ft. tabellæ No. x. Sig.: One tablet every hour for four or five doses.

After the attack is well developed this is useless, but used early it will decrease the frontal headache, the sneezing and running at the nose.

This author asserts that much benefit follows the use of sodium bicarbonate in 30-grain (2.0) doses every two hours for three doses. He also states that a hot footbath with mustard in it, and the taking of a hot drink, such as lemonade, with or without whisky, on going to bed, are useful. Often 20 or 30 minims (1.3-2.0) of sweet spirits of nitre added to this drink will increase its diuretic effect. In other cases, particularly in strong, healthy men, from 5 to 10 grains of Dover's powder at bedtime will be found more efficacious.

Medicolegal

Statements Made to Physician by Injured Person.

The Supreme Court of Alabama says, on the appeal of Gregory vs. State, a homicide case, that as to statements made to a physician by the party who is the subject of the injury, the rule of exclusion extends as to declarations of its cause, or the way in which it occurred; these being regarded as mere narratives of past events, which must be proved by other and independent evidence. But, from the necessity of the case, he may testify to the party's statements as to his symptoms, the locality and character of the pain, and give an explanation of his bodily condition, made while suffering, and for the purpose of enabling the physician to form an opinion of the nature and extent of the injury. There was no error in permitting the physician to state what the deceased said during the examination as to his stomach and legs, namely, that he had no feeling in feet or legs, and had burning in the stomach.

Evidence and Damages in Case of Femoral Hernia.

The Supreme Court of Washington says that the personal injury case of Hodd vs. City of Tacoma was brought to recover damages for personal injuries alleged to have been sustained by falling on a defective sidewalk. Almost immediately after the accident the plaintiff was removed to a hospital and subjected to an exploratory surgical operation for inguinal hernia. A few weeks later it was discovered that she was suffering from a femoral hernia, requiring a second operation, which was then performed. It was not seriously disputed that the first operation was performed immediately after the accident, that the plaintiff was confined in the hospital for six weeks thereafter, and that as soon as she attempted to stand on her feet it became apparent that a second operation for femoral hernia was necessary. The plaintiff claimed perfect health prior to the accident. The court holds that there was no error, under all the circumstances of the case, in permitting one of the attending surgeons, over objection, to testify that, in his opinion, the hernia last mentioned might have resulted from the plaintiff's fall on the sidewalk. It also holds that a judgment for $5,000 damages was not excessive, or to be disturbed, inasmuch as the plaintiff's physicians gave testimony tending to show that some of her injuries were permanent, the testimony of her physicians standing without substantial dispute, while the defendant did not ask for the appointment of any commission of physicians to examine the plaintiff and report on her condition.

Photographs of Portions of Human Body as Evidence.

The Supreme Judicial Court of Massachusetts says that in the personal injury case of McKarren vs. Boston & Northern Street Railway Company, during the testimony of the physician who attended the plaintiff, in describing the nature and extent of the enlargement of a portion of the vertebra of her spine, photographs of this portion of the back were introduced and used by him as illustrations. While the photographer was not called, the witness, whose medical qualifications were not questioned, testified that the photographs were taken in his presence, and under his direction, and on admission they must be considered as forming a part of his evidence. Alberti vs. New York, Lake Erie & Western R. R. Co., 118 N. Y. 77, 88.

The competency of such evidence if relevant, whether consisting of a model, diagram, map, plan, picture or photograph, is established, and is admitted for the purpose of giving to the jury a representation of the object or subject concerning which the inquiry is made, and to enable them better to understand the issues on trial. Blair vs. Pelham, 118 Mass. 420, 421. Before admission, however, there must be a verification of the accuracy of the representation, and this is a preliminary inquiry to be made by the presiding judge whose decision is final. Clapp vs. Norton, 106 Mass. 33; and other cases.

The defendant placed great reliance on Cunningham vs. Fair Haven & Westville R. R. Co., 72 Conn., 244, as an authority establishing a different rule, but after discussing the weight to be given such a finding the court expressly says: "We are not now called on to determine the legal correctness of a finding of this kind, or whether it can be reviewed. The question presented by the record is whether it was error to admit this photograph without any evidence of its accuracy."

Again, the defendant contended that a higher degree of verification was necessary and should have been required than when the representation describes inanimate objects, as the accuracy of the reproduction of the animate human form varies according to the position and adjustment of the camera, the skill of the artist and condition of the atmosphere. It is undoubtedly true that the photographer may produce a picture which is misleading when compared with the subject represented, but so can the civil or mechanical engineer by his plan, drawing or model made by hand, and while such misrepresentation may result from lack of professional skill, or proper adjustment of the photographic apparatus, it also may be the deliberate product of the most skilful exercise of the art.

This ground of possible deception when the human form is either wholly or partially portrayed was not, however, recognized as a distinction in Deforge vs. New York, New Haven & Hartford R. R. Co., 178 Mass. 59, where a radiograph of a fractured human foot, if properly taken, was held to be admissible when verified in the usual manner, while in Com. vs. Campbell, 155 Mass. 537, and in Com. vs. Morgan, 159 Mass. 375, on the question of identity, a photograph showing the defendant's personal appearance was held to have been properly admitted. In each of these cases physical characteristics were depicted, and if admissible to show the appearance of one part of the human body there would seem to be no sufficient reason why a photograph of other parts, when relevant, and properly verified, should be excluded.

The testimony of the photographer was not required if the judge was satisfied by other evidence, as he apparently was, that they were substantially accurate representations of the plaintiff's person. Com. vs. Morgan; above cited; Van Houten vs. Morse, 162 Mass. 414; Archer vs. N. Y., N. H. & H. R. R. Co., 106 N. Y. 589; McGar vs. Borough of Bristol, 71 Conn. 652.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

April 20.

1 *Refraction Changes Dependent on Glycosuria. G. M. Gould, Philadelphia.
2 *Uunusual Results of Intrathoracic Compression. T. B. Barringer, Jr., New York.
3 Dermatologic Transitions. O. M. Wilson, Ottawa, Canada.
4 Criminal Aspect of Venereal Diseases in Children. W. T. Gibb, New York.
5 *Treatment of Tuberculosis in Arizona. I. A. Brewer, Fort Huachuca, Ariz.
6 The Stomach Tube in Diagnosis. N. B. Foster, New York.
7 Unsuccessful Operation for Intestinal Obstruction on a Child of Fifty-five Hours. H. Crutcher, Mexico, Mo.

1. **Refraction Changes Dependent on Glycosuria.**—Gould reports a case of refractive changes due to glycosuria observed by him, and also the histories of 22 cases observed by others that have been published. He says that eyestrain may have aided in producing the functional, dietetic and nutritional disease called glycosuria; that the majority of cases are in presbyopes; that eyestrain and glycosuria form a vicious circle; that warnings given by refraction changes should lead to immediate treatment of early and curable cases of glycosuria to prevent the later organic changes in the ocular structures.

2. **Unusual Results of Intrathoracic Compression.**—Barringer reports three cases of collateral venous circulations of unusual extent, following thrombosis and compression of the superior vena cava and left innominate vein, and an uncommon physical sign of bronchial compression. This sign consisted of a hyper-resonant or tympanitic note over the stenosed bronchus.

5. **Treatment of Tuberculosis in Arizona.**—Brewer makes a plea for more care in selecting tuberculous cases to be sent to

Arizona, and urges that only such patients be sent as have means to secure proper food and comforts. He gives a concise statement of the advantages and possibilities of the different health resorts of the state.

New York Medical Journal.

April 20.

8 *Seven Cases of Appendicitis. J. A. Wyeth, New York.
9 Street Dirt and Public Health. W. G. Thompson, New York.
10 *Treatment of Typhoid Spine. V. P. Gibney, New York.
11 Pathology of Function. An Experimental Laboratory Course. H. Emerson, New York.
12 Recent Investigations in Syphilis and Their Practical Application. B. Lapowski, New York.
13 Pasteurization—Its Advantages and Disadvantages to the Municipality. J. Roby, Rochester, N. Y.
14 *Modified Buttermilk in Infant Feeding. C. F. Judson and R. O. Clock, Philadelphia.
15 Tuberculous Peritonitis, with Report of Cases. E. Novak, Baltimore.

8. **Appendicitis.**—Wyeth reports seven cases to emphasize the great danger in delaying surgical intervention in typical cases of appendicitis, and in all cases of recurring, though mild, attacks.

10. **Treatment of Typhoid Spine.**—Gibney insists on the use of the Paquelin cautery as a regular line of treatment so long as tenderness and pain on movement exist. He says that even after all tenderness subsides it is a good plan to employ the cautery occasionally, once a week, or once in two weeks. The administration of hypnotics should be left to the individual practitioner.

14. **Modified Buttermilk in Infant Feeding.**—Judson and Clock fed 12 infants suffering from malnutrition and enteritis on modified buttermilk, with excellent results. The longest period of continuous feeding on buttermilk was six weeks.

In preparing the buttermilk for these cases two deviations were made from the usual method. The casein was diluted considerably to make the proportion present from 1.5 to 2 per cent., and the sugar added only in sufficient amounts to bring the proportion present in the mixture up to 5 per cent. Moreover, the mixture was not brought to the boiling point, but heated only to from 140 to 155 F. for ten minutes, so that the lactic acid bacteria were not destroyed. Robinson's barley flour was added instead of wheat flour, one-half ounce to each pint and a half, and cane sugar solution (6 and 9 per cent. strength) was used to dilute the casein.

The method of preparation of the weaker mixture was as follows: Ingredients used were one pint of buttermilk, eight ounces of a 6 or 9 per cent. solution of cane sugar, one-half ounce of Robinson's barley flour. 1. Make a paste of the flour and a small quantity of the sugar solution. 2. Add buttermilk and the remainder of the sugar solution to this paste and mix thoroughly. 3. Heat the mixture to 155 F. for 10 to 15 minutes, stirring constantly. 4. Remove from stove, cool, and place on ice.

In feeding the infants on buttermilk the principle followed was to begin with a moderately strong mixture, which they called "two-thirds" mixture, containing from 1 to 1.5 per cent. fat, from 4 to 5 per cent. sugar, and from 1.5 to 1.75 per cent. proteid. After tolerance for this mixture had been established, as evidenced by normal temperature and good condition of the stools, the fat percentage was increased. If the infant's digestion still remained good, the formula was increased to "three-fourths" mixture with a simultaneous increase in the fat percentage. The three-fourths mixture contained from 1.5 to 2.5 per cent. fat, 5 per cent. sugar, and from 1.75 to 2 per cent. proteid.

Boston Medical and Surgical Journal.

April 18.

16 Diseases of the Nasopharynx in Infancy. J. L. Morse, Boston.
17 Surgical Aspects of Empyema. F. B. Lund, Boston.
18 Empyema from the Physician's Standpoint. H. F. Vickery, Boston.
19 *Periductal Myxoma of the Breast. W. P. Graves, Boston.
20 *Intrapleural Injections of Formalin in Pleurisy with Effusion. L. D. Chapin, Springfield, Mass.

19. **Myxoma of Breast.**—In the case reported by Graves the tumor was so large and cumbersome that the patient, when sitting down, was obliged to rest it on a table or on the arm of a chair. The patient was only 38 years old and the tumor, which weighed 16½ pounds, was first noticed three years previously. It was entirely discrete and was removed easily. During the last two or three months the tumor grew very rapidly, due to a sarcomatous metaplasia.

20. **Pleurisy with Effusion.**—Chapin reports a case of pleurisy with effusion, in which he injected intrapleurally a 2 per cent. formalin solution in glycerin. Only one injection was made, but it resulted in a cure. Other treatment, which had been employed previously, did not prevent a reaccumulation of the fluid so that repeated tappings were necessary.

Lancet-Clinic, Cincinnati.

April 20.

21 Deafness: Its Differential Diagnosis and Prognosis. B. L. W. Floyd, Evansville, Ind.
22 Acute Intestinal Obstruction. M. A. Tate, Cincinnati.
23 *Varicose Veins of the Tongue. R. H. Johnston, Baltimore.
24 Gallstone. W. C. Abbott, Chicago.
25 The Medical Expert and His Trials. E. S. McKee, Cincinnati.

23. **Varicose Veins of Tongue.**—Johnston reports the case of a woman, 64 years old, who had suffered much from throat trouble, cough and shortness of breath. On examination he found on both borders of the tongue, beginning at the anterior pillars, and extending forward to within half an inch of the tips, bluish, tortuous masses, round, and measuring about 4 mm. in diameter. The ranine veins on the under surface of the tongue were unusually large and tortuous. The condition had caused no inconvenience and no cause for its presence was discoverable. There were no signs of congestion in the throat. Johnston is inclined to believe that the enlarged veins were of congenital origin.

St. Louis Medical Review.

April 13.

26 Opsonic Treatment of Bacterial Diseases. O. H. Brown, St. Louis.
27 Spirochæta Pallida and Syphilis. C. Fisch, St. Louis.
28 Tertiary Manifestations of Syphilis. R. H. Davis, St. Louis.
29 Professor Ernst von Bergmann. H. Tuholske, St. Louis.

Journal of Experimental Medicine, New York.

March.

30 *Biology of Diplococcus Intracellularis. S. Flexner, New York.
31 *Experimental Cerebrospinal Meningitis in Monkeys. S. Flexner, New York.
32 *Serum Therapy for Experimental Infection with Diplococcus Intracellularis. S. Flexner, New York.
33 Bacteriology of Rheumatic Fever. J. M. Beattie, Edinburgh, Scotland.
34 Leucoprotease and Anti-leucoprotease of Mammals and Birds. E. L. Opie and B. I. Barker, New York.
35 Electrical Charge of Native Proteins and the Agglutinins. C. W. Field and O. Teague, New York.
36 *Heterotransplantation of Blood Vessels Preserved in Cold Storage. A. Carrel, New York.
37 Nuclein Metabolism in a Dog with Eck's Fistula. J. E. Sweet and P. A. Levene, New York.

30. **Biology of Diplococcus Intracellularis.**—During the 1904-5 epidemic of cerebrospinal meningitis in New York, Flexner, as a member of a commission appointed by the health department of New York for the investigation of the disease, made an exhaustive study of the pathogenic properties of *Diplococcus intracellularis*. The brief vitality of this organism on artificial media is not due to exhaustion of the medium or to accumulation of products except, perhaps, when in large quantities. When suspended in salt solution the cocci rapidly die. Not only is the solution fatal, but they soon lose their staining properties and disintegrate. He finds, too, that cold is injurious, a temperature just above zero being quickly fatal. In the cold, disintegration, however, is less rapid. Hence it is concluded that disintegration is the result of enzyme action. The diplococcus lives much longer in medium to which some calcium has been added or in Ringer's solution. This shows that the brief viability in salt solution is not due to hypertonicity of the medium, to starvation alone, or to a natural brief period of vitality, but that sodium chlorid is distinctly poisonous to the diplococcus; and this poisonous action is at least partly offset by other salts. The enzyme in question is intracellular and is liberated by the death of the cell. It is not destroyed at 60 C., at which temperature the organism is killed, but at 65 C., and at higher temperature its activity is much reduced. It acts alike in sodium chlorid and in Ringer's solution, but potassium cyanid inhibits its power of causing disintegration of the cell; if the potassium cyanid is subsequently removed autolysis proceeds again. The enzyme is not specific, but causes disintegration of many other varieties of bacteria, both Gram and non-Gram staining, the latter more easily than the

former. The author concludes that the autolytic and proteolytic ferments are independent since the diplococcus produces no proteolytic ferment, and the autolytic ferment in certain organisms as pyocyaneus, which produces marked proteolysin, is very slightly autolytic.

Strains of the diplococcus of meningitis vary much in their pathogenic properties, the freshly isolated ones being on the whole much more virulent than those under artificial cultivation for a time. Some strains remain virulent for a few days, others for months. When the virulence is once lost it can not be restored by animal passage. When comparatively small quantities are injected into guinea-pigs intraperitoneally, death usually results in less than 24 hours. The autolysates (autolyzed fluids) also are toxic, even if centrifugated, and if filtered through porcelain. The toxicity is not reduced at 65 C., and hence the toxic body and the enzyme are independent since the latter is appreciably affected at this temperature. The death of the animals is produced by the toxin liberated by the disintegration of the bacterial cell and not by extracellular poison.

31. **Experimental Cerebrospinal Meningitis.**—In the lower monkeys Flexner was able to produce an acute inflammatory condition of the meninges which resembles very closely the lesions produced by the *Diplococcus intracellularis* in man. The organisms obtained from typical cases of epidemic cerebrospinal meningitis were introduced directly into the spinal canal of monkeys by means of lumbar puncture. In the course of a few hours the animals became ill with certain characteristic symptoms and in a number of animals death took place in from one to three days. The lesions found at autopsy very closely simulate those occurring in man. In both are found encephalitis, acute endarteritis, inflammation of the dorsal ganglia, internal hydrocephalus, fibrinous and other thrombi, relatively small amount of fibrin in the exudates, phagocytosis of diplococci. The inflammation extends in monkeys into the membranes covering the olfactory lobes and into the ethmoid plate and nasal mucosa. The latter was often found inflamed, and smears from its surface showed cocci having many of the characteristics of the *Diplococcus intracellularis.* In none of the cases was it possible to cultivate the meningococcus, but this was probably due to its brief viability in the nose of the monkey. This olfactory inflammation is important because it shows that the localization of the exudate at the base of the brain is not necessarily produced by the infection arising from the nasal mucosa as has been assumed in human infections.

The degree of susceptibility of the monkey is very slight compared with that of man, because the amount of culture necessary to produce symptoms or to cause death is enormous compared with the probable amount necessary to cause the disease in man. The amount injected into the canal in these experiments varied from two loops of a fresh culture to several cultures. Flexner believes that the actual multiplication of the diplococci, except possibly in the abscesses, is very small; in some cases there is none at all. This is in marked contrast to what occurs in man. Injections of enormous quantities of the diplococcus intravenously or into other tissues of the body produce practically no symptoms, except a slight local tenderness and swelling.

32. **Serum Therapy for Experimental Diplococcus Infection.**—Flexner concludes from experiments that while various agents as normal and immune sera and even bouillon may affect favorably the course of an experimental infection, immune serum possesses the highest protecting power. The outlook is not especially encouraging, however, since the infection in the animals used is so rapidly fatal. Two monkeys were immunized against the diplococcus by successive injections for a period of nine months. The animals were bled to death, the sera collected and its immune properties tested by injection into the spinal canal of monkeys simultaneously with cultures of diplobacilli and also after a period of six hours. The results show that monkeys injected simultaneously with serum and culture in this manner may be prevented from developing severe symptoms; by separate injections of the culture and six hours later of the serum, the monkey, already ill, could be saved apparently from certain death.

The normal monkey serum also has some protective power when employed in certain cases. In other cases the mixture of serum and diplococci served to hasten the fatal outcome. No attempt is made to apply these results to human beings affected with meningitis. The results on the whole were not constant or striking enough to warrant great expectations. Possibly the more protracted course in man as compared with that in the inoculated animals may be a favorable condition, and by treatment with appropriate antisera, at the proper time, more encouraging results might be obtained. The protective power of normal serum might also be taken advantage of, in cases of human infection, by intraspinal inoculation.

36. **Heterotransplantation of Blood Vessels.**—Carrel's experiments show that blood vessels transplanted from dog to cat act as arteries for 77 days at least; and that having spent several days in cold storage does not interfere with their ordinary functions. The animals operated on must, however, be kept under observation for several months, or, indeed, for several years, before any conclusion can be drawn concerning the practicability of this method of preservation and heterotransplantation of blood vessels.

American Medicine, Philadelphia.

March.

38 *Choice of Ligature and Suture Material in Surgery of Peritoneum. H. G. Wetherill, Denver.
39 *Sixty-eight Consecutive Laparotomies for Pyosalpinx without a Death. C. E. McGirk, Phillipsburg, Pa.
40 Ventrosuspension. H. D. Beyea, Philadelphia.
41 *Autotoxemia. J. C. Warbrick, Chicago.
42 *Gastroptosis, with Special Reference to Its Treatment. J. J. Gilbride, Philadelphia.
43 *Diagnosis of Cardiac Disease. R. J. Behan, Pittsburg, Pa.
44 *Vincent's Angina. J. D. Blackwood, Jr., Philadelphia.
45 *Electricity in Treatment of Rheumatism. A. R. Rainear, Philadelphia.
46 Trypanosomiasis in Portuguese Southwest Africa. F. C. Wellman, Angola, West Africa.

38.—See abstract in THE JOURNAL, Jan. 13, 1906, page 146.

39. **Pyosalpinx.**—Double salpingectomy was done by McGirk in 36 cases and single salpingectomy in 32 cases. Appendectomy was done at the time of operation in 17 cases.

41. **Autotoxemia.**—Warbrick reports seven cases of autotoxemia to illustrate his contention that the condition is one which may be mistaken for indigestion, dyspepsia, anemia, malnutrition, etc.

42.—See abstract in THE JOURNAL, Oct. 20, 1906, page 1322.

43. **Cardiac Disease.**—Behan disclaims against pronouncing a case one of heart disease without attempting to make a more specific diagnosis. He reviews briefly the pathognomonic signs, which are an aid in diagnosis.

44. **Vincent's Angina.**—Blackwood reports nine cases of Vincent's angina, occurring in children ranging in age from 2 to 10 years. Of these nine cases, ten were of the superficial or mild diphtheroid type, and two were in healthy children, smears from whose throats showed the presence of *Bacillus fusiformis* in one instance, associated with the spirillum. The seat of the attack was the lips, tongue, gums, cheeks, tonsils or pharynx, and in none was there marked destruction of tissue. There was no glandular enlargement in any case.

45. **Electricity in Rheumatism.**—Rainear reports three cases of rheumatism in which he employed the continuous current successfully.

American Journal of Obstetrics, New York.

March.

47 *Clinical Significance of Urinary Nitrogen. Metabolism in Toxemia of Pregnancy. J. Ewing and C. G. L. Wolf, New York.
48 *Gonorrhea in Women. G. L. Hunner, Baltimore.
49 *Case of Malignant Teratoma of Ovary. R. T. Frank, New York.
50 *Should the Ovaries be Removed when Hysterectomy or Removal of Body of the Uterus is Done? J. W. Bovée, Washington, D. C.
51 Report of the Gynecologic Service in the Georgetown University Hospital from Its Opening until the Present Time. J. T. Johnson, Washington, D. C.
52 *Etiology of Endometritis. L. A. Ewald, New York.
53 Symptoms and Clinical Course of Endometritis. J. O. Polak, Brooklyn, N. Y.
54 Treatment of Endometritis. R. Waldo, New York.

47. **Urinary Nitrogen in Toxemia of Pregnancy.**—According to Ewing and Wolf, the study of the urinary nitrogen furnishes a new and fundamental point of view as to the causa-

tion of toxemia of pregnancy, which must be tested carefully, not with the idea of displacing other criteria, but with a view of supplementing them with information of a more precise character. The results of their observations lead them to believe that the urinary nitrogen may have the following practical applications in pregnancy: It may determine the existence and gravity of a toxic condition. In urgent cases it may be relied on with some caution to determine the safest treatment. It frequently establishes the trifling importance of symptoms referable to transitory gastric disorders. It may indicate an abnormal state of metabolism when other symptoms are absent, and thus form the basis of treatment designed to avoid some of the serious complications of pregnancy. It is of great value in determining the true condition of the patient in the pre-eclamptic state, and in distinguishing between simple chronic nephritis and impending eclampsia. It is an excellent guide in determining the progress of convalescence. It is not to be relied on exclusively, however, and more than any other set of the phenomena of the disease, but only in connection with all the data in the case.

48. **Gonorrhea in Women.**—Hunner discusses the lower genital tract infections, the urinary tract infections, the upper genital tract infections and peritoneal infection.

49. **Teratoma of Ovary.**—Frank's patient, aged 35 years, mother of one child, gave a good family history and in her personal history there was no evidence of illness, tumors or multiple pregnancies. The patient had always experienced what she termed a weak feeling in the right side, which manifested itself in weight, discomfort, and a dragging sensation, after even moderate exertion, such as walking. In September, 1898, she struck the right side of her abdomen against the edge of a table and soon after symptoms suggestive of appendicitis manifested themselves. The acute symptoms gradually subsided, but there appeared a gradual loss of strength, an increase of constipation and a slight rise of the evening temperature. Finally, a diagnosis was made of tumor, probably malignant, and operation was advised.

On opening the peritoneal cavity the greatly distended intestines crowded through the wound. Immediately behind the bowel an immense yellowish tumor presented, consisting of nodular, very friable masses, and large festoons of fluctuating, thin-walled cysts of various sizes grouped in grape-like clusters. The mass was everywhere adherent. On the peritoneum were lumps and nodules not connected with the main mass. The most accessible parts of the growths were severed between ligatures, great difficulty being experienced in removing a sufficient amount to permit of closing the abdomen. The patient's condition remained the same as before operation. She became progressively worse and died three months afterward. There was no autopsy. Microscopic examination of the tumor showed a teratoma in which all three fetal layers were well represented. There were present skin, with its appendages, nervous tissue, cysts lined with unclassifiable epithelium, bone, cartilage, connective tissue, unstriped muscle, analogues of the embryonal intestine and acinous glands. The active stage of the disease extended over about seven months, death resulting from general inanition.

50. **Removal of Ovaries.**—Bovée summarizes his paper as follows: 1. The existence of an ovarian secretion has not been proved and therefore should not act as a bar to oöphorectomy. 2. In all cases of removal of the uterus or its body for disease in women of more than 40 years the ovaries would best be removed. 3. As 5 per cent. of malignancy exists in the cases of uterine fibroids brought to operation, and in 30 per cent. marked complications of the appendages are present, leaving the ovaries when the uterus or its body is removed for such condition is hazardous to the future well-being of the patient. 4. In malignant disease of the uterus in which radical surgery is indicated removal of both ovaries is imperative. 5. The indications for removal of the ovaries when partial or complete hysterectomy is done are increasing instead of diminishing. 6. When ovarian growths of a bilateral nature complicate the hysterectomy both ovaries should be removed, though one seems normal.

52. **Etiology of Endometritis.**—Ewald presents a general review of this subject, but presents nothing new.

Journal of the Medical Society of New Jersey, Orange.

March.

55 *Plea for Use of United States Pharmacopeia and Standard Pharmaceuticals vs. Proprietaries. H. H. Sherk, Camden.
56 Extrauterine Pregnancy Occurring in Same Individual at Five Months' Interval. A. T. Bristow, Brooklyn, N. Y.
57 Tuberculosis. G. K. Dickinson, Jersey City.
58 *Is the State Medical Examining Board a Success? J. R. Stevenson, Haddonfield.

55. **Plea for Use of Standard Pharmaceuticals.**—Sherk discusses this subject from the same standpoint as that taken by other writers with whom he agrees as to the cause of the indiscriminate use of non-official remedies and how to encourage the use of standard preparations.

58. **Is State Medical Examining Board a Success?**—Stevenson says that experience tends to impress on us the view that no board composed of physicians only can prevent the people from looking on them with a suspicion of interestedness. The paper rather conveys the impression that state boards and medical examiners are not as great a success as most people are inclined to believe.

California State Journal of Medicine, San Francisco.

March.

59 Present Status of Intranasal Surgery. L. C. Deane, San Francisco.
60 Case of Acute Fatal Pancreatitis. J. W. Jones and J. M. Burlew, Santa Ana.
61 *Practical Point in Instrumental Diagnosis. C. M. Cooper, San Francisco.
62 Diagnosis and Treatment of Extrauterine Pregnancy. G. B. Somers, San Francisco.
63 European Clinics. E. C. Sewall, San Francisco.
64 *Laboratory Methods of Diagnosis in Typhoid. H. W. Allen, San Francisco.
65 Treatment of a Few Diseases of the Rectum, by General Practitioner. I. C. Young, St. Louis, Mo.
66 *Reports of Focal Operations in Hip-joint Tuberculosis. H. M. Sherman, San Francisco.
67 Effect of Roentgen Rays on Epithelial Structure of Skin. D. W. Montgomery, San Francisco.
68 *Treatment of Pyelitis and Urethritis by Urethral Catheterization and Lavage. G. L. Eaton, San Francisco.

61. **Instrumental Diagnosis.**—Cooper cites an instance which emphasizes the necessity of injecting a little sterile water into a catheter or any other tube which is perforated before the tube is withdrawn so as to force away from the eyelet the mucous membrane, which otherwise might be torn off and brought away with the tube. When the proctoscope is used air instead of water may be injected.

64. **Laboratory Methods in Diagnosis of Typhoid.**—Allen discusses briefly the various methods that are of value in diagnosing suspected cases of typhoid, such as blood cultures, serum diagnosis, and the leucocyte count.

66. **Focal Operations in Hip Joint Tuberculosis.**—Sherman says that the possibility of health from an operation directed against the diseased focus in the hip should be considered and discussed very carefully, and that this must always be done with one thought clearly kept in mind, that a tuberculous bone lesion is practically always more serious and more extensive than outside evidences lead one to believe. He has done the tunneling operation five times, but in only one case was it apparent that the operation could have been a success.

68. **Catheterization and Lavage in Pyelitis and Ureteritis.**—Eaton reports the history, urinary analysis and treatment in 23 cases of pyelitis and ureteritis, 8 bilateral and 15 unilateral. The treatment consisted of passing the ureteral catheter every third or fourth day and injecting into the pelvis of the kidney about 5 c.c. of a 2 per cent. silver salt solution. Marked improvement resulted in each case. Eaton emphasizes the necessity for a careful examination of the urine previous to and during the treatment.

Journal of the New Mexico Medical Association.

March 15.

69 Benefit of Climate in Cure of Tuberculosis. D. H. Carns. Albuquerque.
70 Circulatory. Respiratory and Vasomotor Stimulants. W. H. Burr. Gallup.
71 Adenoids. C. S. Losey, Las Vegas.
72 The Sympathetic Nervous System. F. Palmer, Cerrillos.
73 Management of Pregnancy. R. E. McBride, Las Cruces.

American Quarterly of Roentgenology, Pittsburg.

October.

74 *Teaching of Roentgenology in Medical Colleges. V. J. Willey, Detroit, Mich.
75 *Roentgen Rays in Treatment of Acne, Acne Rosacea, Eczema and Psoriasis. A. P. Biddle, Detroit, Mich.

74, 75.—See The Journal, Sept. 15, 1906, pages 887-8.

Montreal Medical Journal.

March.

76 Perforation in Typhoid. A. McPhedran, Toronto.
77 Appendicitis. J. B. Harvie, Troy, N. Y.
78 Cervical Ribs Causing Pressure of Brachial Plexus. C. K. Russel, Montreal.
79 Partial Gastrectomy for Pyloric Cancer. A. E. Garrow and C. A. Peters.
80 Koch-Weeks Conjunctivitis. H. McKee, Montreal.
81 Clinical Notes from Alexandria Hospital. J. C. Fyshe and A. W. Hunter.

Archives of Otology, New York.

December.

82 Case of Bilateral Cerebral Disturbance of Hearing with Aphasia. G. Boenninghaus, Breslau, Germany.
83 So-called Cyclic Course of Acute Otitis Media. O. Koerner.
84 Exostoses and Hyperostoses of Ear Canal as Cause for Severe Purulent Otitis. Dr. Meyer, Hanover.
85 Herpes of the Auricle with Neuritis of the Facial Nerve. T. Sarai, Japan.
86 Purulent Meningitis Following Radical Mastoid Operation. R. J. Held and S. J. Kopetzky, New York.
87 Acute Sepsis Beginning on the Third Day of an Attack of Acute Middle Ear Inflammation. J. Dunn, Richmond, Va.
88 Differential Diagnosis in Otitic Sinus Thrombosis. F. Voss, Riga.

Texas Medical News, Austin.

January.

89 Latent Gonorrhea. M. B. Saunders, Waco.
90 Puerperal Embolism. C. A. Gray, Bonham.
91 Abscess of Lungs; Operation J. B. Stinson, Sherman.
92 Hematuria. J. L. Rountree, Argo.
93 Internal Medicine vs. Surgery. W. F. West, Waxahachie.

Iowa Medical Journal, Des Moines.

March 15.

94 Is Mental Effort of Therapeutic Value? F. T. Seybert, Council Bluffs.
95 Normal and Perverted Carbohydrate Metabolism. J. C. Ohlmacher, Independence.
96 Carcinoma. A. B. Bowen, Maquoketa.
97 Diphtheria and Its Treatment. A. P. Stoner, Des Moines.
98 Functions of the Peritoneum. P. B. McLaughlin, Sioux City.
99 Case of Brain Injury. P. T. Geyerman, Worthington, Minn.
100 President's Address of Harrison County (Iowa) M. S. T. Macfarlane, Mondamin.
101 Medical Treatment of Epithelioma. W. R. Bolibaugh, Osceola.

Medical Library and Historical Journal, Brooklyn.

December.

102 The Mondino Myth. L. S. Pilcher, Brooklyn.
103 Lessons from Life of Major Walter Reed. H. A. Kelly, Baltimore.
104 Leonardo Da Vinci and Vesalius. J. P. McMurrich, Ann Arbor, Mich.
105 Joseph Roby, the Anatomist. E. F. Cordell, Baltimore.
106 Biography of François Magendie. (Continued.) P. M. Dawson, Baltimore.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

April 6.

1 *Lord Lister and the Evolution of Wound Treatment During the Last Forty Years. H. C. Cameron.
2 *Dr. H. Jackson's Views of Functions of the Cerebellum. V. Horsley.
3 *Iodin-Spirit Catgut. J. S. Riddell.

1. **Evolution of Wound Treatment.**—Among the points considered by Cameron in his discussion of the evolution of wound treatment are the following: Acupressure; earliest form of antiseptic treatment; the buried ligature; the introduction of protective and shellac plasters, and of antiseptic gauze; the antiseptic spray; the employment of drainage tubes; mercurial gauze dressings; antisepsis by heat; sterilization of the skin, hands and instruments; the treatment of compound fractures and of chronic abscesses associated with osseous caries.

2. **Functions of Cerebellum.**—Horsley's conclusion is that all research tends to confirm the view held by ancient and modern investigators that the cerebellar cortex is the first chief station of representation of the afferent basis of movements of all the skeletal muscles.

3. **Iodin Spirit Catgut.**—As the result of two years of constant use of this catgut Riddell is convinced that it is sterile; that it loses none of its tensile strength in preparation; that it can be stored indefinitely in the solution in which it is prepared without becoming brittle; that it is soft and nice to handle; that it is readily and simply prepared and without any undue expense, and that it is absorbed completely but only after it has served its purpose.

The Lancet, London.

April 6.

4 Pathology of Melanotic Growths in Relation to Their Operative Treatment. W. S. Handley.
5 Increase of Insanity. G. H. Savage.
6 *Area of "Acute Abdominal Conflux" and the "Incision of Incidence." C. P. Childe.
7 *Amyl Nitrite in Hemoptysis. G. A. Crace-Calvert.
8 Aseptic and Septic Midwifery in the Liverpool Workhouse Hospital. W. Alexander.
9 Multiple Circumscribed Lipomata Treated with Ethylate of Sodium. A. F. Savill.
10 Teaching of the Hygiene of the Expectant and Suckling Mother. J. F. J. Sykes.
11 Rôle of Blood Plasma in Disease. H. Campbell.

6. **Acute Abdominal Conflux.**—The area of acute abdominal conflux is described by Childe as being an area bordered by two lines in which almost every acute abdominal crisis either must or does occur. A perpendicular line is drawn from opposite the esophageal opening of the stomach, about one inch to the left of the sternum on the seventh costal cartilage, to Poupart's ligament. A second line is drawn from the right anterior superior iliac spine, perpendicularly upward to the lower border of the thorax. Between these two lines is the area of acute abdominal conflux. The incision which will lay bare this area is a vertical one midway between the lines, just about the outer border of the right rectus. This is the incision of incidence. It commences about the level of the umbilicus and continues downward. Childe claims that this incision exposes to sight that part of the abdominal cavity which in a large proportion of cases must contain the offending organ, and which in another large proportion of cases does, as a matter of fact, do so. When it fails to expose the offending organ the abdomen can be examined by touch just as well through the right semilunar as through the median incision.

7. **Amyl Nitrite in Hemoptysis.**—Crace-Calvert claims that nitrite of amyl is the most valuable drug in practically all cases of hemoptysis. It produces such an immediate fall in the general blood pressure, by dilatation of the vessels throughout the body, that the pressure at the bleeding point is lowered and there is time for clotting to take place, while the hemoptysis usually ceases almost instantly. The inhalation of three minims usually checks the bleeding almost at once.

Journal of Obstetrics and Gynecology of the British Empire, London.

April.

12 *Chorea During Pregnancy. W. F. Shaw.
13 *Occasional Occurrence of Peculiarly Offensive Condition of Liquor Amnii. M. Handfield-Jones.
14 Technic of Operations on Uterine Appendages. H. Jellett.
15 *Four Cases of Early Ectopic Pregnancy. A. M. Sinclair.
16 New Method of Performing Ventrosuspension of the Uterus. A. M. Sinclair.
17 Rhythmic Chorea (Pseudochorea?) in Early Pregnancy. G. B. Marshall.
18 Hydatids (Acephalocysts) of the Abdomen and Pelvis, Removed by Abdominal Section. F. H. Champneys.
19 Multiple Fibromyomata of the Uterus, Curiously Similar in Character, in Mother and Daughter. H. Macnaughton-Jones.
20 *Effect of Pregnancy on Alopecia Areata. G. G. S. Taylor and R. W. Mackenna.

12. **Chorea During Pregnancy.**—Shaw reports 11 cases, in two of which the patients were treated on traditional lines with very poor results. The remaining nine patients were put on a milk diet and elimination was increased, as was first suggested by Fothergill, and the results obtained were satisfactory in every way.

13. **Infection of Liquor Amnii.**—Handfield-Jones found five instances of infection of the liquor amnii among 3,300 accouchements. The fluid is compared to an ordinary typhoid stool, and was extremely offensive in odor, the odor being of a fecal nature. It contained pus, blood, crystals of cholesterin and some columnar epithelium, bile-stained. It also contained many bacteria, mainly staphylococci and colon bacilli.

15. **Ventrosuspension of Uterus.**—Sinclair makes an opening through the anterior abdominal wall large enough to permit of a thorough inspection of the contents of the pelvis. The

displaced uterus is raised and any adhesions present are broken down. The ovaries are inspected and if any abnormality is noticed it is attended to. Beginning at the point where the left round ligament enters the abdominal wall, the ligament is stitched with strong catgut—not too thick—to a fold of peritoneum, and this is carried on as a continuous suture embracing the round ligament and stitching it to the parietal peritoneum until the uterus is reached. The suture is then tied. With another suture the right round ligament is stitched in the same way as the left until the uterus is reached. Then the suture is carried along the front of the uterus, suturing this organ also to the peritoneum, until the first suture is reached. In the process of stitching the round ligaments are shortened. Sinclair has performed this operation several times with good results. It does not interfere with or hamper the bladder.

20. **Effect of Pregnancy on Alopecia.**—Taylor and Mackenna report a case in which the growth of hair was stimulated during pregnancy, the alopecia returning with the termination of pregnancy.

The Practitioner, London.

April.

21 *Treatment of Postpartum Hemorrhage. G. E. Herman.
22 The Myogenic Theory. J. Cowan.
23 Six Cases of Ruptured Ectopic Pregnancy. C. P. Childe.
24 Diseases of the Nervous System. H. C. Thomson.
25 Relationship Between Simple Posterior Basic Meningitis and Cerebrospinal Fever. F. Langmead.
26 What is Fever? W. Hutchinson.
27 Juvenile General Paralysis. C. H. Fennell.
28 *Value of Roentgen Rays in Medical Diagnosis. A. F. Hertz.
29 Use of Antipyrin as a Sedative in Some of the Common Disorders of Childhood. H. N. Fletcher.
30 Diseases of the Stomach, F. C. Moore.
31 Famous Quacks. J. Graham.

21. **Treatment of Postpartum Hemorrhage.**—Herman holds that the only effective treatment of postpartum hemorrhage is to bring about uterine contraction. He says that the great prophylactic against postpartum hemorrhage is to avoid entering the uterus when it is not contracted, and that the cure for a tired uterus is sleep. If the accoucher will give his patient opium to make her sleep, when she wakes uterine action will return, the child and placenta will be expelled, and hemorrhage in the third stage of labor will not be enough to cause anxiety.

28. **Value of Roentgen Ray in Medical Diagnosis.**—Hertz shows that in the Roentgen rays we have a means of extending our knowledge of diseases of the thorax and abdomen.

Presse Médicale, Paris.

32 (XV, No. 18, pp. 137-144.) Surgical Treatment of Cancer of Uterine Cervix. (Cure chir. du cancer du col.) J. L. Faure.
33 Dangers of Carbolic Acid as Domestic Antiseptic. (Eau phéniquée.) L. M. Pautrier.
34 (No. 19, pp. 145-152.) *Spleen in Organic Heart Disease. (Rate dans les cardiopathies org.) E. Barié.
35 Budin's Achievements in Puericulture. (Oeuvre de Budin.) V. Bué.
36 Syringe for Injection Direct from the Fused Bulb. (Auto-injecteur d'ampoules.) P. Desfosses.
37 (No. 20, pp. 153-160.) Shell injuries of Skull and Brain in Manchuria. (Plaies pénétrantes du crâne et de l'encéphale.) J. J. Matignon.
38 Clinical Exploration of the Colon. (Colons.) J. Okinczyc.
39 (No. 21, pp. 161-168.) *Protection Against Seasickness. (Mal de mer d' imagination.) F. Regnault.
40 Ultramicroscopy (Ultramicroscopes.) A. Cotton and H. Mouton.
41 *Radiotherapy of Rebellious Facial Neuralgia. (Névralgie fac. et radiothérapie.) G. Haret.
42 Dulness Over Intestines. (L'intestin peut être mat.) M. Savariaud.

34. **The Spleen in Organic Heart Disease.**—Barié has been looking over his notes of 216 cases of organic heart disease in which the condition of the spleen was systematically recorded. In about a third of the cases the spleen was more or less abnormal, either enlarged or shrunken or the seat of infarcts. In these cases there was always a history of malaria, dysentery, scarlet fever or some similar condition. No clinical signs were manifest in the cases of atrophied spleen, and the infarcts generally developed unnoticed or at most with a sudden local pain. Enlargement of the spleen, however, was liable to induce actual "spleno-hepatic asystoly." Pallor, relatively frequent, severe epistaxis, and progressive debility are the main signs of this condition. It is characterized by regularity of the pulse, absence of venous congestion, of cyanosis and of olyguria, and by a white and depressible edema. In one case the patient was awakened in the night by a menacing epistaxis, recurring at night several times and requiring tamponing. The vertical diameter of the spleen in this case was 20 cm., nearly 8 inches, and there were only 2,000,000 red and 4,000 white blood corpuscles.

39. **Protection Against Seasickness.**—Regnault's communication on the frequency of what he calls "imagination seasickness" was mentioned in THE JOURNAL, April 6, 1907 page 1220. He is inclined to ascribe the symptoms of seasickness to irritation of the abdominal contents from the sliding around and displacement caused by the motion of the ship. Tightly closed cavities, filled with fluid, are much less liable to have their contents suffer from the motion of the ship than the abdomen. The rubbing of the viscera on each other, he asserts, irritates the nerve ganglia, and the vomiting and other symptoms follow from reflex action. Ptosis of the viscera and dyspepsia favor the development of seasickness, and the symptoms are sometimes relieved by a bandage around the abdomen. Reclining reduces the sliding around of the viscera. Brief relief, he states, can also be obtained by cocain anesthesia of the empty stomach. Direct and indirect suggestion is the treatment for the "imaginary" variety of seasickness, especially when combined with a placebo and a sedative. It is scarcely practicable for the ship doctor to use hypnosis, for obvious reasons which Regnault enumerates, but great benefit may be obtained, he states, if the patient dreading seasickness applies to some specialist in hypnosis before he goes on board. The soil is favorable here, and preventive suggestion is frequently effectual. True somatic seasickness is cured as the patients acquire "sea legs," that is, learn to adapt their position to the motion of the boat. Even this may fail when the sea is extraordinarily rough. Regnault confesses in conclusion that his distinction between real and imaginary affections applies to all kinds as well as to seasickness. "The reason why medical literature is swamped with so much tedious detail and our therapeutics is overburdened with remedies of all kinds, is because some have cured merely imagination affections, unaware of the absence of any somatic basis." He adds that the reminiscences of observant physicians who have grown old in the profession might throw a flood of light on this subject if they would review their experiences from this point of view.

41. **Radiotherapy in Facial Neuralgia.**—Haret reports the complete cure for two years to date under radiotherapy of a patient with what he calls "epileptiform facial neuralgia." The patient, a man, had suffered for years from daily recurring attacks of facial neuralgia, not relieved even by morphin. The teeth had been drawn, the trigeminal nerve resected, the Gasserian ganglion removed, and also the superior cervical ganglion of the sympathetic, with a truce of never more than six months at most after each operation. A number of other cases have been treated in the same way, with improvement or cure in all but one. The best results are obtained when the pains radiate from one or more points to which the radiotherapy can be applied. The exposures are made weekly, using 3 Holzknecht units. The first exposures generally cause transient exacerbation of the pains.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed, page 555.

43 (LXXXIX, Nos. 5-6, pp. 381-652.) Independent Propelling Force in Peripheral Vessels. (Kreislauf in der Peripherie.) M. Matthes and others.
44 *Importance of Examination of Condition of Vessels and Blood Pressure in Case of Renal Hematuria in Nephritis. (Genese der Nierenblutungen.) Kusumoto.
45 *Uric Acid and Purin Bases in Blood and Urine Under Roentgen Exposures. (Verhalten der Harnsäure und Purinbasen.) P. Linser and K. Sick.
46 *Physiology of Sympathetic System. (Symp. Nervensystem.) L. R. Müller.
47 *Pathology of Blood Pressure. (Blutdruck.) Külbs.
48 *Sodium Chlorid Metabolism. (Kochsalzstoffwechsel.) A. Bittorf and G. Jochmann.
49 *Tabes, Affections of Circulatory System and Syphilis. (Tabes dorsalis, etc.) M. Rogge and E. Müller.
50 Hydrocephalus in Epidemic Cerebrospinal Meningitis. (Genickstarre.) W. Schultz.
51 Influence of Smoking on the Circulation. (Rauchen und Kreislauf.) E. Hesse.
52 Blood and Bone Marrow After Suppression of Thyroid Functioning. (Ausfall der Schilddrüsenfunktion.) Esser.
53 Paroxysmal Tachycardia. (Tachykardie.) E. Schmoll. (San Francisco).

54 Enlargement of Heart from Bicycling. (Herzvergrösserung infolge Radfahrens.) Schieffer.
55 Thrombus Formation at Patent Ductus Arteriosus. (Thrombenbildung, etc.) . O. Wagener.
56 Severe, Universal Essential Dropsy for a Month in a Healthy Young Man. (Essent. Wassersucht.) H. Wichern.
57 Landry's Paralysis. (Landry'scher Symptomenkomplex.) Mann and H. Schmaus.

44. **Cause of Renal Hemorrhage in Nephritis.**—Kusumoto reports a case which sustains the assumption that renal hemorrhage may result from rupture of a small vein in the hilus of the kidney in case of extraordinarily high blood pressure and unusual exertion.

45. **Influence of Roentgen Exposures on Blood, Urine and Blood-Forming Organs.**—Study of the behavior of the uric acid and the purin bases in the blood and urine under the influence of the Roentgen rays has corroborated the previous assertions of Linser and Sick on this subject. They give 9 tables of the findings in regard to the metabolism in patients with various affections, mostly cutaneous. They show that the influence of the Roentgen exposures is felt most sensibly by the white blood corpuscles, whether circulating in the blood or still at the points where they are produced. It is still a question whether the exposures affect the blood-forming organs directly or only by mediation of bodies circulating in the blood which have a destructive action on the leucocytes.

46. **Physiology of the Sympathetic Nervous System.**—Müller presents arguments to show that the relations between the brain and the internal organs are much closer than physiologists and neurologists have generally accepted. The functions of the stomach, intestines, bladder, heart and vasomotors are liable to be seriously disturbed by the influence of certain emotions. The fact that sadness, emotional depression, starts the lachrymal glands to extraordinary functioning is so common that no one gives it a thought. The instincts of hunger, thirst, etc., depend to a remarkable extent on a sense of bodily and mental well being. If the sensation of health is disturbed or emotions experienced, these instincts are liable to suffer at once. The opposite conditions induced by pleasurable and disagreeable sensations are aptly styled "moods," and persons who react to them with pronounced phenomena, such as spots of redness in the face when ashamed, or weeping under pain, or "goose flesh" under fear, have an exceptionally excitable vasomotor system. The more recent physiologic research has shown that the internal organs, such as the heart, stomach and intestines, the kidneys, ureters and uterus, possess in themselves the power and the excitation for their functional activity, so that even when entirely cut off from any connection with the nervous system, they are still able to work on in a manner amply sufficient for the maintenance of the vital process. From the clinical side we must also remember, he says, that active—even if unconscious—relations exist between these organs and the central nervous system. Psychic processes—such as are represented by powerful emotions—have more influence on these internal organs than can be realized by will power control of the accessible functions. The sympathetic nerve fibers, he adds, do not pass directly to the brain, but the rôle of the sympathetic system is aptly portrayed by its name, showing how it sympathizes in all moods and emotions to an unrealized extent.

47. **Pathology of the Blood Pressure.**—Külbs reports 14 cases illustrating different phases of pathologic conditions in the blood pressure, and emphasizing their possible variety. In the first case a local, probably tuberculous, process induced paralysis of the respiratory and heart-inhibiting vagus centers. Artificial respiration and massage of the heart restored respiration in the course of 40 minutes. As the breathing ceased, the blood pressure and pulse rose to a remarkable height, probably from irritation of the corresponding centers by the vitiated blood after respiration had ceased. This and another case in his experience show that it is possible for the pulse to persist strong after failure of respiration—in one case for 15 minutes. In a case of recurring angina pectoris with aortic insufficiency, the symptoms indicated painful spastic contraction of the larger vessels branching from the arch of the aorta. As the subjective disturbances subsided, the blood pressure dropped 60 or 80 mm. mercury, to almost normal, and no abnormal findings could be detected in the cardiogram and sphygmogram. Besides the usual measures, most surprising benefit was obtained from artificial respiration. Külbs uses Boghean's "respiration chair," which is a comfortable easy chair with an electromotor below that drives two pads inducing rhythmical compression of the thorax under control. Artificial respiration also proved surprisingly effectual in aborting attacks of bronchial asthma and angina pectoris in other cases, and always brought the blood pressure approximately to normal, relieving the probable underlying vascular crisis. In other cases the asthma did not seem to be influenced except transiently by the artificial respiration. It seemed to be due to irritation from retained secretions, and the artificial respiration did not seem to promote the evacuation of secretions from the air passages. In another case, abuse of tobacco for a month (25 cigarettes a day, inhaling the smoke) induced a syndrome including acutely subnormal blood pressure and marked slowing of the pulse with regular heart action, but acute weakness of the heart and disturbance of the vascular system. Attacks of a chill, vertigo, transient unconsciousness and sweating followed several times in the course of the day; pulse was 32, blood pressure 88, respiration 16. In 4 apparently unusually healthy young men, fond of bicycle racing, the blood pressure was 140-152; 142-156, or 116, and the heart was distinctly and permanently enlarged, but there were trifling or no signs of insufficiency. In 20 cases of pneumonia the blood pressure was low. He noticed, however, that pneumonia affecting a hard drinker always terminated favorably when the blood pressure had been up to 130. The cases with blood pressure of from 80 to 100 in such patients always proved fatal.

48. **Sodium Chlorid Metabolism.**—Bittorf and Jochmann report from von Strümpell's clinic at Breslau a series of 14 cases of kidney or heart disease, or both, in which the metabolism was studied in detail with and without salt in the food. Certain general rules can be deduced from the findings in these cases. In inflammatory processes with effusions, the elimination of sodium chlorid may be normal during the acute phase, but in pneumonia increased intake of salt does not increase the average eliminated. In kidney disease with heart complications, the salt metabolism takes place as in heart disease with failing compensation. In other kidney affections the conditions vary. As a rule, in the cases studied the elimination of sodium chlorid was good. It frequently did not seem to have any connection with the elimination of water. The faculty of eliminating sodium chlorid gives no insight into the kind or severity of the renal affection. They are convinced that changes in the vessels are the cause of the edema, not primary retention of sodium chlorid. Dechloridization, therefore, as a method of treating kidney affections has no scientific basis, they claim, except in so far as the diet as a whole is rendered by it more easily digested and assimilable.

49. **Tabes and Affections of Circulatory System in Syphilis.**—Twenty-four cases are described to illustrate the frequent combination of tabes with affections of the circulatory system on a subsoil of syphilis. In some cases one or the other complication is liable to be overlooked, as they may run a comparatively latent course until some other manifestation of the syphilis strikes the alarm.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed, page 912.

58 (LXXXII, Nos. 4-6, Pp. 287-614.) *Lateral Suture of Artery in Extirpation of Aneurism. (Seitliche Naht der Art. bei An.-Exstirpation.) C. Garré.
59 Peritonitis from Perforation of New-forming Diverticulum. (Perforationsperitonitis.) F. Warnecke.
60 *Diagnosis and Treatment of Injuries of Liver. (Leberverletzungen.) G. Dencks.
61 Hernia of the Diaphragm, Especially the Chronic Form. (H. diaphragmatica.) Wietung.
62 *Operative Treatment of Multiple Tuberculous Strictures of the Intestine. (Multiple tub. Darmstrikturen.) H. Ito and S. Asahara.
63 *Cancer Statistics. (Krebsstatistik.) P. Steiner.
64 *Pathology and Treatment of Intestinal Occlusion. (Darmverschluss.) R. Göbell.
65 Unilateral Congenital Hypertrophy of the Face. (Gesichtshypertrophie.) E. Pagenstecher.
66 Case of Defect in the Radius on Right Side and Thumbless Club-hand on the Left. (Radiusdefekt und Klumphand.) F. Lotsch.

67 Mycelium Formation Credited to the Diphtheria Bacillus. (Mycel-bildung des L. Diphtheriestäbchens.) W. Spirig.
68 *Diagnosis of Acute Mediastinal Affections. (Ak. Mediastinalerkrankungen.) M. v. Arx.
69 Symptomatology and Diagnosis of Injuries of the Heart. (Perkutane Herzverletzung.) Momburg.
70 Surgical Treatment of Diverticulum of Esophagus. (Speiseröhrendivertikel.) G. Zesas.
71 Etiology of Rupture of Tendon of Quadriceps. (Quadricepssehnenruptur.) Axhausen.

58. **Lateral Suture of Artery After Extirpation of Sac Aneurism.**—Garré reports what he believes is the first case of extirpation of a true sacculated aneurism with lateral suture of the artery and recovery of the patient. The aneurism had developed from the vein, but the artery was adherent to the vein at this point with a communication between them. The aneurism was resected, the vein ligated above and below, and the opening into the artery closed with a longitudinal suture in the side of the artery. He adds that in case it is deemed unwise to apply the tourniquet, the flow of blood through the artery can be arrested by passing a loop of thread around the vessel, above and below, and occluding the lumen by kinking the artery by simple traction on the thread. This method is less dangerous than application of forceps or direct ligature which is liable to injure the intima.

60. **Injuries of Liver.**—Dencks reports seven cases of injury of the liver in which surgical treatment was successful in three. The injuries in the cases with a favorable outcome were: A bullet wound, a kick from a horse, and injury from being run over. The others were very serious contusions with other injuries. Rigidity extended over the entire abdomen in every case, and the pain on palpation was also diffuse, although more pronounced on the right side. Tamponing alone arrested the hemorrhage in the three favorable cases. The pulse gave no signs of the internal bleeding, being relatively good even in the most rapidly fatal cases. In one instance the gauze tampon answered a double purpose, draining a pus pocket that developed between the diaphragm and the liver. His experience confirms the value of tamponing as the best, safest, most rapid and effectual method of arresting hemorrhage in case of rupture of the liver, although a suture may be advisable for a smooth and conveniently located stab wound.

62. **Operative Treatment of Multiple Tuberculous Strictures of the Intestine.**—Ito and Asahara report five cases. One of the patients succumbed a few months later to acute phthisis. Three others were restored to comparative health. The symptoms are those of any gradually encroaching stricture in the intestines, but they were less pronounced when the stools were watery than with solid stools. Partial exclusion with lateral enteroanastomosis was done in three cases and the results were brilliant in every instance. In another case nothing was done beyond the mere laparotomy, as more than 29 cicatricial strictures of a moderate degree were scattered along the entire small intestine. This patient is still in the clinic and has had no colics since, but the pulmonary affection is continuing a progressive course. The patient treated by resection of 95 cm. of the small intestine succumbed to collapse. Lateral enteroanastomosis relieves the patient at once of all disturbances and by improving the general condition promotes the chances of spontaneous elimination of the remaining infectious germs. Cases are on record in which even a process in the lungs retrogressed afterward.

63. **Permanent Cures After Cancer Operations.**—Steiner reports from Dollinger's clinic at Budapest that of 175 cancer patients operated on 40 per cent. are living at least three years after the operation, and 41.25 per cent. of 80 after an interval of five years at least. These figures include 25 and 18 cases in which the cancer had recurred but had been promptly removed. The cancers are classified according to their location, and the experiences with each group are reviewed in detail.

64. **Pathology and Treatment of Ileus.**—Göbell publishes the report of 63 cases of ileus in which operative treatment was undertaken at Helferich's clinic at Kiel, 1899-1906. In only two instances was it possible to palpate a strangulated loop through the rectum or vagina. Distended loops felt in this way generally proved to be parts of the afferent intestine. In the 21 cases with strangulation the pain was localized in only three, but shock was always present, and initial vomiting occurred in all but five cases. A free effusion was observed in 11 cases. In one the modification of the resonance on change of position led to the assumption of a tuberculous effusion, but puncture brought the contents of the small intestine instead of the expected effusion. He regards appendicostomy as extremely useful and indicated in case of ileus when there is cancerous stenosis of the colon, and in case of volvulus of the cecum and ascending colon if it can be reduced in time. At the same time the appendicostomy fastens the movable colon to the abdominal wall. It is useful also in case of volvulus of the sigmoid flexure when it has gradually developed and the intestine above is very full; also in ileus from paralysis in which the large intestine is extremely distended and can not be evacuated with high injections. The outcome was favorable in 48.3 per cent. of the 31 cases in which the intestine was emptied, and in 47.2 per cent. of the 21 cases in which this was not done. He adds that the main trouble is that patients do not reach the surgeon in time. Better results will be recorded when physicians learn to diagnose strangulation ileus in time, and when they learn that an expectant attitude in case of ileus from occlusion increases the danger from day to day, and that many human lives are sacrificed to the teachings of internal medicine.

68. **Diagnosis of Acute Mediastinal Affections.**—In the case described by Arx a brakeman was thrown under a car and was injured in the heart region by being pushed along by one of the wheels. The fourth left costal cartilage was fractured and the fourth intercostal branch of the internal mammary artery ruptured. The blood escaped into the anterior mediastinum and into the left pleural cavity, but the pericardium did not seem to be injured. Large moist râles and crepitation were audible under the lower part of the sternum, and here only, later subsiding at this point, giving place to dulness, and appearing at a higher point, near the manubrium. There was no emphysema and nothing to indicate injury of the air passages. Arx ascribes this finding to the gradual development of the hematoma in the anterior mediastinum. It pressed back the right half of the heart and thus brought it into a more vertical position, which caused the apex beat to be remarkably strong, coming concentrically direct from below instead of the usual tangential beat. A third unusual symptom was a whistling sound audible at a distance and synchronous with the heart systole. The chest wall vibrated to correspond with this sound, which was audible for about two hours and then vanished to recur again next day for an hour or so. The patient rapidly recovered under expectant treatment, but there is still, a year later, a tendency to cough on exertion, with brief pain in the heart region and along the left margin of the sternum when he coughs or sneezes or lies on his side. The whistling sound Arx explains as due to the concussion of the air in the trachea from the heart as a note is produced in an organ pipe.

Monatsschrift f. Geb. und Gyn., Berlin.

Last indexed, page 1068.

72 (XXV, No. 3, pp. 291-432.) Sclerosis of Uterine Arteries as Cause of Uncontrollable Hemorrhage. (Sklerose der Art. der Gebärmutter.) A. Solowij.
73 Fetal Peritonitis and Consequent Malformations from Mechanical Pressure. (Fötale Perit. und Missbildung.) E. G. Orthmann.
74 Cases of Paraurethral Suppuration. (Paraur. Eiterung.) O. O. Fellner.
75 Chorioepithelioma. (Chorioep.) H. E. Klinge.
76 Histologic Research on Uterine Sarcoma. esp. Myosarcoma. (Uterussarkom, etc.) G. L. Basso.
77 Pseudo-carcinomatous Infiltration of Intestinal Wall in Case of Adnexitis. (Infiltr. der Darmwand.) H. Füth.

Münchener medizinische Wochenschrift.

78 (LIV, No. 8, pp. 353-400.) Differential Diagnosis Between Reflex and Absolute Immovability of the Pupils. (Pupillenstarre.) L. Bach.
79 Proteolytic Leucocyte Ferment and Its Antiferment. (Prot. Leukozytenferment.) E. Müller and H. Kolaczek.
80 *Specific Solubility and Its Application in Forsenic Blood Tests. (Spez. Löslichkeit.) R. Dehne.
81 *The Blood in Asthmatics. (Blutuntersuchungen.) P. Salecker.
82 *Impure Heart Sounds in Children. (Unreine Herztöne.) H. Neumann.
83 *Operative Treatment of Laryngeal Stenosis. (Kehlkopfstenosen.) Wendel.
84 Appendicitis. (Zur App.-Frage.) K. Garhammer.
85 *Prophylaxis of Retention of Placenta. (Plaz.-Retention.) S. Durlacher.

86 *Treatment of Tetanus. (Antitoxin bei Tetanus.) K. Urban.
87 Radioactivity of Steben Chalybeate Waters. (Steb. Stahlquellen.) F. Hammer.
88 Sled Frame for Baby Carriage. (Schlittengestell f. Kinderwagen.) Nerlich.
89 (No. 9, pp. 401-448.) Heart Action too Weak to Send Pulse to Peripheral Arteries. (Frustrane Herzkontraktion.) H. Hochhaus.
90 *Study of Pancreatic Juice in Man and Quantitative Determination of Trypsin. (Pankreassaft.) F. Volhard.
91 *The Desmoid Test and the Connective Tissue Test. (Sahli's Desmoid probe und A. Schmidts Bindegewebsprobe.) J. Lewinski.
92 *Intravital Coagulation and Thrombosis in the Vessels of Internal Organs After Ether and Chloroform Anesthesia. (Gerinnungen und Thrombosen nach Narkosen.) O. Mulzer.
93 *Modified Bier Treatment of Affections of Ear and Upper Air Passages. (Stau- und Saugtherapie in Ohr, etc.) K. Vohsen. Id. O. Muck.
94 *Experiences with General Anesthesia with Scopolamin-Morphin-Chloroform. (Skop.-Morphin-Chlor.-Narkosen.) Kreuter.
95 *Advantages of Hydrogen Dioxid in Examination of Sputum. (Auswurfsedimentierungsverfahren mit Wasserstoffsuperoxyd nach Sachs-Müke.) Peters.
96 Metal and Celluloid Insoles for Flat Foot. (Plattfusseinlagen.) K. Lengfellner.
97 Transformation of Lengthwise Extension into Transverse Traction. (Umsetzung von Längsext. im queren Zug.) A. Hofmann.
98 Wire-Celluloid Bandage. (Draht-Zell. Verband.) O. Heine.
99 Nervous Eructation. (Nerv. Aufstossen.) I. Boas.
100 Report of Bavarian Cancer Research Committee, 1905. (Sammelforschung.) K. Kolb. Commenced in No. 8.

80. **Specific Solubility in Forensic Blood Tests.**—Dehne has been studying the phenomenon that specific turbidity and precipitates in a combination of serum and antiserum become rapidly dissolved when undiluted homologous serum is added in excess. Even with mere traces of blood, the appearance of this specific solubility, testing with serums of various organs, points unerringly to the kind of animal from which the blood originally came.

81. **The Blood in Asthma.**—Salecker calls attention to the great fluctuations in the blood picture in cases of asthma. During or immediately after the attack there is pronounced hyperleucocytosis, generally chiefly in the polymorphonuclears, which may increase to 80 per cent. of the total number of leucocytes or even more. The mononuclears, especially the eosinophiles, diminish materially in numbers, but conditions return to normal in the course of a few days. He remarks that we are accustomed to see such violent reactions on the part of the blood only in consequence of bacterial or chemical irritation. His communication is based on examination of 14 asthmatics, half of whom were examined during and immediately after an attack.

82. **Impure Heart Sounds in Children.**—Neumann reports several typical cases in which the children were apparently healthy, with nothing to call attention to the heart except the discovery of a lack of purity in the heart sounds. He noticed this in his private practice in 71 children under 5 years; in 89 between 6 and 10, and in 20 older children. This change in the character of the heart sounds came on suddenly, and he is inclined to think that it is permanent. Preceding catarrhal affections of the upper air passages is almost invariably mentioned in the history, and he thinks that involvement of the heart in infections of the upper air passages, especially of the nose, is so common that the heart should be supervised in all such cases. Children with this anomaly in the heart sounds evidently have something more or less wrong with the heart. Although slight cyanosis and shortness of breath are sometimes observed, as a rule there are no signs indicating disturbance beyond the one mentioned, and the children take cold baths and exercise violently—against the physician's advice—with apparent immunity. It is evident, however, he thinks, that the heart is not intact, and that the life expectancy is more or less modified by it.

83. **Operative Treatment of Laryngeal Stenosis.**—Wendel's patient fell on the edge of a chest and fractured the larynx with resulting cicatricial stenosis. The cicatricial tissue was excised by laryngotomy and the mucosa was mobilized and drawn up to cover the defect, which extended half-way around the larynx. The outcome was excellent.

85. **Prophylaxis of Retention of Placenta.**—Durlacher is inclined to attribute retention of the placenta to reflex action from manipulation of the uterus or abdominal walls. The best means to prevent it, therefore, he says, is to abstain from touching the uterus or abdomen after the child has been delivered. Inspection and control of the pulse and the higher position of the uterus will reveal internal hemorrhage, generally in less than half an hour. When this is observed Credé's method of expression can be applied. He urges the adoption of this strictly expectant treatment on a wide scale in order to test its results. In his experience it permitted spontaneous detachment and expulsion of the placenta even in cases in which at previous childbirths there had always been more or less trouble from this cause, requiring manual measures and accompanied by much hemorrhage.

86. **Antitoxin Treatment of Tetanus.**—Urban reports two cases of tetanus in which death soon followed injection of antitoxin. In a third case no benefit from the antitoxin was visible. As a last resort the compound fracture of the leg was rinsed with 1 per cent. silver nitrate solution daily, commencing the tenth day of severe tetanus; the first symptoms were noticed the twentieth day after the accident. The patient rapidly recovered.

90. **Study of Pancreatic Juice and Determination of Trypsin.**—Volhard introduces 200 c.c. of olive oil into the fasting stomach and in half an hour pumps it out again. The oil induces copious secretion of pancreatic juice, and more or less of it finds its way into the stomach. He describes a simple method with which he was able to determine the presence of active trypsin in the stomach contents in 86 per cent. of 22 cases. This allows excellent oversight of the functional capacity of the pancreas. In one case the absolute absence of pancreatic juice in the stomach was explained by autopsy, which showed the pancreas completely transformed into connective tissue with the duct occluded by concrements. The symptoms during life had been those of severe diabetes without acidosis.

91. **Tests of Stomach Functioning.**—Lewinski's experience does not indicate that Sahli's desmoid test has much value, as catgut does not behave in the stomach like the ordinary raw connective tissue. This explains the occasional contradictory findings. Schmidt's connective tissue test, however, has proved constantly reliable. This is the ingestion of a certain amount of finely chopped raw meat, slightly browned in the oven. Under normal conditions this is completely digested in the stomach, not a trace of the connective tissue appearing in the feces. If it passes through the stomach undigested, it is not attacked by the intestinal juices, and is found in the stools. This was the basis on which Sahli developed his test, but catgut acts differently in the stomach from raw meat fibers.

92. **Injurious Action of Ether and Chloroform on the Blood Vessels of Internal Organs.**—Mulzer has experimented with 64 animals under general anesthesia and his findings sustain the assumption that ether and chloroform have a directly injurious action on the red corpuscles, dissolving them when long in contact. When the anesthesia had been kept up for more than half an hour the vessels in the lungs, liver and kidneys were obstructed with disintegrated red corpuscles, and thrombosis was evident at certain points. These findings had no connection with the amount of the anesthetic administered nor the position of the animal. Injection of ether or chloroform directly into a vein produced the same results as prolonged general anesthesia.

93. **Suction Therapy for Affections of Ear and Upper Air Passages.**—Vohsen has devised a simple means of influencing the nasal sinuses and evacuating morbid secretions. It is based on the Bier method of aspiration with a cupping apparatus, but no apparatus is required. The benefits of the Bier aspiration treatment are the result of the alternation of compressed and rarefied air. The same results can be accomplished, Vohsen says, in affections of the sinuses or middle ear by blowing into the nose, which is held closed, and thus compressing the air in the sinuses, then aspirating out their contents with the mouth and throat muscles, the glottis being closed. The negative pressure that can be thus obtained is much higher than with any mechanical device to date. Hyperemia is induced in the parts, the sinus is emptied, and the procedure can be repeated at will by the patient without harm. By hold-

ing his throat as in the position of yawning and then aspirating out the air with the nose closed tight, he succeeded in drawing out part of an effusion in the middle ear. The only possible drawback to this technic, he adds, is the possibility of conduction of the pressure to the middle ear, but this can be avoided with a little practice. The method is not adapted to every case, of course, but when indicated will be found a great help. Muck gives an illustration of a glass tube whose end fits tight in the ear. The outer end carries a rubber bulb and its application for suction treatment of suppurative affections of the mucosa of the ear has given him uniformly and surprisingly good results. He has applied this treatment in 20 cases of obstinate chronic affections, applying the instrument for one or two minutes, with one-minute intervals, and keeping this up for 15 minutes on alternate days. Healing was complete in every instance in from four to eight weeks. The benefit from the mechanical removal of the secretions is supplemented by the induced hyperemia.

94. **Scopolamin - Morphin - Chloroform Anesthesia.**—Kreuter writes from Graser's clinic at Erlangen to extol the advantages of this combined method of general anesthesia. He asserts that the lack of danger as the dosage is so small, the small amount of the chloroform or ether required, and the reduction of secretion under the influence of the scopolamin, are not the least of its advantages. He thinks that it may materially reduce the number of cases of postoperative pneumonia. The only drawbacks of the method that he has discovered are the uncertainty of the action of the scopolamin and the subjective sensation of dryness. He recommends the combination particularly for the long protracted operations, even for much debilitated patients, adding his testimony that "it is the most humane technic known to date."

95. **Hydrogen Dioxid as Aid for Examination of Sputum.**—Peters commends the addition of hydrogen dioxid to the sputum as a simple and most effectual means of breaking up tenacious masses and distributing the tubercle bacilli evenly through the specimen.

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Last indexed, page 1071.

101 (LXI, Nos. 3-4, pp. 201-388.) Treatment of Advanced Laryngeal Tuberculosis. (Larynxtub.) A. Those.
102 Mechanical Stimulation of Secretion of Gastric Juice. (Mech. Erregbarkeit der Magensaftsekretion.) A. Schiff.
103 Scleroma; Its Importance in Army. (Sklerom.) J. Fein.
104 Paralysis of Recurrent Nerve on Functional Basis. (Lähmung des Nervus rec.) R. Landesberg.
105 *Mixed Infection in Pulmonary Tuberculosis and Its Importance, as Well as that of Intestinal Tuberculosis, for Amyloid Degeneration. (Mischinfektion bei Tub., etc.) J. Sorgo.
106 Venous Murmurs in Interstitial Liver Affections. (Venengeräusche bei der interstit. Hepatitis.) G. Catti.
107 *Deviation of Complement in Diagnosis of Typhoid. (Komplementablenkung in Typhusdiagnose.) H. Hirschfeld.
108 *Laws Regulating Elimination of Sugar in Diabetes mellitus. (Zuckerausscheidung beim Diab. mell.) W. Falta and A. Gigon.
109 *Trypsin in Treatment of Cancer. (Trypsin—Pankreatin—bei Karzinom.) E. v. Leyden and P. Bergell.
110 The Antiferments. (Antiferm.) A. Schütze and P. Bergell.
111 Patency of Foramen ovale and Its Diagnostic Importance. (Offen. For. ovale.) J. Ohm.

105. **Amyloid Degeneration in Tuberculosis.**—The researches reported by Sorgo, who is the medical chief of the great Alland sanatorium, demonstrate that amyloid degeneration in phthisis is always the result of mixed infection in case of a pulmonary process, or else is a sign of a tuberculous process in the intestines. The practical conclusion follows that in case mixed infection can be excluded by examination of the sputum, the discovery of amyloid degeneration points to an existing tuberculous process in the intestines. He gives the details of 49 patients examined from this point of view. He found that 38 of the patients had no signs of mixed infection in the sputum.

107. **Hemolytic Blood Test in Diagnosis of Typhoid.**—Hirschfeld has been studying the application of the deviation of complement as a test for the diagnosis of typhoid. The serum used was that taken for the agglutination test, and in the 15 cases under observation the results of the test were constantly positive and gave positive findings much earlier than the agglutination test. The findings proved strictly specific in his experience, and they ensured the diagnosis at an earlier date than was possible with the agglutination test. It requires an expert, however, to make the test, as it would be too expensive, tedious and delicate for general practice, but the findings may prove of inestimable service in certain cases.

108. **Laws of Elimination of Sugar in Diabetes.**—Falta and Gigon state that their experience has confirmed that of others in respect to the difficulty diabetics encounter in the disposal of maltose. These patients are much less able to tolerate maltose than levulose or any other carbohydrate. The details of the metabolism in 8 cases are given in numerous tables, the metabolism studied from some new standpoints, emphasizing the "superposition curves," etc.

109. **Trypsin in Treatment of Cancer.**—In this communication from von Leyden's clinic, two laws regulating the growth of cancer are specially emphasized, namely, the fact that in its origin and growth carcinoma is a strictly local phenomenon, and that its most striking feature is its unlimited proliferating power. It is also pointed out that the tumor reacts with increased growth to all kinds of injuries, mechanical, thermic and chemical. For half a century medical science conducted its research on cancer almost exclusively along morphologic lines, but now the questions are: Is there a specific production of substances in cancer? and: Is it possible to induce a specific destruction of these substances? Research has shown that there is probably a production of a specific albumin in malignant tumors, and that this albumin is promptly digested by the ferment trypsin. The experimental experiences with trypsin, so far reported, show that larger amounts of trypsin pass into the blood when it is given by the mouth than when it is injected subcutaneously. Injected directly into a carcinoma in man, the results proved disappointing. The resulting digestion of the cancer cells was always circumscribed and there was no question of a cure in any case. Given internally, even for long periods and in large amounts, no decisive influence could be demonstrated in case of inaccessible internal carcinoma. On the other hand, nearly every case of carcinoma of the stomach, not too far advanced and still free from metastases, exhibited an unmistakably favorable reaction to the trypsin. The verdict from this clinic is thus, that trypsin to date, while displaying a curative influence, can not yet be heralded as a definite method of treatment. A new fact has been learned, however, possibly of far-reaching importance, namely, that a tumor whose cells have been digested (dissolved) by the trypsin in some circumscribed area never reacts to this interference with increased growth, either locally or in general. This fact recalls the selection in respect to injections of radioactive substances. This exceptional absence of increased growth under the influence of the trypsin, von Leyden regards as significant, showing an actual specific destructive process even if it is only temporary.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

TREATMENT OF SKIN CANCERS. By W. S. Gottheil, M.D., Adjunct Professor of Dermatology at the New York Postgraduate Medical School and Hospital. Third Edition. Revised and Enlarged. Cloth. Pp. 89. Price, $1.00. New York: Surgery Publishing Co., 1907.

COMMON BACTERIAL INFECTIONS OF THE DIGESTIVE TRACT, and the Intoxications Arising From Them. By C. A. Herter, M.D., Professor of Pharmacology and Therapeutics in Columbia University. Cloth. Pp. 360. Price, $1.50 net. New York and London: The Macmillan Co. 1907.

ATLAS AND EPITOME OF DISEASES OF CHILDREN. By Dr. R. Hecker and Dr. J. Trumpp of the University of Munich. Authorized Translation from the German. Edited by Isaac A. Abt, M.D., Assistant Professor of Diseases of Children in Rush Medical College. With 48 Colored Plates and 147 Illustrations. Cloth. Pp. 453. Price, $5.00. Philadelphia and London: W. B. Saunders Co., 1907.

METABOLISM AND PRACTICAL MEDICINE. By Carl von Noorden, Professor of the First University Medical Clinic, Vienna. Anglo-American Issue Under the Editorship of I. Walker Hall, Professor of Pathology, University College, Bristol. Vol. I.—The Physiology of Metabolism, by Adolf Magnus-Levy, Berlin. Cloth. Pp. 450. Price, $4.00 net. Vol. II.—The Pathology of Metabolism, by Carl von Noorden, Fr. Kraus, Ad. Schmidt, W. Weintraud, M. Matthes and H. Strauss. Cloth. Pp. 525. Price, $6.00 net., Chicago: W. T. Keener & Co., 1907.

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Address

SOME RECENT STUDIES ON HEREDITY.*

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For convenience of presentation we may speak of studies on heredity as having followed three principal lines of inquiry. One of these, often known as the statistical or biometric method, includes the statistical treatment by precise mathematical methods of large masses of data obtained by the observation of heredity and variation as they occur under natural conditions. With the results in this direction I shall in no way attempt to deal. I will only recall that the most widely known of them is embodied in Francis Galton's so-called law of ancestral inheritance, which attempts to state the quantitative effect on the offspring of their entire ancestry, including not only the two parents, but also all the more remote progenitors.

The second method is that of experiment, pre-eminently by observing the operation of heredity in hybrid forms produced by crossing two different species, races or breeds. The importance of such experiments does not lie in the fact that they deal with hybrids as such. It arises in the main from the practical consideration that when the parental forms differ visibly in one or more characters these can be more readily recognized, and hence more easily traced in the offspring, than is the case with pure bred forms. Apart from this there is every reason to believe that the operation of heredity in hybrids does not differ in any essential way from that in pure bred forms; and hence the former may be taken to indicate what takes place in the latter where the parental forms do not differ in any conspicuous way. Probably the most important, and certainly the best known, of the general results in this direction is the so-called law of Mendel (or, better, the Mendelian principle) to which we shall presently return. This principle is probably more complex, and perhaps also of more limited application, than was at first supposed; but no other phenomenon of heredity is of greater interest, because it gives a new basis for a view of heredity as a whole.

The third method is an indirect one, which includes the attempt to determine and study in detail the physical basis of heredity in the germ cells. It is especially this aspect of the subject that I shall endeavor in some degree to set forth; but this can not be done successfully without holding clearly in view some of the more striking facts of Mendelian inheritance, even though their brief review must run the risk of going over ground already very familiar.

"UNIT CHARACTERS" AND HEREDITY.

The most interesting of the specific results obtained by the experimental method relate to the so-called unit characters and their behavior in heredity. The earlier observers thought of the hereditary organization on the whole in the way in which it is popularly regarded, as a single and indivisible unit. The result of the union of two such units in reproduction was conceived as producing a new unit which is, on the whole, a blend of the original two, somewhat as two liquids of different color may mix to form a third liquid of blended color. There are many hereditary qualities that do, in fact, conform to this; for instance, color and apparently also stature in man. The cross between the white and negro produces mulattoes, which, in turn, produce mulatto children, the two parental color characters having permanently blended. But, as even the earlier observers perceived in some measure, there are other characters that show an entirely different behavior. Such characters, which exhibit the phenomena of Mendelian inheritance and are often spoken of as "unit characters," do not ordinarily mix or blend, but behave almost as if they were separate material entities which may be put together and taken apart again like the cards of a pack or the separate pieces of a mosaic work. A typical example is given by the cross between a common gray mouse and a white or albino mouse of the same extraction. The hybrid thus produced does not show a mixture or blend of gray and white, as might be expected, but *appears* pure gray. But the gray hybrid does not really lack the white character. This character is only concealed or "dominated" by the gray; for it may be recovered or "extracted" in the next generation. If such gray hybrids be bred together their progeny always include in the long run both white and gray forms, and the "extracted" whites thus obtained are not only pure white in appearance, but when paired together produce only white offspring for an indefinite number of generations.

Gray and white may, therefore, be put together in a hybrid and afterward taken apart again without visible modification of either color, except that when the two are associated in the hybrid gray always conceals or dominates white. What is far more remarkable is the fact that gray and white mice issue from the gray hybrids in definite proportions, there being in the long run three grays to one white. This ratio does not often appear in a single litter of mice or in a few litters. In a large number of litters taken collectively it is found to hold with remarkable accuracy—when several hundred such mice are bred even within a fraction of 1 per cent. Clearly, then, the combination and dissociation of the two characters follows some definite law or principle, which suggests that observed in chemical combinations, but is not directly to be compared with the latter, since an element of chance is present, and the result must be treated by the method of probabilities.

The behavior of the white and gray "unit characters" in mice is but an example of a phenomenon of wide occurrence in both plants and animals, and one that is shown by a great variety of characters. A few examples of such characters in animals are the length, mode of growth and color of the hair in rabbits and guinea-pigs, the colors and mode of growth of the plumage and the structure of the comb in fowls, the color patterns of snails and butterflies, and even such apparently obscure characters as the color of the silk in the cocoons of silkworms or the peculiar "waltzing" habit of the so-called Japanese mice. Among plants examples are the shapes of leaves, seeds, pods or pollen grains, the color of the flowers, the structure of the seeds and color of the seed-coats, and the hairiness or smoothness of the leaf surface. All these characters (many others might be given) present cases in which, when two contrasting or opposite characters of the same type are crossed, one alone, known as the "dominant," is visible in the first hybrid, while the other is "recessive;" and the offspring of the hybrids in the long run show the two characters in the ratio of three to one. Evidently, therefore, we are dealing with a phenomenon of such wide occurrence that it must represent some deeply lying principle of inheritance.

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* Lecture delivered before the Harvey Society, Jan. 27, 1907.

The results are even more remarkable when, instead of limiting the case to a single pair of characters, two or more pairs are taken together. It is then found, in typical cases, that each pair of characters follows the Mendelian rule quite independently of the characters with which it is associated. But when the combinations of the two (or more) pairs are considered together they are found to fall into definite series, which rapidly increase in complexity as the number of characters rises, but follow a simple and definite principle. At this point these more complex combinations need not be considered. The point on which I would fix attention is that the principle of combination is such that when the hereditary composition of the parents is known in respect to one, two or any number of pairs of characters, both the qualitative and the quantitative nature of their offspring may be predicted, often with astonishing accuracy. It has thus, in fact, become possible to write down hereditary formulas for animals and plants that exhibit this form of heredity, which will express both their ancestry and their hereditary capacity. These formulas bear a curious resemblance to those of organic chemistry in that they have enabled the experimenter to predict the formation of new combinations not previously known, and then to create them by a suitable synthesis. Further, just as the chemist can in some measure predict the properties of his new compounds, so the biologic experimenter can in a measure predict the hereditary behavior of the new combinations thus called into existence.

CUÉNOT'S EXPERIMENTS.

I will again illustrate this by color inheritance in mice, describing a case which the French observer Cuénot first worked out on paper and afterward put to the test of actual experiment. The colors of mice are typical Mendelian "unit characters," so related that when two colors are united in a hybrid yellow dominates gray or black, gray dominates black, while any of these colors dominates the corresponding albino, or white character. The nature of Cuénot's experiment is shown in Table 1. A first cross was made between two white mice, one an albino of gray extraction (AG), the other an albino of black extraction (AB). The result is a white mouse of combined gray and black extraction (AGAB). Parallel to this, a cross was made between a pure black mouse (CB) and a white mouse of yellow extraction (AY), the result of which is a yellow mouse that has both black and white in its ancestry (CBAY). From a knowledge of the hereditary constitution of the two mice AGAB and CBAY Cuénot predicted that they would produce eight different kinds of offspring, of which in the long run four should be white, two yellow, one black and one gray. Crosses of this type were then repeatedly performed until 151 mice of the third generation had been obtained. The actual distribution of the colors is shown in one column (Table 1), the theoretic expectation in the other, and, although the correspondence is not mathematically exact, it is so close as to leave no doubt of the correctness of the reasoning on which the prediction was based. The experiment might have been indefinitely continued by crossing any two of the eight kinds of mice thus obtained, and in each case a close prediction could have been made of the result. This is by no means an isolated case, but only a single example of a type of experiment that has been repeatedly performed, both in animals and in plants, with quite as striking a correspondence between theoretic expectation and reality. In general, the larger the number of cases observed the closer does this correspondence become.

TABLE 1.—HEREDITY OF COLOR IN MICE. (Cuénot.)

$$\text{Grand parents (1st generation)} \ldots \underbrace{\text{A G (white)} \quad \text{A B (white)}}_{\text{A G A B (white)}} \quad \underbrace{\text{C B (black)} \quad \text{A Y (yellow)}}_{\text{C B A Y (yellow)}}$$

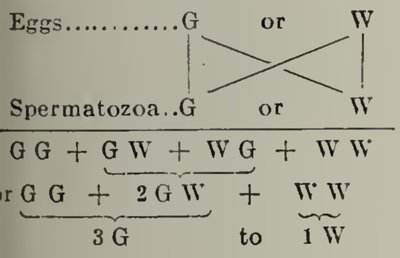
Parents .... A G A B (white) C B A Y (yellow)

(2d generation)

			(Calculated.)	(Observed.)
Offspring. (3d. generation.)	1. A G C B	(gray)	19	16
	2. A B C B	(black)	19	20
	2. A G A Y 4. A G A B 5. A B A Y 6. A B A B	(white)	76	81
	7. C Y A G 8. C Y A B	(yellow)	38	34
			152	151

Mendel's law or principle gives an extremely simple and lucid explanation of the seeming necromancy that is practiced in such predictions. This principle is simply that when a given pair of opposing or alternative characters (i. e., such as behave toward each other as dominant and recessive) are put together in a hybrid they are, in some sense, disjoined or separated in the eggs or spermatozoa of the hybrid, and in such a manner that half the germ cells in each sex contain the dominant character and half the recessive. In other words, the germ cells of the hybrid are no longer hybrid, but are pure like the parental forms. If now it be assumed that fertilization is quite fortuitous—that is, that the spermatozoon that fertilizes any particular egg is as likely to bear one character as the other—the observed facts follow as a simple matter of probability, and the explanation of the simple ratio shown by a single pair of characters carries with it that of the more complex series shown by the combination of two or more pairs of characters. To illustrate again by the mice: The gray and white cross produces the hybrid GW, which appears gray because of the dominance of gray over white. The eggs and spermatozoa of the hybrids are, however, not GW, but either G or W in equal numbers. If now the spermatozoa fertilize the eggs at random the probability is that the following combinations will appear in equal numbers: GG, GW, WG and WW or GG + 2GW + WW, as shown in Table 2. The first produces a pure gray mouse, the second and third, hybrid gray mice, and the fourth a pure white mouse, that is, three gray to one white. The correctness of this interpretation is proved by crossing the gray hybrids (GW) with the pure white forms (WW). Whether the gray female be paired with the white male or the reverse, the result should be to give gray hybrids (GW) and pure whites (WW) in equal numbers. For the germ cells of the gray hybrid are gray and white in equal numbers, while those of the whites are white only. The chances, therefore, are equal in favor of W meeting W or G, as shown in Table 3. This expectation is closely met by the facts. It is simply by the application of this essential principle—disjunction of the members of each pair of characters and the resulting "purity" of the germ cells—to the combinations of two or more pairs of characters that the experimenter is enabled to make his apparently marvelous predictions regarding the quality and quantity of the offspring. As has just been shown, the combination of one pair of characters gives four combinations that form a series of three terms (since the second and third combinations are identical). If two pairs of characters (which may be called Aa and Bb, the capital letter denoting in each case the dominant character) be taken together, their combinations will appear in a series formed by the simple arithmetical combination of the two series formed by each pair alone. That is, if each term of the simple series AA + 2Aa + aa be combined with each term of the series BB + 2Bb + bb the result is sixteen combinations, which (owing to the identity of certain ones) fall into a series of nine terms of the form ABAB + AbAb + aBaB + abab + 2ABAb + 2aBab + 2ABab + 2Abab + 4ABab. Some of these combinations are not externally distinguishable by the eye, but must be tested by the nature of their offspring. For example, ABAB is not visibly different from ABab, since both show only the dominant characters, A and B; but they differ in hereditary capacity, since one can transmit only the two dominants, while the other may transmit also the two recessives, a and b. This difference is readily tested by breeding experiments. Inspection of the nine-term series will show that out of the sixteen combinations nine show both the dominant characters, A and B; three, one dominant and one recessive, A and b; three, the other dominant and recessive, a and B, and one, both recessives, a and b. Experiment shows that the four characters actually appear in combinations that closely approximate to the series thus worked out as a purely arithmetical construction. With three pairs of characters the nine-term series expands to one of twenty-seven terms, with four pairs to eighty-one terms, and so on. It is not necessary to follow all this out in further detail. It is sufficient to say that, given an experimental acquaintance with the relations of dominance and recessiveness between the characters, the predictions of the experimenter become a simple matter of mathematical computation.

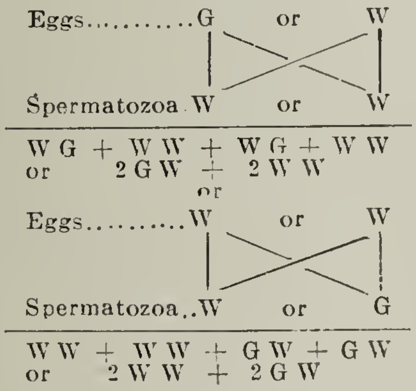
TABLE 2.



$$G\,G + \underbrace{G\,W + W\,G} + W\,W$$

$$\text{or } \underbrace{G\,G + 2\,G\,W}_{3\,G} \underset{\text{to}}{+} \underbrace{W\,W}_{1\,W}$$

TABLE 3.



$$W\,G + W\,W + W\,G + W\,W$$

$$\text{or } 2\,G\,W + 2\,W\,W$$

or

$$W\,W + W\,W + G\,W + G\,W$$

$$\text{or } 2\,W\,W + 2\,G\,W$$

Such is the Mendelian principle stated in its simplest form and as it was conceived by Mendel himself. It has now become evident that, as applied to certain cases (among which is included color inheritance in mice, as will appear beyond) Mendel's own statement was probably too simple, and, further, that many exceptions and modifications occur. I will return to this further on; but for a presentation of the cytologic aspects of the problem it will be convenient to confine ourselves at the start to the simplest form of statement.

THE GERM CELL AND HEREDITY.

We may now turn to investigations on the structure and behavior of the cell that have revealed a mechanism that may be adequate for the physical explanation of the main facts of Mendelian heredity. It has now become the prevailing view (though it is not universally admitted) that the primary factors of heredity—I do not say the only ones—are contained in the nuclei of the germ cells; and on this assumption we shall proceed without reviewing the great array of evidence on which it rests. In approaching this subject we may again recall the fact that the unit characters behave in Mendelian inheritance almost as if they were material bodies that may be put together, separated and recombined in definite proportions. This remarkable fact would be intelligible if the material bases of the characters in the germ cells were separate substances or bodies that underwent corresponding combinations, dissociations and recombinations. The cytologist has good reason, therefore, to seek in the egg, or spermatozoon, and particularly in the nuclei of these cells, for discrete bodies that may serve as such bases of the characters.

THE CHROMOSOMES AND "UNIT CHARACTERS."

Whether this search has been successful or not is still a matter of opinion; but it is not a matter of opinion, but of fact, that the nuclei of the germ cells do contain or give rise to bodies, the history of which in the life cycle of the organism shows the closest parallel to that of the unit characters—so close that we can, in fact, apply to these bodies the same formulas by which the characters are designated and reach the same result. These are the bodies known to every histologist as the chromosomes—rod-shaped or loop-shaped bodies that are visible in the nuclei of the egg and spermatozoon at the time of fertilization and at the time of cell division in every cell derived from the fertilized egg. The chromosomes are constant in number in each species. At the first division of the egg, and at each subsequent division each of them divides into two, the daughter chromosomes thus formed separating and passing one into each of the daughter cells. The chromosomes are thus handed on by division from cell to cell throughout development, always retaining their specific character; and hence we are justified in the conclusion that the chromosomes of every cell throughout the whole life cycle may be regarded as the lineal representatives, if not the actual descendants, of those present in the original fertilized egg.

Let us now briefly consider some of the characteristics of these bodies. It was formerly supposed that the chromosomes in a given species were all alike, both in structure and in physiologic quality; but we are now able to say definitely that this view was erroneous, at least in some measure. In many species the chromosomes show constant differences of size, so that certain ones may be recognized by the eye in many successive generations of cells. With these individual differences of size are correlated, in some cases, characteristic differences of individual behavior at certain periods of the life cycle. It has been shown experimentally that when false combinations of chromosomes are artificially produced (for instance, by double fertilizing of the egg) false forms of development take place in the offspring of these cells. These and similar facts have led to the conclusion that different chromosomes of the same nucleus possess different physiologic characters, playing different rôles in the metabolism of the cell and hence in development. It is but a step from this result to the conclusion that the primary factors of heredity (which, as we have seen, are believed to have their seat in the nucleus) are in some fashion distributed among the chromosomes. It must be admitted that we have as yet but little direct and specific evidence that such is actually the case. The principal argument is part of a more general one that the basis of heredity is contained in the nucleus, and that the chromosomes form the most essential part of the nuclear substance.

THE RELATION OF SEX TO THE CHROMOSOMES.

But there is one interesting fact that bears directly on this question. It has recently been found that in some of the insects there is a particular chromosome (known as the "odd" or "accessory" chromosome), distinguishable from the others by its size and mode of behavior, that is in some way related to the character of sex; for all the other chromosomes are paired in both sexes, while this particular one is single in the male, but in the female is accompanied by another similar chromosome. The precise nature of the connection between this chromosome, or pair of chromosomes, and the sexual characters is not yet known, but it is difficult to escape the conclusion that it has to do in some way with the transmission and development of those characters. If this be correct, we have a definite basis for the assumption, by analogy, that other chromosomes are concerned with the transmission and development of other characters.[1]

COMPOSITION OF THE CHROMOSOME GROUPS.

We may now examine the general composition of the chromosome groups more in detail. One of the most striking discoveries of cytology is the fact that every nucleus contains a double series of chromosomes; that is, two series of chromosomes in duplicate. The fact has already been referred to that the chromosomes often show constant size differences. In all cases in which these differences are clearly marked it may be seen that there are always two of a kind, so that the chromosomes may be paired off two by two according to their size; in other words, if the chromosomes be arranged in the order of their size it is found that they fall into two similar series, the members of which correspond each to each. This fact has not as yet been shown clearly in the cells of higher animals, but it appears unmistakably in the cells of certain lower ones, such as the insects. Nevertheless, there is strong reason to believe that, even when the fact is not evident to the eye, the chromosomes of all cells, with certain special exceptions that only emphasize the rule, form two such duplicate series. The confidence with which we may draw this conclusion rests on the manner in which the two series are known to be produced.

Both observation and experiment have shown with great clearness that the explanation of the double series of chromosomes lies in the fact that they are descendants or representatives of two series that are originally brought together in the fertilization of the egg. Now these two original series are derived from the nucleus of the egg and of the spermatozoon, respectively, and hence are ultimately of maternal and paternal origin. Since every chromosome divides into two at the first division of the egg, and at every subsequent division, the two daughter chromosomes in every case passing, respectively, to the two daughter cells, it follows that the chromosomes of all the cell nuclei are of maternal and paternal descent in equal numbers.

This conclusion, first reached by pure observation, has received a most convincing confirmation by means of experiment. For example, Moenkhaus was able to effect a cross between two species of fishes, *Fundulus* and *Menidia*, that agree in the number of chromosomes (approximately 36), but differ markedly in respect to their size, the chromosomes of *Fundulus* being nearly three times the size of those of *Menidia*. The resulting hybrids were reared up to a well-advanced stage of development (though not to the adult condition), and at every stage the two forms of chromosomes could be recognized—half (18) of the *Fundulus* type and half of the *Menidia* type—and with such clearness that the difference was distinctly shown in photographs. Similar results have been obtained in a few other cases, though none are as striking as the one described.

It may, therefore, be taken as at least highly probable, if not fully established, that every nucleus of an organism of sexual origin is a dual one and contains representatives of the original maternal and paternal chromosomes in equal numbers. It is evident that we may have here a general basis for the facts of dual inheritance from the two parents. But our conclusion may be pushed much further than this. The pairing of the chromosomes according to their size can apparently mean nothing else than that one member of each pair is a maternal representative, the other a paternal; that is, that every chromosome derived from the egg is accompanied by a corresponding or duplicate one derived from the spermatozoon. If, then, we have any right to assume that the chromosomes differ specifically in their relation to heredity, if we may assume that each chromosome stands in some way for a particular character or group of characters, then the further assumption seems justified that each such character or group of characters has a double basis or determinant, one derived from each of the parents. On the basis of these assumptions may be worked out at least a partial explanation of Mendelian inheritance, as was first shown by Sutton and Boveri.

RELATION OF THE MENDELIAN PRINCIPLE TO CHROMOSOME CHARACTERISTICS.

Let us consider the case of an organism having eight chromosomes. In the fertilization of the egg half these chromosomes, which may be designated as A, B, C and D, are derived from the nucleus of the egg, while the spermatozoon supplies four corresponding ones that may be designated as a, b, c and d. The fertilized egg accordingly contains the double series A, B, C, D, a, b, c and d. Since at every division of the egg and its descendants each of these chromosomes also divides, all the cells derived from the egg contain a double series identical with that present in the original fertilized egg; and, as in the egg, they form four pairs, A and a, B and b, C and c, D and d, each consisting of a maternal and a paternal member. This mode of development continues throughout the whole life of the organism up to a period that shortly precedes the final ripening of the germ cells that are to produce a new generation. At the beginning of this period, known as the maturation period, a process, known as synapsis, takes place, in the course of which the chromosomes unite two by two, coupling or pairing so as to form double chromosomes, known as bivalents. As a result of this process the double series of single chromosomes present before synapsis gives place to a series of double chromosomes or bivalents, the number of which is, of course, one-half the original number of single chromosomes. The remarkable feature of the synapsis is that it is effected by a coupling or pairing of chromosomes that correspond in size, and for the reasons already given this must mean that synapsis involves the coupling of corresponding paternal and maternal chromosomes (as was first pointed out by the American cytologist Montgomery). Reverting to our graphic formulas, in synapsis the eight chromosomes, A, B, C, D, a, b, c, d, couple to form the four bivalents, A-a, B-b, C-c and D-d. Before synapsis takes place the paternal and maternal chromosomes show no regular or constant relation to one another in the nucleus. After synapsis an orderly regrouping has taken place, each chromosome of maternal descent having paired with its mate or fellow of paternal descent. This process is followed by a long period of growth, in both sexes. in the course of which the germ cells prepare for the final act of their maturation. This consists of two rapidly succeeding cell divisions, which in the female lead to the formation of two polar bodies and in the male to the production of four spermatozoa. In one of these divisions, known as the reduction division, each bivalent separates into its two constituent chromosomes, one of which passes to each of the daughter cells. It thus comes to pass (and this is the essential point) that after the reduction-division has occurred, half the resulting cells contain one member of each original pair and half contain the other member. This disjunction of each member of a pair from its mate or fellow evidently forms an exact parallel to the disjunction of each dominant character from the corresponding recessive in Mendelian heredity.

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[1] It has been shown that the odd chromosome is present in one-half of the spermatozoa and lacking in the other half, and the facts seem to leave no escape from the conclusion that spermatozoa in which it is present produce females, those in which it is lacking, males.

It is further clear that. owing to the reduction-division, each of the germ cells receives only a single series of chromosomes and hence only half the original number. The particular combination of chromosomes in the reduced series will depend on the manner in which the bivalents divide with respect to one another. If they are all placed in the same position (as in Table 4), the result will be to divide the double series into the original paternal and maternal ones, A, B, C, D, and a, b, c, d. The cytologic facts do not in themselves give any direct evidence on this point; but we are led by the facts of inheritance to assume that such a mode of division is unusual, though it may take place. It is assumed, rather, that each bivalent divides independently of the others, as shown in Table 5, so that any combination of the original paternal and maternal chromosomes may be produced, so long as the complete series A or (a) to D or (d) is maintained; for example, A, b, C, d; a, B, C, d; a, b, C, d; A, b, c, d; a, b, c, d and so on. It is evident that the chance combinations of four chromosomes will be the same as those of four characters, and similarly with a greater number.

TABLE 4.

$$\frac{A}{a}\ \frac{B}{b}\ \frac{C}{c}\ \frac{D}{d}\ \left\{\begin{array}{cccc} A & B & C & D \\ \vdots & \vdots & \vdots & \vdots \\ a & b & c & d \end{array}\right.$$

TABLE 5.

$$\frac{A}{a}\ \frac{b}{B}\ \frac{C}{c}\ \frac{d}{D}\ \left\{\begin{array}{cccc} A & b & C & d \\ \vdots & \vdots & \vdots & \vdots \\ a & B & c & D \end{array}\right.$$

$$\frac{a}{A}\ \frac{b}{B}\ \frac{C}{c}\ \frac{D}{d}\ \left\{\begin{array}{cccc} a & b & C & D \\ \vdots & \vdots & \vdots & \vdots \\ A & B & c & d \end{array}\right.$$

Now, it is too evident to need explanation that all this runs parallel in the most exact and detailed way to the behavior of the unit characters in Mendelian heredity. Just as two corresponding characters (such as two colors) of maternal and paternal origin are associated in a hybrid, and as they are disjoined in the formation of the germ cells, so two corresponding chromosomes of maternal and paternal origin, respectively, are associated in the offspring and are disjoined in the reduction-division, so that half of the germ cells receive one and half the other. And, again, just as each pair of characters is independent of the others, appearing in all possible combinations with them, so we may assume that each pair of chromosomes divides without reference to the others, and all possible combinations of them (within the limits of the series) appear in the germ cells, following the same law of combination as the characters. If we consider a single pair of chromosomes, A and a, half the germ cells in each sex receive A and half a. Fertilization, according to the law of chances, gives the combinations AA, Aa, aA and aa in equal numbers, which equals AA + 2Aa + aa, or three fertilized eggs containing A (pure or combined with a) to one that contains a only. This is, of course, the Mendelian ratio and equally well expresses the behavior of the gray and white characters in mice if instead of A and a we write G and W. It is self-evident that the combinations of two or more pairs of chromosomes will be identical with those of two or more pairs of characters, giving with two pairs a series of nine terms, with three pairs twenty-seven terms, with four pairs eighty-one terms, and so on.

We have, therefore, only to assume that in heredity corresponding chromosomes stand for or are the physical bases of corresponding characters to find a fundamental explanation of Mendelian inheritance; and one that is so simple and lucid as to make a singularly strong appeal to our credence.

Had we no other evidence than the fact of the parallelism between the behavior of the chromosomes and that of the unit characters we should be justified in setting up the working hypothesis that the chromosomes play a leading rôle in heredity; but in point of fact there is a great body of independent evidence pointing toward the same conclusion, as I have already indicated. Nevertheless, we should clearly recognize that the interpretation can not as yet lay claim to be taken as a demonstrated theory. It is still a working hypothesis only and one whose elements differ considerably in degree of validity. The union of two similar series of chromosomes, maternal and paternal, in the fertilization of the egg. is thoroughly established. It may be taken as highly probable that the double series of chromosomes present in the cells of later stages are lineal representatives of the two original series —whether their actual descendants can not be so positively asserted. The pairing of the corresponding chromosomes in synapsis and their subsequent disjunction in the reduction division seems to be well established in certain cases; but whether that is always so is an open question that is now undergoing close scrutiny by cytologists. The fundamental assumption that corresponding chromosomes bear, or stand for, corresponding characters is still a pure hypothesis, though one in favor of which a strong argument can be made independently of the facts of Mendelian heredity.

Space will not allow of a more critical examination of these cytologic questions. I will only refer briefly to the interpretation that the chromosome hypothesis has to offer of certain exceptional or difficult cases, including non-Mendelian heredity. The most familiar of these phenomena is that of blended inheritance, such as the cross between the negro and the white man, which produces a yellow or brown type of uniform color which does not break up in the succeeding generation into black and white. It is possible that in such cases the chromosomes that couple in synapsis completely fuse to form true hybrid chromosomes. It is equally possible that without actually fusing in synapsis they become so long and intimately associated as to undergo mutual modification of their substance that brings about the same result.

Many cases have recently been brought to light of partial or imperfect dominance; in poultry, for instance, as has been shown by English and American experimenters, white plumage usually dominates over colored, yet the hybrids often show more or less of an admixture of the colored type; and a similar result has been reached in the case of crosses between crested and non-crested fowls. When such partial or diminished dominance occurs in the first hybrids it is easily explained by the supposition that one chromosome does not completely inhibit the activity of the other. To explain the results in later generations this will not suffice, and we must assume, as in the case of true blended inheritance, that, either during synapsis or during the long period of association that precedes, the chromosomes permanently affect one another so as no longer to be pure.

An apparent difficulty presented by the hybrid mice and by parallel phenomena in the case of hybrid sweet peas and stocks has, on further study, proved to be perfectly explicable by the Mendelian principle, and at the same time throws an interesting light on certain phenomena of reversion and atavism. In case of the mice, albinos that have been mixed with colored forms and again "extracted" may have acquired the power to transmit that color to their descendants when crossed with mice of certain other colors; yet under the original Mendelian assumption they should be pure. Cuénot has ingeniously explained this by the hypothesis that the production of color requires two factors, which we may call the "color producer" (C) and the "color determiner" (G, B. Y, etc). The colored gray mouse contains both these factors (C G), the corresponding albino contains the grey determiner (G), but the color producer is absent (hence A G). If these two factors be assumed to couple and disjoin, like any other pair of Mendelian characters, the behavior of the albino mice is explained by Mendel's principle. Thus, the appearance of gray depends on the presence of both the color determiner (G) and a color producer (C). The gray mouse possesses both these factors (C G). A mouse in which G is present but C absent (A G) is white or albino, but if such a white mouse be crossed with a black mouse (C B) the offspring will be gray (A G C B), thus "reverting" to a gray ancestor, because the introduction of the factor C enables the color to develop, but gray alone appears because this color is dominant to black. Here the hybrid mice appear to "revert" to a gray ancestor, from which the albino was descended. That this explanation is correct in principle is proved by the accuracy of the predictions that it renders possible, as in the more complex example heretofore considered. A similar explanation is applied by Bateson to explain the behavior of certain white varieties of sweet peas and stocks, which breed true so long as each variety is paired with itself only, but immediately produce purple flowers when the two white varieties are crossed. Each of the white varieties is assumed to possess but one of the two-color factors, hence no color develops. Their union by crossing brings the two necessary factors together and the color at once appears. In this case, too, there is reason to believe that the wild ancestral form was colored. The white varieties represent forms in which one or other of the color factors has been lost. When the two are again united by crossing the hybrids "revert" to the ancestral type, i. e., exhibit a form of atavism. It should be pointed out, however, that this ingenious and plausible hypothesis seems to fail as applied to piebald or spotted forms, for which only a partial explanation has thus far been found.

I will only mention one other departure from the typical Mendelian phenomenon for which the chromosome theory may give a physical explanation. It is not uncommon to find that the combinations of two or more characters do not follow the simple arithmetical series expected on the law of equal chances, certain combinations being in excess and others correspondingly deficient. This is clearly due to a tendency, more or less definite in different cases, for certain characters to "couple" or accompany each other—either constantly or in a marked majority of cases. In sweet peas, for example, Bateson has shown that there is a marked tendency for round pollen grains to be coupled with red flowers and long pollen grains with purple. In some of the moths, again, in some kinds of crosses certain of the characters of one parent always or usually appear in the male, others in the female; that is, there is a coupling, complete or incomplete, of these characters with the sexual characters. A close parallel to these phenomena has been found in a corresponding coupling of the chromosomes, which tend to cohere in a definite way that can actually be followed out under the microscope. We do not yet know whether such chromosome coupling is really the explanation of the character coupling, for the two phenomena have not yet been worked out in connection with each other in the same species. But no one can deny that the one phenomenon seems well calculated to explain the other, and we may here possibly be able to find a decisive test of the whole chromosome theory.

Time will not admit of our following out these problems more in detail. I would not give the impression that they have been completely solved. For some of these problems not even an approximate explanation has been found. But I hope I have been able to show that the cytologic study of heredity is not a vague search after intangible and obscure things, but is engaged with clearly marked, definite phenomena that can be as accurately studied as the phenomena of heredity, to which they run so closely parallel. We should not make too ambitious a claim for the results already attained. It is possible that we are on a wrong track and are dealing with only a complex and detailed coincidence. I repeat that we are not dealing with a fully grounded or well established theory, but only with a working hypothesis. But even so regarded, it is one of the most interesting and suggestive attempts to solve a complex and difficult problem that modern biology can show, and as such it merits, I believe, the most attentive further examination.

THE BEARING OF CYTOLOGIC STUDY ON OTHER SUBJECTS

It may be asked in what way the conclusions I have endeavored to outline may offer specific suggestion to the physiologist, the pathologist or the physician. I fear no very satisfactory reply can as yet be given. Still, it may not be amiss to say that if there be any considerable measure of truth in the conclusions I have indicated, the day has gone by when the physiologist could allow himself to consider the relation between nucleus and cel body as the simple reaction of two simple cell organs. He must squarely face the probability that the nucleus is itself a complex organism, as he must also admit that the cell body consists not of one protoplasm but of many protoplasms. Cytologists are laboriously endeavoring to ascertain in what measure the chromosomes are qualitatively different in respect to the processes of growth and differentiation. If such qualitative differences are definitely proved to exist, a new and great field will be opened in cellular physiology and pathology. Already attempts have been made to bring the facts of tumor formation and the like into relation with disturbances in the chromosome groups. I have stated that false combinations of chromosomes have been experimentally shown to lead to false forms of development. So far as I am aware, attempts to find a similar explanation of perverted growths in the body have thus far been without positive results, though some interesting suggestions in this direction have been offered. But it should not be forgotten that in nuclei which show little or no visible differentiation of the chromosomes profound changes might take place without giving visible sign of their presence. Such changes might be immediately induced by any one of many conceivable causes— by parasites, perverted forms of metabolism, the presence of specific forms of toxins and so on—and having once arisen might persist for an indefinite number of cell generations long after the initial exciting cause had passed away. It is still an open question whether the cell is able to regulate the character of the chromosome groups after disturbance, but on the whole such evidence as we have lies on the negative side of the question. Certainly there is nothing more surprising than the stubbornness with which abnormalities in the chromosome groups, when once they have arisen, are perpetuated generation after generation, so long as they do not lead to multipolar division. Such an abnormality, once arisen, even in a single epithelial cell, might therefore lead to an extensive pathologic growth of definite histologic character, in which we might seek in vain for a visible causative agent. I fear, however, that cytology is not yet in a position to bring much help to the pathologist, for we are still too ignorant of the mechanism of normal differentiation to have much to say about that of abnormal forms. It is my impression that this problem can not at present be successfully attacked in the case of the higher animals and that we must for a time be content to rely on the study of much lower ones, such as the insects, where for some unexplained reason the differentiation of the chromosomes is far more clearly shown.

In conclusion, I wish to repeat that, whether we are on the right track or not in these cytologic studies, they stand on a perfectly concrete, definite and intelligible basis and can be put to the test of observation and experiment. The facts of heredity have always stood among the most wonderful and apparently mysterious phenomena of organic nature. It is no wonder if they long seemed inexplicable and if some naturalists have regarded, perhaps still regard, the hope of discovering their mechanism in detail as chimerical. To-day, I believe, this attitude can only be taken by those who have not closely followed the remarkable lines of inquiry that I have endeavored to sketch.

Naming of Carbon Compounds.—Thiol: Thi + ol is a sulphur alcohol. These are compounds in which the oxygen of the alcohol group is replaced by sulphur, thus ethane thiol is $CH_3.CH_2.SH$.—*Pharm. Rev.*, September, 1906.

Original Articles

BACTERIOLOGY OF THE RESPIRATORY TRACT,

WITH ESPECIAL REFERENCE TO INFLUENZA BACILLI.*

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INTRODUCTION.

These studies were carried on with a view of determining the frequency of occurrence of influenza-like bacteria in the sputa and throats of persons afflicted with the various infectious diseases, and also of comparing such bacilli for the purpose of determining possible variations which might lead to a subdivision of the influenza group. In a previous paper[1] on the bacteriology of whooping cough I discussed the occurrence of these bacilli in this disease and also gave some data on their occurrence in other infections. Here I shall refer to some of these results and add to them further data on certain properties of these bacilli.

TECHNIC.

The technic used in examining the respiratory tract for bacteria was briefly as follows: In nearly all of the cases sputum was obtained in a sterile Petri dish, and as soon as possible brought to the laboratory and examined. In some cases it was impossible to obtain the sputum and throat swabs were used. The sputum, as a rule, was washed in several changes of sterile water or broth, and from this washed sputum smears were made, and also a small particle was shaken thoroughly in a tube of plain broth for plating. The washing was for the purpose of removing the ever-present saprophytes coming from the oral cavity as the sputum is expectorated. Inoculations were then made from the tube of plain broth into melted plain agar at a temperature of 40 to 42 C., to which about 5 drops of pigeon blood had been added, and this was plated in the usual manner. Pigeon blood was used because it was found that, as a rule, the influenza organisms grow better on this than on other bloods, a fact first noted by Pfeiffer.

WHOOPING COUGH.

In sixty-eight cases of whooping cough, influenza-like bacilli were isolated sixty-one times. In the remaining seven cases they were not found after several examinations. Usually they were found in the first examination, this being true in forty-eight of the sixty-eight cases. In two cases the organisms were found several days before the whoop occurred, but at this time the patients had a severe cough and expectorated much mucus. Examination in six cases during the early stages before the whoops began failed to reveal the organisms. Later when the spasms appeared the bacilli were found. They may remain in the throat for a considerable period of time even after the spasms disappear. During the paroxysms they are coughed into the surrounding air in large numbers, as may be shown by holding blood agar plates before the child while coughing. In some cases the bacilli are extremely numerous, and on the plates are in almost pure culture, while in other cases they are relatively few in the cultures. In those negative cases, where opportunity was offered, persistent search both by smear and culture failed to reveal the organism. In one of these cases the *Micrococcus*

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* From the Memorial Institute for Infectious Diseases, Chicago.

[1] Jour. of Infect. Dis., 1906, iii, 1.

catarrhalis was found in nearly pure culture; in several others streptococci were especially numerous.

It is sometimes true that in the early spasmodic stage the influenza-like bacilli can not be found, and later they may appear suddenly in large numbers. In two cases this fact was especially conspicuous. Both were in the third week of the disease and had very violent spasms of coughing with typical whoops. Several examinations of sputum at intervals of two or three days both by smear and culture failed to show any of the bacilli, but many streptococci. Suddenly the bacilli appeared in the sputum in large numbers and thus continued.

Smears made from the washed sputum and stained by Gram's method with counterstain of dilute carbol-fuchsin show, as a rule, a large number of the small non-Gram-staining influenza-like bacilli. This is not an absolutely reliable means of detecting them; one may become very suspicious of their presence by smear examination, but further confirmation should be made by means of culture.

Pneumococci were found in every specimen and were about in the same proportion as in normal throats. Under this term are included those colonies which appear in the plates with a greenish halo about them. Streptococci were found in nearly every specimen of sputum examined. In a number of cases this group of organisms was very abundant and even more numerous than those of the pneumococcus group. As a rule, they were few, not more than three or four colonies on a plate. Compared with the normal, this class of organisms was somewhat more prevalent. The *Micrococcus catarrhalis* was found in large numbers in some of the cases, and organisms belonging to the diphtheria group were found in eight instances. Several strains were given to Miss Hamilton, for identification, who found some of them to be true diphtheria bacilli and other strains to be pseudo forms; they were never found in large numbers. In one case a child had a typical case of whooping cough with no evidence of diphtheria. A swab obtained from the throat showed numerous influenza organisms, but no diphtheria bacilli in smear or blood agar plates. Five days later the patient appeared with a well-developed membrane showing on examination many typical diphtheria bacilli together with some influenza bacilli.

MEASLES.

Twenty-three cases of measles were examined, in nearly all of which sputum was obtained for this purpose. They were examined during the stage of eruption and had, as a rule, the cough so frequently present early in this disease. In thirteen of these cases the influenza bacilli were isolated; in four they were the predominating organism, being found in almost pure culture in washed sputum. In some of the other cases they were very few. Pneumococci were always present and about to the same extent as found in normal throats. Streptococci were numerous in a few cases, but, as a rule, much less so than pneumococci. The *Micrococcus catarrhalis* was found in ten cases; in two of these it was very abundant, being more numerous than any other organism present. Influenza bacilli were not present in these two cases. Typical diphtheria bacilli whose colonies possessed wide hemolytic zones were obtained in two cases; they were not numerous. Five of the cases were complicated with otitis media. In one of these cases only were influenza bacilli found in the discharge; they were present in very large numbers and in nearly pure culture, a few streptococcus colonies appearing with them. About ten days previous to this, examination of the sputum showed the presence of influenza bacilli in considerable numbers. Another examination of the ear discharge was made eleven days later. At this time the influenza bacilli were no longer present, but there was obtained, in almost pure culture, a diphtheria-like organism. In a second case a double otitis media developed, and in culture from the ear discharge were found numerous streptococci, a few diphtheria bacilli, a few staphylococci and also a few typical pneumococci which fermented inulin and gave a green colony on blood agar. From the other three cases of otitis media streptococci were obtained pure in one of them, and diphtheria bacilli mixed in the remaining two. One of the cases of measles during convalescence had a profuse nasal discharge. Cultures of this material showed pneumococci, streptococci, a few diphtheria bacilli and also influenza-like bacilli. About a week later there developed a pus infection of the upper lip extending into the left cheek. Both smears and cultures from the pus showed a pure growth of *Staphylococcus pyogenes aureus.*

These results show the large number of varieties of bacteria that may be found in such cases. Streptococci seem to be the most frequent invaders, but the lesions can not be attributed to any one specific organism. The tissues appear to be so non-resistant that any variety that may happen to be present in the upper respiratory passages may find therein a suitable place for growth.

VARICELLA.

Eleven cases of varicella in young children were examined. Some of them were in the early stages, others later in the disease. Practically all had a slight cough. Influenza-like organisms were isolated in seven of the eleven cases; in two they were very numerous. Streptococci, few in number, were found in eight, diphtheria bacilli in one, and *Micrococcus catarrhalis* in all. These latter organisms were very numerous in two cases in which influenza bacilli were absent. The greenish pneumococcus colonies were found in all cases and about to the same extent as in normal throats.

MENINGITIS.

Opportunity was afforded to examine three cases of epidemic meningitis in children. In the nose in one case was found an influenza-like bacillus. Meningococci were isolated in two of the three cases from the nasal mucosa where they occurred in large numbers. All of them showed some nasal symptoms. One of these cases developed a double otitis media. Streptococci and diphtheria bacilli were isolated in culture, but no meningococci. This case, early in the disease, had a purulent conjunctivitis from which a typical meningococcus was isolated. The conjunctivitis completely disappeared in a few days on boric acid irrigation, leaving no serious result. Another case of interest may be mentioned here: A child 8 years old came into the hospital with the diagnosis of meningitis. She was in coma; the temperature ranged from 102 to 104 F.; marked rigidity was present not only of the muscles of the neck and back, but also of the limbs and especially of the jaw. Spinal puncture was made with negative results. Swabs from the nose showed nearly pure culture of diphtheria bacilli and a few were obtained from a throat swab. Antitoxin was administered. In thirty-six hours the temperature was normal, and the child made a rapid recovery. During convalescence otitis media developed, and in the discharge were isolated numerous diphtheria bacilli and streptococci. This case illustrates the importance of nose and throat examination in infections generally.

INFLUENZA BACILLI IN OTHER INFECTIONS.

In order to show the prevalence of influenza bacilli, some data will be given on the occurrence of influenza bacilli in adults in other infections. In twelve cases of bronchitis they were found in the sputum five times; in seventeen cases of typical clinical influenza the bacilli were only found three times. In twenty normal throats of adults they were found twice, but not in large numbers.

From the above data we conclude the organisms of the influenza type are very commonly found in the throat in various infectious diseases. In whooping cough they are found in nearly every case some time during the course; often as soon as the whoop begins or slightly before and again not until some time after the spasms occur. In measles they occur very commonly and early in the disease, that is, within the first three or four days. There also generally appears to be an increase in the number of streptococci in both these diseases over that in the normal. Otitis media complicating infectious diseases is due to a variety of organisms, of which the influenza bacilli may be one, but organisms of the streptococcus and diphtheria group are more frequently responsible. Some of the latter organisms are true diphtheria, others appear to be pseudo forms (Hamilton).

The *Micrococcus catarrhalis* is an organism whose significance is rather difficult to interpret. It is a non-Gram-staining diplococcus, practically indistinguishable from the meningococcus in its morphology, but differs essentially in cultural and other properties. It is not uncommon to find organisms of this kind in the normal throat and nose, but, while sometimes quite abundant, they are seldom the predominating organism. In whooping cough they are commonly found in the sputum, though it must be said it is very rare to find them as the predominating organism. In measles and varicella they are even more common and occasionally are found in large numbers and to the exclusion largely of other organisms. It appears probable that they are increased in all infections of the respiratory passages, but it is difficult to say just how much they have to do in producing the symptoms. That they may play a part in some cases can hardly be questioned, and in support of this a few cases will be cited in which this organism occurred in almost pure culture.

A young man entered the hospital with marked bronchitis and laryngitis, accompanied with almost complete loss of voice. He expectorated considerable mucus, and this material washed in sterile water gave an almost pure culture of *Micrococcus catarrhalis;* smears of the sputum showed the same organism. This condition turned out to be the initial bronchitis of typhoid fever. Butler reported, before the Chicago Medical Society, an epidemic occurring in young infants at the Maternity Department of the Presbyterian Hospital of Chicago, characterized by the occurrence of fever and laryngeal and bronchial symptoms. Of these cases one patient died and came to autopsy. There was a broncho-pneumonia present and a large amount of purulent mucus in the trachea and bronchi. In both smears and cultures of this material the predominating organism by far was a typical *Micrococcus catarrhalis.* In this case, however, there were also a few pneumococci and their presence makes it difficult to interpret the significance of the former organism. Many of the micrococci were inside the leucocytes, showing that they are readily susceptible to phagocytosis. Examination of the blood and other body fluids for bacteria gave negative results.

In a third case the patient had, following an ordinary cold, a persistent choking cough which continued for a number of weeks. The cough was very distressing, especially at night, and caused the patient to lose sleep. Otherwise she was well. A small amount of thick mucus was expectorated, and this chiefly in the morning on rising. Examination of this sputum washed in sterile water gave an almost pure culture of *Micrococcus catarrhalis.* The same result was obtained at two different examinations at an interval of about ten days.

M. Kirchner,[2] in 1890, observed this coccus in patients with influenza and associated it with the etiology of the disease. R. Pfeiffer cultivated this germ from the sputum in a variety of infections of the respiratory tract and gave it its present name. Ghon and H. Pfeiffer[2] found it eighty-one times in 140 cases of respiratory affections; they considered it usually saprophytic, but capable of producing at times acute or subacute lesions. It has been found by many others, especially in the respiratory tract in various infections of children, and has been associated with the cause of pertussis by Ritter and Buttermilch.

From the above data and the reports of others it appears that the *Micrococcus catarrhalis,* though frequently present as a saprophyte in the normal respiratory passages, is often associated with various kinds of inflammatory conditions in this region, especially in children. It can not be considered a specific organism for any particular characteristic group of symptoms, but appears to act as a common invader secondary to a variety of specific diseases. The possibility of its being a primary invader at times and under certain conditions seems reasonable.

The occurrence of the influenza bacilli in so few of the cases of clinical influenza or grippe is worthy of some comment. These cases were all diagnosed clinically as acute influenza and were typical in their symptomatology. The sputum was obtained early in the disease, and in almost every case the plates were characterized by the relatively large number of streptococcus colonies present. In those cases in which the influenza bacilli were found they were not present in especially large numbers. It is undoubtedly true that most of the cases reported as clinical influenza, at least in recent years, are not influenza infections at all, but are infections with other organisms, principally streptococci and pneumococci and perhaps also the *Micrococcus catarrhalis.* It appears to be true that a number of organisms can produce practically an identical clinical picture, and this has come to be known as influenza or grippe since the great epidemic of 1889-90. By many, such cases are assumed, without a bacteriologic examination, to be infections with the influenza bacillus, whereas in reality, as the above data, as well as many recent reports in the literature indicate, the cause is usually due to other organisms, the most common of which is undoubtedly the streptococcus.

The significance of the influenza bacilli found so frequently in the throat in infections of various kinds deserves some comment. These bacilli have a low degree of virulence for animals. If very large quantities are injected into the peritoneal cavities of guinea-pigs the animal dies in twelve to twenty-four hours and the

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2. Ztschr. f. Hyg., 1890, ix, 528.

bacilli may be recovered from the blood. Attempts to exalt their virulence have not been very satisfactory.

Finding them occasionally in normal throats indicates the possibility that they may exist as harmless saprophytes or as organisms with a potential pathogenic function awaiting an opportunity favorable for development. That they are not always harmless saprophytes is shown by the fact that bacilli isolated from whooping cough and transplanted in the normal mucosa of the human throat will multiply abundantly and produce definite reaction. In one such experiment made by the writer on a young man whooping cough did not develop, but a slight fever lasting for a few days and some throat symptoms occurred, accompanied with the expectoration of a large amount of thick tenacious mucus in which the bacilli existed in large numbers in almost pure culture. We are, therefore, justified in attributing to them pathogenic properties for man, even though they may not be a specific primary cause of disease.

A careful comparison was made of the influenza-like bacilli from the various groups of diseases in which organisms of this type were isolated. This included whooping cough, measles, epidemic meningitis, varicella, clinical influenza, bronchitis, normal throats, and also strains isolated from conjunctivitis, scarlet fever, and tonsillitis. Morphologically and culturally no differences are found which would serve to subdivide them into groups. The organisms from these various diseases agree very closely. Strains from the same disease differ from each other slightly. Some tend to form threads very readily and are slightly larger than other strains, but this was found in all the diseases where a number of strains were isolated. Altogether about one hundred different strains have been tested. Without exception all require hemoglobin media. They are non-Gram-staining, short bacilli and stain more deeply at the ends with methylene blue. In the throat they never form threads, but in culture nearly always a few may be found, and in some strains this tendency is very marked, especially in the older cultures. We may say, then, that these bacilli agree very well with the influenza bacillus as described by Pfeiffer, and the forms showing a tendency to form threads correspond to his pseudo-influenza bacilli which he found in broncho-pneumonia and other conditions. That there is no essential difference between them seems to have been definitely determined by a number of writers, and the result given in this paper also indicate such to be true.

AGGLUTINATION OF INFLUENZA-LIKE BACILLI.

In order to show possible differences in the strains of influenza-like bacilli, rabbits were immunized against organisms isolated from whooping cough, measles, clinical influenza, scarlet fever, varicella, tonsillitis and conjunctivitis. The animals were first injected subcutaneously with the living germ and later intraperitoneally with gradually increasing doses. Finally they were injected twice with two agar slants of the living germs intravenously. The animals gradually lost weight, but otherwise showed little effects from the injections. At first they were injected once a week and later twice a week, this being continued for from eight to twelve weeks. The agglutination tests were made by the microscopic method and controlled with the microscope. This is the method of Cantani, Wollstein and others. There was some difficulty at first in getting homogeneous suspensions of the bacilli, but by using young cultures, preferably from twelve to eighteen hours old, thoroughly agitating them in normal salt solution and then centrifuging out the clumps that may remain a satisfactory suspension was obtained for agglutination purposes. The serum was diluted with normal salt solution and the dilutions 1/10, 1/20, 1/50, 1/100, 1/200, 1/500, 1/1000, and occasionally higher were used. The serum of normal rabbits causes some clumping in all strains at a dilution of 1/10. Occasionally some strains were clumped at 1/20, but never any higher. In the immune animals agglutinins are present at the end of six weeks or earlier. In from eight to twelve weeks they are abundant. The sera in all the animals agglutinated the homologous organism at a much higher dilution than any strain isolated either from the same disease or from another disease. This was true, without exception, in every test made. All the sera agglutinated the homologous organisms in dilutions of 1/500, some at a dilution of 1/1000, and in one instance the serum from an animal immune to an organism from tonsillitis at a dilution of 1/5000. The agglutination of the other organisms varied considerably, but in most instances showed some increase above that obtained with normal serum. As a rule, this varied from 1/50 to 1/100 and occasionally rose to 1/200. Organisms from the same disease as the organism used to immunize, but from a different patient, did not appear to be agglutinated at higher dilutions than organisms isolated from other diseases. Table 1 is given as a fairly typical illustration of the agglutination of these bacilli. Tables showing the agglutination by sera immune against these bacilli from other sources show the same facts as this table and are consequently omitted. In every case, as in the table given, the agglutination of the homologous organism takes place with far higher dilutions of the serum than that of any other strain. It appears, therefore, from these results that common agglutinins are developed for all these strains of influenza-like bacilli about to the same extent and on this basis no subdivision of these bacilli into groups can be made.

TABLE 1.—Agglutination of Influenza-like Bacilli by Rabbit Serum Immunized Against a Bacillus Isolated from Pertussis.

Source of Organism.	Dilutions.							Salt Solution Control.
	1/10	1/20	1/50	1/100	1/200	1/500	1/1000	
Pertussis (homologous organism)	+++	+++	+++	++	++	++	+	0
Pertussis (not homologous)	+++	+++	+	+	0	0	0	0
Measles	+++	+++	+++	++	+	0	0	0
Conjunctivitis	+++	+++	++	++	0	0	0	0
Tonsillitis	++	++	+	+	0	0	0	0
Laryngitis	+++	+++	++	+	0	0	0	0
Varicella	+++	+++	+++	+	0	0	0	0
Influenza	++	+++	++	++	+	0	0	0

During the past season so few cases of pertussis in which these bacilli are common were available for examination that studies on the agglutinative property of the sera of patients for these influenza-like bacilli have hardly begun. This subject will be largely reserved for consideration at some future time and only a few statements made here. Normal human serum produces clumping of the strains of bacilli given in Table 1 at dilutions of 1/10 and slightly at 1/20. Practically no difference appears between the strains in this respect. In four cases of pertussis the sera clumped the bacilli from pertussis cases in slightly higher dilutions than those isolated from other sources. These dilutions varied from 1/100 to 1/200. In one case of "grippe" in which the patient's throat showed these bacilli were very numerous, the serum fourteen days after the onset did not agglutinate the homologous strain or strains from other sources.

PHAGOCYTOSIS OF INFLUENZA BACILLI.

Within the last few years a large amount of study has been given to phagocytosis of bacteria and through animal and test-tube experiments considerable light has been thrown on the mechanism of this process. It has been shown by Wright and others that bacteria, as a rule, are taken up by leucocytes only when serum is present. Leucocytes washed several times in salt solution are no longer capable of ingesting organisms, but if serum is added to these corpuscles they promptly regain this property. The serum, therefore, is the important factor in determining phagocytosis, and the particular substance in the serum which causes it has been called "opsonin." A study of the influenza bacillus with reference to phagocytosis was made and the results will be briefly indicated.

Pfeiffer noted the occasional occurrence of these bacilli inside the leucocytes in the sputum in influenza bacilli more particularly in the latter part of the attack. In the sputum in other infections such as pertussis in which similar bacilli are found, it is only occasionally that they are encountered inside the pus cells. When the bacilli in moderate quantities are injected into the peritoneal cavity of animals they are taken up in large numbers by the numerous invading polynuclear leucocytes, but if very large amounts of bacilli are injected the exudate contains few leucocytes and the animal dies in 12 to 20 hours. The few leucocytes, however, which may be present under these conditions readily take up the bacilli.

In the test-tube, strains isolated from measles, whooping cough, tonsillitis, pharyngitis, varicella, influenza, and conjunctivitis were all found to be readily taken up by human leucocytes in defibrinated blood in the course of twenty minutes or less. If washed, leucocytes are used the bacilli are also taken up, but not so rapidly as when serum is added to them. When thick suspensions of bacilli are used in from twenty to thirty minutes the leucocytes in both cases are crowded with them. If dilute suspensions are used in twenty minutes a distinct difference in phagocytic activity between the washed and unwashed leucocytes in favor of the latter is seen, but after from four to eight hours this difference disappears, the leucocytes now being usually so filled with the bacilli that their number can not be accurately determined by count.

This phagocytosis in salt solution, which may be referred to as spontaneous phagocytosis, appears at present at least somewhat exceptional, for nearly all bacteria so far tested seem to require the presence of serum for phagocytosis. However, it has been observed by Miss Tunnicliff in this laboratory that abundant phagocytosis of the *Bacillus fusiformis* occurs in salt solutions without the presence of serum, and it is also known that carmine particles are readily taken up by leucocytes in the absence of serum. Wright observed spontaneous phagocytosis of tubercle bacilli in certain concentrations of salt solution. The greatest spontaneous phagocytosis occurred in a .6 per cent. solution; this progressively decreased and practically disappeared in a 1.3 per cent. solution. Varying concentrations of salt, at least within the above limits, have no effect on phagocytosis of influenza bacilli. This is shown in Table 2. In this experiment a thin suspension of bacilli was used, otherwise phagocytosis would have been so rapid that the bacilli could not be counted in the 20-minute and 2-hour intervals.

TABLE 2.—Showing Effect of Varying Concentrations of NaCl on Phagocytosis of Influenza Bacilli by Normal Human Corpuscles Washed Four Times.

Concentration of NaCl Solution.	Phagocytosis.		
	20 minutes.	2 hours.	6 hours.
.6 per cent.	.5	3.1	20+
.7 per cent.	.3	2.4	20+
.8 per cent.	.9	4.8	20+
.85 per cent.	.3	4.0	20+
.9 per cent.	.4	8.5	20+
1.0 per cent.	.1	0.9	20+
1.1 per cent.	.15	1.2	20+
1.2 per cent.	.1	8.0	20+
1.3 per cent.	.2	3.8	20+
1.4 per cent.	.3	3.9	20+

Spontaneous phagocytosis can not be satisfactorily explained by insufficient washing of the corpuscles. In some of the experiments these corpuscles were washed seven times, and each time there was added many times as much salt solution as there were corpuscles present. This amount of dilution and washing is quite sufficient to completely inhibit phagocytosis of staphylococci and meningococci. In several of the experiments staphylococci and meningococci were used as controls, and in no instance were they taken up even after eight hours.[3] Again spontaneous phagocytosis can not be explained by long-continued cultivation on artificial media. Eleven strains isolated from various sources without exception showed spontaneous phagocytosis, though some had been isolated from the throat lesions only a few days, while others had been under cultivation for five months. The possibility of explaining the large numbers of bacilli in the leucocytes after a few hours by growth having occurred inside the leucocyte from an occasional ingested bacillus was ruled out by using bacilli killed by heating to 46 C. for thirty minutes. That the bacilli do not become sensitized by growing on blood media which they require was shown by using washed corpuscles in the media and also by heating the blood to 95 C. for one hour before adding it to the media. Lastly, spontaneous phagocytosis is not the mere adhesion of the bacilli to the surface of the leucocyte, for its appearance is identical with that of phagocytosis occurring in serum, and mere adhesion of bacteria to a leucocyte is manifested by a marginal arrangement of the organisms. We are justified, therefore, I think, in considering the influenza bacillus an organism which does not require the presence of serum and which may be classed with such inert bodies as carmine particles. Opsonins, therefore, do not appear to be the only factor which control the ingestion of bodies by leucocytes. The fact should be borne in mind, however, that in the presence of serum this process of phagocytosis is accelerated.

It has been shown for a number of organisms that phagocytosis is more active in immune serum than in normal serum, and this has been explained by the increased opsonic content of the former. Experiments to determine this point were made, using the sera of rabbits immunized against various strains of influenza organisms. The results with six sera on eight different strains of bacilli show some variation, but it was found that frequently phagocytosis in the immune serum exceeded that in normal serum and in some cases it was marked. There was little, if any, difference between the phagocytosis of the homologous organism and other strains from the same or from some other disease.

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[3] In the staphylococcus suspension the leucocytes are disintegrated to such an extent in the course of a few hours by the leucocidin formed by these organisms that phagocytosis can not be determined.

Some factors enter into the determination, however, which make it very difficult, if not impossible, with present methods, to obtain an accurate estimation of a possible opsonic increase in the immune serum. As disturbing elements may be mentioned spontaneous phagocytosis which can not be eliminated from the determinations. Another factor to be considered is the agglutination of these bacteria by immune sera. Bacteria in clumps naturally are taken up in larger numbers than in homogeneous suspension, and consequently increase in phagocytosis in agglutinating serum does not necessarily mean increase of opsonin. These facts, together with the fact that these bacilli are extremely small, staining poorly, as a rule, and would be difficult to accurately count even under the most favorable conditions, render opsonic determination for these organisms with the present methods at least very untrustworthy.

SUMMARY AND CONCLUSIONS.

1. Influenza-like bacilli are very commonly found in the upper respiratory tract in various infectious diseases and especially in whooping cough. Occasionally they occur in normal throats.

2. Various organisms occur in the discharge in otitis media, the streptococci being the most common; occasionally influenza bacilli are found.

3. The *Micrococcus catarrhalis* is a common inhabitant of the respiratory mucosa in infectious conditions and in some cases exist in nearly pure culture. It does not appear to produce specific lesions.

4. The influenza-like bacillus from whooping cough is pathogenic for man; its specificity is doubtful. Present data permit us to consider these bacilli as secondary invaders in all the diseases in which they are found. A primary invasion at times should be considered a possibility.

5. Influenza-like bacilli are readily taken up in the test-tube by unwashed leucocytes and to a less extent by washed leucocytes. This spontaneous phagocytosis is not affected by varying the concentration of the salt solution between 0.6 per cent. and 1.4 per cent.

6. Injection of these bacilli into animals causes the production of specific agglutinins and probably also an increase in opsonins in the serum. Because of the occurrence of spontaneous phagocytosis and agglutination in such sera the determination of the opsonic index for these bacilli is rendered unreliable.

Extraction of Set of False Teeth from the Esophagus.—Chiari has recently reported (*Wien. klin. Wochschr.*, xx, 147, 1907) the successful extraction of a set of 5 false teeth on a plate, 4.5 by 2.5 cm., which had been swallowed during sleep. The patient was a man of 38, who awakened suddenly with suffocation and retching, which soon subsided, but he could not eat solid food. He had no pain nor fever, and several physicians diagnosed cancer of the esophagus. After a month, radioscopy revealed the foreign body and it was readily inspected through an esophagus tube after cocainization. A smaller tube was then introduced and the foreign body was drawn out readily, not through the tube, but with it. He has found inspection usually possible in such cases, as conditions that favored swallowing the body also favor inspection.

THE CURE OF HYSTERICAL PARALYSIS BY RE-EDUCATION OF KINESTHETIC CENTERS.

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The sudden disappearance of hysterical paralysis, through religious excitement, hypnotic suggestion or great faith in the assertion of a particular physician, has been made so familiar to the profession that many, no doubt, think of it as the normal and eminently desirable mode of recovery. I have had a moderate share of such cases, sometimes being able, within the clinic hour, to make a patient with hysterical hemiplegia or paraplegia throw away his crutches and run about the room These spectacular cures are intensely interesting and valuable from the purely scientific as well as from the practical standpoint, and they are within the reach of any physician who is sure of his diagnosis and able to pick out the favorable case.

Nevertheless, the method that aims at such sudden cures is not the one to be generally chosen. It will succeed in only a few of the cases and it stakes too much on the immediate effect of predictions, which, by promptly failing of verification, may prevent future success. Moreover, prompt success may have its disadvantages. Immediate relief from paralysis, which is only one symptom of the hysterical state, may prevent the patient from receiving that enlightenment and discipline which are essential to anything more than a superficial and transient improvement.

As a basis for a better method we must have an explanation of hysterical paralysis that will unite all favorable influences into a consistent plan of treatment. This was impossible a generation ago, but modern neurology can at least furnish a working hypothesis.

Probably the most constant accompaniment of hysterical paralysis is the anesthesia of the paralyzed parts, especially the absence of those sensations normally caused by motion. The patient can not feel the motions of the paralyzed limb nor can he think of them, except, perhaps, in visual images. Now this absence of kinesthetic sensations and kinesthetic ideas is not merely a complication. It must necessarily cause paralysis, because every voluntary motion must be preceded by the idea of the motion, and its continued execution must be controlled by an orderly series of sensations aroused by the movements already made.

These sensations and ideas of motion are a function of the sensory convolutions back of the Rolandic fissure. In normal volition these convolutions are first excited (by association impulses from other cortical centers) and then, directly or indirectly, by association impulses, they arouse the corresponding motor centers in the precentral convolution. In sending out these association impulses the kinesthetic centers are subject to facilitation and inhibition through the influence of other cortical centers. All that we know of the mental factors in hysteria favors the view that in hysterical paralysis the kinesthetic center is overwhelmed by a preponderance of inhibitory impulses, incidental to the perverted ideas and emotions. It can not act with sufficient vigor to awaken the idea of what is to be done or to send the necessary association impulses to the motor centers, so the limb remains motionless, although the motor centers, connecting tracts and muscles are in perfect order. This is in striking contrast to cases of organic paralysis caused by lesion below the cortex; in such cases the kinesthetic centers being unharmed, the patient retains a vivid idea of the movement desired and often feels that the limb must move or even that it has moved.

If this theory of hysterical paralysis is correct the first object is to awaken the dormant kinesthetic center. This can best be done by a skilful combination of favorable influences, emphasizing now one and now another, according to the needs of the individual patient and the progress of the case. If the improvement is rapid, very well; but if it is slow there is still a definite plan to be followed.

First in time and also in importance is the effort to raise the emotional tone of the patient. It is a familiar fact that voluntary motion is greatly facilitated by exhilarating emotions and powerfully restrained by depressing ones. Mania and melancholia furnish extreme illustrations of the general law and the milder emotional states have a proportionate effect of the same kind. The effort to substitute exhilarating for depressing emotions should be along two different lines, mental and physical.

After the careful recording of the history and thorough examination of the patient, the assurance that there is no organic disease and that recovery may confidently be expected is the best beginning of treatment, and throughout the case success and favorable indications are to be dwelt on and the opposite ignored. Sometimes our first attempts in this direction meet with but scant success; the patient may be apathetic or may even oppose and actively resent our cheerful view of the case. When this attitude is encountered it is well to resort to a device I learned long ago from Dr. S. Weir Mitchell. If the patient is a young woman intimate that you are especially anxious to get her well because her disability would, if permanent, necessarily interfere with her happiness by making her less attractive and possibly subjecting her to ridicule. Usually a mere hint, let fall apparently by accident, will be quite sufficient, and the idea once lodged we should hasten to dwell on the contrasted prospect of a happy life and the pride of health. In the case of a young man or boy an analogous idea may easily be made effective. With children the offer of a reward, to be delivered when recovery is complete or has reached a certain stage, will be better.

The physical measures for invigorating the nervous system and at the same time improving the emotional condition, namely rest, food, tonics and sedatives, are of great importance, but I will not consider them in detail, as physicians are generally far more familiar with them than with the mental influences just considered. I think also that they are on the whole less essential to success. It seems to me that the profession has erred very greatly in thinking of the brilliant results of the rest cure in certain cases of hysteria as due to the physical effects of rest in bed, full feeding, massage and electricity, whereas it is mainly due to the great psychologic insight and moral influence of Dr. Mitchell and his successful followers. Nevertheless, both mental and physical remedies should be applied in harmonious combination.

While trying to improve both the mental and the physical functions of the brain as a whole, we can act specifically on the dormant kinesthetic centers by sensory stimulation. Strong faradic currents, applied to the skin and muscles, followed by vigorous, even rude, passive motion of the affected joints, have a powerful tendency to restore sensations and ideas of motion. The patient must be urged to pay close attention and to note even the slightest beginning of sensation. In hysterical anesthesia the loss is not absolute. The sensory centers act, although inefficiently, and the sensations are obscurely present, but they are so feebly associated with what is vividly in the field of consciousness that they seem to be absent. Attention to the anesthetic limb and the effort to recognize its sensations tends to bring its cortical sensory centers into relation with all the rest of the cortex and to make its sensations a part of the whole field of consciousness.

Having awakened some degree of normal sensibility, the cure will be completed by exercises in voluntary motion. But preliminary to these any inhibitory fears must be overcome. For example, the patient may say that she not only can not move the left leg, but that merely trying to do so causes a dreadful pain in the head, neck or back. This pain is doubtless purely mental in its origin, but it is nevertheless real (just as nausea excited by the idea and fear of nausea is real) and the fear of pain may excite contraction in the opposing muscles when the patient is urged to move the limb. The difficulty can generally be removed by careful examination of the seat of pain and assurance that no harm can come of the attempt, but that on the contrary the pain will quickly cease to appear if defied to do its worst.

If the paralysis is nearly total the limb should be so placed that its weight will favor the attempted movement. This will assure some motion which the patient sees and can be encouraged to increase. A beginning once made, the extent and strength of the movement can gradually be increased, always giving something concrete to do, such as kicking an object or placing the foot on it, and always ignoring failure and enthusiastically praising success. When some progress has been made definite movements can be assigned for practice in the interval of the physician's visits.

In this way the normal control of the muscles can gradually be approached and the length of time required may be made an advantage by using it to carry on a reeducation in composure and self reliance, without which the cure of paralysis will be but a temporary change in the symptoms, not relief from the disease.

I have recently followed this method of treatment with great care in two cases of typical hysterical hemiplegia, and in both cases the clinical facts and favorable results were in perfect harmony with the theoretical considerations here set forth. One patient was a young man whose paralysis followed a trivial railroad injury. There was loss of posture sense and of ideas of motion in the right leg and efforts to move it caused lumbar pain. The arm was similarly affected, but in a slighter degree. In spite of the fact that he was claiming damages and that I saw him at the request of the railroad company, he willingly co-operated with the treatment, and when he left Denver about two months after the accident was almost entirely well. The other case was that of a young woman whose paralysis came on gradually at the end of pregnancy and during the puerperal period after a long series of confinements, debilitating diseases and worries. The left leg and arm were paralyzed, with corresponding loss of posture sense and ideas of motion, the leg being worse, and the right side was affected in the same way, but to a much slighter degree. She walked only with the aid of crutches, dragging the left leg. The paralysis of the leg seemed absolute in the ankle and knee and it was difficult to make any start in voluntary motion. There was also an inhibiting hysterical pain. After partial revival of the posture sense by means of electricity and passive motion, exercises in moving the foot were begun and progress, although slow, was steady. After a time the crutches were discarded and walking was good, with the aid of a light cane. A striking feature in this case was the slowness of all voluntary motions in the affected area. When the patient left for her distant home, although this defect was still apparent, there had been a great gain in promptness of movement. The gain in appearance, general health and mental vigor was quite as marked as that of voluntary motion.

THE UNDERLYING PRINCIPLES OF TUBERCULIN THERAPY.*

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Tuberculin has now been subjected to the test of time. It has been in continuous employment for fifteen years. It has been used in many experiments on animals and its virtues have been tested on human beings. In spite of this mass of laboratory and clinical experience there seems to be but a hazy idea as to what tuberculin is, how it acts, and what it is expected to do.

In order to understand the principles which underlie tuberculin therapy we will discuss: First, Nature's method of cure in specific diseases; second, conditions which militate against tuberculosis in curing itself; third, the manner in which specific inoculations of tuberculin aid in the cure of tuberculosis.

NATURE'S METHOD OF CURE IN SPECIFIC DISEASES.

When pathogenic microbes gain entrance to the organism certain phenomena take place. If the microbes are exceedingly virulent, if the resisting power of the organism is low, or if the microbes gain entrance in great numbers, infection is likely to occur. On the other hand, if the microbes are not highly virulent and do not gain entrance in too large quantities and the resisting power of the organism is good, infection will probably be warded off.

When pathogenic microbes gain entrance to the body the organism at once attempts to destroy them. An increase in the amount of serum and in the number of leucocytes at the point of attack is at once noticed. The microbes, on the other hand, begin to multiply and a battle for mastery ensues. The microbes during their activity produce a toxin which has a stimulating effect on the vasodilators[1] and cause an afflux of serum to the part. If given off in small amounts the toxin stimulates the cells of the organism, which react and form defensive bodies; if given off in large quantities the toxin may destroy the cells entirely. Thus a slight infection tends to cure itself, while a severe one tends to destroy the invaded organism.

Several defensive bodies which are produced by the organism have been studied in recent years, such as antitoxins, lysins, coagulins, precipitins and agglutinins. Recently there has been added to these another of great interest, the opsonins of Wright and Douglas. These investigators have shown that the old humoral theory of disease is, at least in part, correct. The brilliant work of Metchnikoff had almost established the leucocyte as the chief agent in the defense of the organism against infection, but these investigators have gone one step further and shown the poor leucocyte to be absolutely helpless unless aided by the blood serum. They have discovered in the blood serum a substance which acts on bacteria and prepares them for destruction by the leucocytes. This substance they have called "opsonin."

Through the study of the opsonic power of the blood our knowledge of the phenomena which take place during infection and during Nature's efforts at curing the infection have been materially increased.

If an organism is infected by a given pathogenic microbe the power of the blood for destroying that microbe diverges from the normal. If the infection is local the opsonic power is persistently below normal; if it is systemic it will vary from below normal at certain times to above normal at other times.[2] However, the opsonic power of the blood of an infected organism is naturally low for the specific microbe, causing the infection.

In order to cure an infection Nature increases the natural defenses of the body fluids after the manner mentioned above. This can be studied with exactness by determining the opsonic power of the blood, especially in systemic infections. Every now and then a new amount of toxin will be delivered. If the amount is not too great the cells will be stimulated and react, increasing the natural defenses, as shown by a rise in opsonic power, and the patient will improve; or, if the amount of toxin be too great, the opsonic power will be lowered and the patient may be destroyed.

CONDITIONS WHICH MILITATE AGAINST TUBERCULOSIS CURING ITSELF.

When tubercle bacilli gain entrance to the tissues they at once begin to multiply. They give off toxins which stimulate the vasodilators, causing an afflux of serum and leucocytes to the point of attack. If conditions are favorable to the invaded organism the bacilli will be destroyed. If not the micro-organisms become surrounded by leucocytes, proliferation of the fixed cells takes place, and the bacilli are shut in. A tubercle is formed as a result of Nature's conservative effort to wall off the bacilli.

But this very conservatism proves an injury and defeats its own purpose. As the tubercle increases in size the blood supply to its interior is shut off. Toxins are liberated by the bacilli, and this poorly vascularized tissue breaks down, the center of the tubercle softens. These toxins if set free into the blood stream in the proper quantities would stimulate the cells of the organism to the formation of defensive elements, and thus heal the lesion, but they are liberated at irregular intervals and in varying quantities, consequently their value as curative agents is interfered with.

Another thing must be considered. The tubercle bacillus is surrounded by a dense envelope which prevents it from giving off its toxins freely; infection, therefore, can occur without the cells of the organism having received sufficient stimulation from the bacilli to materially increase the natural defenses. In tuberculosis, then, there is a failure on the part of Nature to supply the stimulation necessary to bring about a cure. If the natural defenses of the organism are sufficient either infection does not occur or healing takes place, but if any considerable aid is required a cure does not result.

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* Read before the American Therapeutic Society, New York, May 3-5, 1906.

[1] Roger: Infectious Diseases, 1903, 170.

[2] Wright: General Principles of the Therapeutic Inoculation of Bacterial Vaccines as Applied to the Treatment of Tuberculous Infection, Lancet, Dec. 2, 1905.

One other factor which prevents a cure in tuberculosis is the tendency for the disease to spread. As stated above, the natural defenses of the organism infected by tubercle bacilli are reduced. When tubercles soften and break down bacilli are liberated. They may pass out through the air passages or they may be set free in the tissues and tend to cause a new focus. The conditions are nearly always favorable for infection to take place, resisting power low, blood poor in defensive bodies, and not able to freely enter the parts where infection is starting. If these bacilli were to pass into the blood in not too great quantities at a time so that they could be freely acted on infection would not be so common, but instead they pass into adjacent lymph spaces where conditions are most favorable for infection to take place. In fact, we may assume that infection takes place in favorable locations as a rule, as Wright[2] so well expresses it:

> I conceive that these micro-organisms are cultivating themselves under conditions which do not even remotely resemble those which they would have to confront in the circulating blood. In the case of bacteria in the actual blood stream all the antibacterial elements of the organism would come into application on them. In the case of bacteria cultivating themselves in the tissues, only those antibacterial elements would come into application which had passed out from the blood in the lymph in the region of the infection. Further, inasmuch as lymph, coming in contact in succession with a number of bacteria, or as the case may be, with their products, would part with its antibacterial elements to those first encountered, retaining after percolating through a first bacterial nidus to a second, or through the outer portion of such a nidus to its interior, a residual trace only of its orginal antibacterial power, there would come into existence, in particular in the case when the lymph-flow stagnated in the tissues, conditions far more congenial to the cultivation of bacteria than those which obtain in the blood.

HOW TUBERCULIN AIDS IN THE CURE OF TUBERCULOSIS.

As previously stated, Nature's method of cure in infectious diseases consists in the organism producing defensive bodies in response to stimulation from toxins engendered by the specific microbe which causes the disease in question. Attention was also called to the fact that in tuberculosis, owing to the nature of the bacillus and the character of the tubercle, this specific toxin which stimulates the cells to the formation of anti-bodies fails to gain access to the blood in proper quantities and at the proper intervals to be effective. In this connection it should be remembered that too great stimulation is harmful and will defeat Nature's own purpose. That the blood is deficient in protective substances is shown by the measurement of its opsonic power. This is, as a rule, below the normal standard, although there are exceptions which remain to be explained.

Bulloch,[3] assuming that the opsonic power of his own blood is normal, compared that of 84 healthy people with it. Counting his own as one, the index of the 84 averaged .96, and varied from .8 to 1.2. From these experiments we assume that the opsonic power of the blood of healthy individuals toward the tubercle bacillus varies from .8 to 1.2.

In 150 cases of lupus tested by the same author the average opsonic index was .75, and the manner in which the various cases had responded to treatment was in accord with the index. Those which had done badly showed a low index, while those that had responded to treatment showed a higher index. That the opsonic index in those patients suffering from tuberculosis can be raised by the injection of tuberculin has been thoroughly established by Wright,[2] Bulloch,[3] Lawson and Stewart[4] and others.

Lawson and Stewart[4] demonstrated what can be done by injections of tuberculin in raising the opsonic index. They measured the index in twenty-four patients who had undergone the usual open-air sanatorium treatment for periods varying from one month to two years and three months, and whose indices were .80 and below, in twenty out of twenty-four cases. Within a period of six weeks during which inoculations of tuberculin were given the indices of these patients went to normal or above normal in all but one case, as is shown in the following tables taken from the paper quoted:

TABLE 1.—THE OPSONIC INDICES OF 25 CASES OF PULMONARY TUBERCULOSIS AFTER VARYING TERMS OF TREATMENT (WITHOUT TUBERCULIN INOCULATIONS.)

Initial.	Duration of disease.		Duration of Treatment.				Opsonic Index.
			Climate.		Sanatorium.		
	Years.	Mths.	Years.	Mths.	Years.	Mths.	
M.	2	6	1	..	1	..	1.1
K.	1	2	..	..	1	2	1.0
L.	..	5	..	..	..	5	0.9
H.	..	5	..	..	..	2	0.9
McC.	4	3	..	..	1	7	0.9
M.	1	..	..	..	..	2	0.8
L.	4	6	4	..	..	..	0.8
McD.	3	10	2	4	1	4	0.8
F.	2	..	..	..	2	3	0.8
W.	1	5	..	2	..	10	0.8
G.	4	..	..	..	..	2	0.8
T.	..	2	..	..	..	2	0.8
P.	4	3	..	..	..	1	0.7
McA.	4	1	2	6	1	1	0.7
M.	7	..	1	..	1	2	0.7
H.	8	..	6	..	..	6	0.7
A.	1	2	..	..	..	9	0.7
B.	1	9	..	..	..	10	0.7
B.	2	..	..	3	1	4	0.7
M.	1	..	..	..	..	4	0.7
K.	..	4	..	..	..	4	0.7
W.	3	..	..	..	1	4	0.5
A.	3	6	..	..	2	2	0.5
S.	1	5	..	1	1	..	0.5
G.	2	4	..	..	1	10	0.5

TABLE 2.—COMPARISON OF THE OPSONIC INDICES OF THE BLOODS OF 23 PATIENTS, TAKEN AFTER A TERM OF SANATORIUM TREATMENT ONLY, WITH THOSE TAKEN AFTER A SHORT TERM OF SANATORIUM PLUS TUBERCULIN (T.R.) INOCULATIONS TREATMENT.

Initial.	O. I. before inoculation.	Doses given within a period of six weeks.	O. I. after inoculation.
S.	0.5	4 of 1/500	1.5
P.	0.7	4 of 1/500	1.3
Mc. A. ...	0.7	4 of 1/500	1.1
McD.	0.8	4 of 1/500	1.0
W.	0.5	5 of 1/500	1.1
A.*	0.5	1 of 1/500, 1 of 1/1000	0.8
M.	0.7	3 of 1/500	1.3
B.	0.7	3 of 1/1000	1.2
F.	0.8	3,1/500 ; 1, 1/50 ; 1, 1/500	1.3
A.	0.7	3 of 1/500	1.2
L.	0.9	3 of 1/1000	1.2
W.	0.8	1 of 1/1000	1.1
K.	1.0	1 of 1/1000	1.1
H.	0.9	3 of 1/1000	1.4
B.	0.7	4 of 1/500	1.3
M.	0.7	1, 1/1000 ; 1. 1/2000 ; 1 1/1000	1.5
G.	0.5	4 of 1/500, 1 of 1/400	1.1
H.	0.7	2 of 1/1000	1.0
G.	0.8	3 of 1/1000	1.0
K.	0.7	4 of 1/1000	1.3
Mc.C.	0.9	3 of 1/1000	1.4
T.	0.8	2 of 1/500	1.2
M.	0.8	3 of 1/500	1.4

* Spinal complication. Index eventually rose above 1.0.

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[3] The Treatment of Tuberculosis by Tuberculin, Lancet, Dec. 2, 1905.

[4] A Study of Some Points in Relation to the Administration of Tuberculin. Lancet, Dec. 9, 1905.

This is in harmony with the observations of Koch,[5] Moeller[6] and others as regards the increase of the agglutinating power of the blood after the administration of tuberculin. This increase of the agglutinating and opsonic power of the blood means that the natural defenses of the organism have been increased. The organism has been given greater power to combat the disease than before. In Table 1 the average opsonic index is shown to be .75 during ordinary sanatorium treatment, and in Table 2 it appears as 1.19 after tuberculin has been added. Thus the power of the organism to combat the disease as measured by the opsonic power of the blood was increased 58.6 per cent. by the addition of tuberculin.

The importance of this can be seen in this way. The opsonic power is that power of the blood serum which prepares the bacilli to be destroyed by the leucocytes. In the above tables the leucocytes of those cases which were treated by ordinary sanatorium methods (Table 1) were able to destroy only 75 per cent. of the number of tubercle bacilli that a normal person's blood should destroy, while the leucocytes of the same patients (Table 2) after treatment with tuberculin were able to destroy 19 per cent. more than the leucocytes of a normal individual.

The value of this increase of the natural defenses of the organism is evident. When we remember that the one reason why tuberculosis kills is because of its tendency to spread to new tissue, either adjacent or distant, we can readily understand how great an advantage those patients enjoy who have their body fluids well charged with defensive bodies, ready to attack and destroy the bacilli as soon as they come in contact with them. If the body fluids are rich in antibodies a small outbreak of bacilli into a new area would doubtless soon be cared for, while a large number might cause an infection; yet we can conceive of so many more of the germs being destroyed by a highly defensive body fluid than by one poor in defensive bodies that the infection could not help being favorably influenced, even if not prevented.

It has long been claimed by men familiar with tuberculin therapy that the disease shows much less tendency to spread in those cases treated by it than in those treated by ordinary methods. In the light of these new discoveries in immunity and immunizing treatment this is easily explained. This immunizing action of tuberculin is not its only method of aiding in bringing about a cure. Tuberculous areas are naturally very slow of healing. Tuberculin when administered in proper doses and at proper intervals furnishes a stimulation for these areas which hastens healing by stimulating the formation of fibroid tissue. Theoretically, then, tuberculin has a firm foundation on which to stand. Now let us turn our attention to its clinical workings and see if they confirm the theory.

The real test of tuberculin is in pure tuberculosis. After destruction of tissue has taken place, after other organisms have entered the field, after the general constitution has become undermined, after consumption has supervened, then we should not demand a cure of tuberculin. Nothing short of the elixir of life would be a specific for such a condition. While I believe that tuberculin is of great value in chronic non-febrile cases of tuberculosis, yet it is in early cases that we should expect most brilliant results.

In a former paper[7] I collected data of 1,200 first-stage cases of tuberculosis. Of these 611 were treated in sanatoria with ordinary open-air treatment, with a result of 391 or 64 per cent. being apparently cured; 589, most of whom were treated outside of sanatoria, were treated with tuberculin, with a result of 496 or 84.2 per cent. being apparently cured. This shows 20.2 per cent. more apparent cures with tuberculin than without.

Another test of the value of tuberculin is the permanency of results. It is generally accepted that cases treated by it show less tendency to relapse. Although the comparative results of very few observers have been recorded, yet the general experience is in accord with that of Trudeau[8] and Turban.[9] In harmony with this is the observation of Bulloch[3] on the opsonic condition of patients who have been treated for tuberculosis. He examined the blood of 14 well-to-do patients who had undergone sanatorium treatment with so-called satisfactory results. In every case but one the opsonic index was low. In at least one which was called a perfect cur the disease had relapsed within a year. This also is i harmony with the experience of Spengler. He says “ patient whose agglutinating power is low stands muc greater risk of relapse than one whose agglutinatin power is high.”

Another clinical proof of the value of tuberculin is it action on local visible tuberculosis as we find it in th larynx. Most observers are of the opinion that tube cular laryngitis is almost absolutely fatal. The prog nosis is not justifiable if the disease is treated in th proper way. No remedy offers so much hope in thes cases as tuberculin. The dosage can be absolutely co trolled, and with patience and perseverance a cure ca be obtained in a large percentage of cases, even aft ulceration has occurred, although the lesser infiltratio are easier to treat and offer better chances of cure. I a report[10] of 15 cases made by me the lesions healed s that there was no further reaction to tuberculin in eleve instances. These results were not obtained quickl Treatment extended over several months, and in o or two instances many months. The key is patience an care. In a recent visit to many of the world's sanatori I found that tubercular laryngitis was considered curab or incurable, as the observer used tuberculin intelligent or unintelligently or not at all.

Further clinical proof comes from those who a using tuberculin in treating pulmonary tuberculosi Moeller's[11] statistics show a much larger percentage cure where tuberculin is used; in fact, the reports fro men who are using tuberculin intelligently can not duplicated by the ordinary methods. Some men who a not thoroughly committed to the use of tuberculin em ploy it in cases which do not improve satisfactori under ordinary methods. What greater compliment cou be paid to this remedy? If it is of such great value this class of cases would it not be reasonable to suppo that it might also help these same men in some of the easier cases?

Recent reports from Wright[2] and Bulloch[3] show th tuberculin can be used to advantage also in other forn of tuberculosis, such as ulcerations of the subcutaneo tissue and bone, invasion of the lymph glands and infections of the genito-urinary system. Wright's results in these usually intractable cases are so good that he says:[2]

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[5] Deutsch. Med. Wochschr., 1901, 48.

[6] Ueber die diagnostische und therapeutische Verwendung des Tuberculins, Zeit. f. Tuberkulose und Heilstaettenwessen, 1902, 279

[7] A Critical Study of Tuberculin and Allied Products Based on Collective Investigation, Therap. Gaz., 1903, p. 163.

[8] Tr. of American Physicians, 1900.

[9] Quoted in Weicker's Beitr. z. Frage d. Volksheilstætten, p.

[10] The Treatment of Tubercular Laryngitis with Watery Extra of Tubercle Bacilli, with Observations on the Action of Speci Inoculations in the Treatment of Tuberculosis, Rep. of Nat. Ass for Study and Prevention of Tuberculosis, 1906.

[11] Zeitschrift f. Tuberkulose, 1904, v, 415.

> In view of the very favorable and, what is almost more important, uniformly successful results which can, as will have appeared, be obtained even in the most intractable cases of localized tubercular infection by the therapeutic inoculation of tuberculin carried out under the safeguards explained above; and in view of the fact that not less favorable results can be obtained in connection with the treatment of other localized infections by the aid of the corresponding bacterial vaccines, I do not hesitate to contend that we have, in the power of raising the antibacterial power of the blood with respect to any invading microbe, out of all comparison the most valuable asset in medicine. I would, in view of this new asset in medicine, fain induce the surgeon to abate something from his conviction that extirpation and the application of antiseptics offer in connection with bacterial infection the only possible means of cure. I would have the surgeon resort to extirpation only when the physician tells him that all other means have been exhausted; and I would have the physician assume everywhere the rôle of an immunisator; and I would have him defer handing his patients over to a surgeon before he has tried in every case of localized bacterial infection which is unassociated with immediate risk to life the therapeutic inoculation of the appropriate bacterial vaccine.

With this mass of evidence before us we must admit that tuberculin therapy is in accord with the modern theories of immunity; that theoretically tuberculin is capable of increasing the natural defenses of the organism when given in the proper doses at proper intervals, and that clinical experience in its administration warrants a more general use of it in combating tubercular infection.

CONSERVATIVE SURGERY OF ARMS AND LEGS.

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The simplest way to treat a badly injured limb is by amputation, but the simple and direct method if it involves too much sacrifice may not always be best for the patient. In certain cases amputation is slightly safer, as the attempt to save the limb may be attended with some danger to the patient, while amputation shortens treatment and conservative treatment is tedious and may extend over many months. What patient will not willingly accept a small chance of risk to life rather than the certainty of loss of limb? In times of such great national calamity as war when available hospital space is overcrowded, when proper nursing and dressing are at a premium, many limbs must, of necessity, be sacrificed. At such times both more radical and more conservative surgery must often be practiced than would be deemed desirable in times of peace.

Great stress has recently been laid by Reclus and other French surgeons on the value of systematic conservatism in the treatment of injuries of the extremities, some of them going so far as to lay down the rule that no primary amputation should be done. They believe that bleeding points should be ligated, the injured parts irrigated, dressings applied, the general condition of the patient looked after and amputation, if needed, done later when the patient has recovered from primary shock and has accumulated strength with which to combat the dangers of anesthetic and operation. Whenever the circulation of a part distal to the injury is at all fair, there is surely considerable reason for believing that the limb can be saved. The brilliant work of Carrell and Guthrie in the anastomosing of blood vessels gives promise of something better in the future than has been known in the past for limbs whose main vessels have been divided. The restoration of continuity of tendon and nerve has given most signal functional results in many cases. Extensive laceration of the soft tissues combined with comminuted or other serious fractures constitute a most serious condition and one that will tax the care, the ingenuity and the skill of the surgeon in his attempt to restore anything like a normal condition. The young and healthy individuals will have chances for a restoration of the circulation by the collateral vessels far in excess of the older patient whose circulatory capabilities are on the retrograde. Both the radial and ulnar arteries of the forearm may be severed and yet the circulation be sufficient to save the limb; the femoral artery has been severed and yet the collateral vessels maintained the life of the member. In all accident cases I try to give the patient the benefit of the doubt and make an earnest effort to save the limb, though it not infrequently happens that I have to resort to amputation later. By carefully watching the patient and by the exercise of surgical judgment but little risk to life is assumed by the waiting. Prior to 1877 amputation after compound fracture was the universal rule. Volkmann was the first to secure satisfactory results by other means.

The application of a tourniquet often seriously impairs the vitality of the part, especially so if the constrictor remains in position for any considerable length of time. It is an easy matter to pick up and ligate most bleeding points. A compress held in place by a bandage will control most cases of bleeding. When possible to avoid it the tourniquet should not be used, as the deprivation of blood supply to the distal part entailed by its use exercises a most malign influence on the tissues. The skin may be almost entirely stripped from a limb and yet the chances for restoration be excellent because the blood vessels are uninjured. No matter how large the defect, the covering can be restored by skin grafting. It is always best to delay operation until preparations can be made to do the work by a carefully planned and perfected technic. Two or three days' waiting can hardly do harm provided the limb is properly looked after. Many advantages may be obtained by this delay. The patient has ample time to recover from the primary shock and we can tell almost to a certainty whether or not amputation is required.

Do not probe or disturb the interior of the wound before applying first-aid dressing. If this does not control the bleeding, apply tourniquet and blanket splint and get the patient to the operating room. The ordinary methods of cleansing pursued are prone to carry much new infective material into the wound. Scrub from, not toward, the wound, be careful not to allow soap, water or other solutions to run into the wound while the limb is being cleansed. Turpentine, gasolin, benzin or soap and water followed by alcohol or ether are all effective and their varying use is only a matter of choice. Lastly I apply to the limb 0.5 per cent. iodin solution. I irrigate the wound thoroughly with hot normal salt solution.

If the circulation is good and the condition of the patient warrants it, the fractured ends of the bones are united by suture, 30-day chromicized catgut of large size, No. 3 being preferred. If wire is used, it should be removed after it has served its purpose, for the reason that any foreign body left in the tissues, of necessity, acts as an irritant. Bronze wire is the best, having great tensile strength; iron wire is fair, but silver wire is too brittle to be of service. Severed tendons are sutured, drainage provided for and splints applied. On the other hand, if the vitality of the part is at all endangered there should be just as little interference as possible; useless manipulation may cause much injury to the soft tissues by the cutting done by the sharp fractured ends of the bone. Drainage should be provided, the wound irrigated and the bones held in place by traction or splints or both. Tendons, nerves and bones are better sutured some time later after the circulation of the part has been restored in a measure.

When the fracture is comminuted or oblique, simple wrapping is probably one of the most effective methods of holding the fragments in proper position. Plating is an excellent method of treating some varieties of fracture. All detached bone fragments should be removed, as they will otherwise act as foreign bodies and promote suppuration. Whenever possible the periosteum should be preserved so that regeneration of bone may take place. The wound should be carefully searched for bits of foreign material, and one should see that no soft tissues are interposed between the ends of the bones. When there has been much dirt contamination it is well to give an immunizing dose of tetanus antitoxin as a safeguard.

The after-care of these cases is a great tax on the technical skill and ingenuity of the surgeon. Splints and other appliances for immobilization are too numerous to mention or discuss, a sad commentary on their unsatisfactoriness. The problem of immobilization requires much ingenuity, since no treatise, however complete, can give directions that will cover every contingency that may arise. The varied requirements are practically innumerable. Prevention of motion with fair approximation and apposition of the bone ends must be secured if possible. Frequent changing of the splint in compound fractures has its serious disadvantages and should be overcome if possible. Where there is much mobility an excessive amount of callus will form and may include and press on some important nerve trunk. A fenestrated plaster dressing suits many of these cases and it can be protected from the wound discharges by some of the numerous methods in vogue. A few of these cases, those that are strictly clean and can be kept so, are better off without drainage. Most are infected either by the accident or the treatment, as the opportunities are many and the susceptibility great. Men doing referred practice sometimes blame the physician who gave the first aid for the infection. The wound is often infected before the case is seen by a physician, the conditions often being such that infection is unavoidable, being carried in at the time of the accident from the skin or clothing or from the traumatic agent.

Most of these cases need drainage, and gauze strips are usually effective except for hemostatic purposes. Rubber tubing (split or fenestrated) is not only satisfactory as drainage, but is a great convenience when we wish to irrigate the wound. These drains should be placed, whenever possible, so as to get the assistance of gravity. Infected wounds should have ample provision for drainage and irrigation. When there has been extensive laceration of the skin and muscles it is best not to attempt to close the wound completely. There is great liability to suppuration because of the lowered resistance of the traumatized tissues and by reason of the excellent culture media furnished by the extravasated blood and serum and the frequency of initial infection.

I have discontinued the use of peroxid of hydrogen and have never used a bichlorid of mercury solution in the irrigation of wounds. I am satisfied that both promote rather than decrease wound secretion. Warm normal salt solution is a good mechanical cleanser and is non-irritating to the tissues. A weak solution of iodin is possessed of a maximum bactericidal power combined with a minimum toxic and irritant effect. It not only has a destructive effect on pus germs, but to a great extent will seal the ends of the lymphatic and blood vessels against the absorption of septic material.

The fractured ends of the bone may give trouble by necrosis, in which case the necrosed bone may be removed from time to time without much difficulty. In gangrene without infection amputate at the point of fracture and regulate those of the stump later. In gangrene with infection removal of tissue must be radical and extensive. The after care of many in these cases is tedious and prolonged. Necrosed bone will have to be removed from time to time. There will often be chronic suppuration and the patience of both operator and patient will be severely tried. In cases in which trauma has been severe sloughing will usually be extensive and infection almost certain. Antiseptic solutions should not be used on bone, as they are very destructive to the periosteum.

There are certain disadvantages that may accompany the retention of crippled limbs, such as contractions of tendons and fascia, ankyloses of joints, chronic edema from inclusion of blood vessels in callus or scar-tissue, and disturbances of innervation from pressure on nerve trunks, and the treatment is lengthy and expensive. On the other hand, the expense of an artificial limb is saved, contractions and joint stiffness may be largely prevented and overcome by passive motion. Complete ankylosis has been relieved and the joint made mobile by the plastic interposition of fascia between the bone ends, brilliant results have been achieved in nerve surgery even after the lapse of many years from the time of the accident, and tendons are transplanted or anastomosed with ease. True, amputation gives in most cases far quicker results, but who does not prefer the arm or leg God gave to some clumsy device contrived by man?

Trauma of joints is often followed by infection. Open treatment by irrigation and packing with iodoform gives good functional results, though ankylosis is apt to result. There is an increasing tendency on the part of men who have successful technic to resort more and more to the open treatment of joint injuries and fractures. Bier's method for the production of artificial hyperemia has saved many joints from resection.

With a view to the illustration of the deductions I have made from a study of the subject I have selected the following from a large number of that class of cases; all were notably bad and looked to be fit subjects for amputation:

Case 1.—D. M., male, aged 22, was referred to me by Dr. C. N. Watts, Dothan, W. Va.

History.—The man had been shot in the left leg at about the junction of the upper and middle thirds by a Winchester rifle; the ball struck the tibia squarely and produced a badly comminuted fracture. An occlusive dressing with splints was applied and the man kept in his shanty in a railroad camp with the hope that healing would take place. After six weeks of this, suppuration not only of the wound but of the entire leg below the knee had become so general that amputation was considered to be the only means of saving the man's life. At the time the patient came to the hospital he had severe chills, fever and sweats, but I decided to make an attempt to save the leg.

Operation.—Under general ether anesthesia the wound was opened, cleansed and several fragments of dead bone removed; four long pus cavities were opened freely, irrigated and drained. These cavities lay in general in the direction of the muscle planes and were connected by sinuses with the original wound. One of them extended some distance above the knee joint into the thigh. Neither the ankle nor knee joints were involved. Under frequent dressings and irrigations some improvement of the leg was manifested, but during the next three months the patient had to be twice anesthetized and new sinuses opened.

Result.—At the end of the tenth week after admission to the hospital, the sixteenth week after the receipt of the injury, there was bony union and the patient was put on crutches. In a month he was walking in a limping manner, but the original bullet wound had not yet closed. The leg was painful when much used. Two subsequent operations had to be done for the removal of carious bone. These cavities finally filled and at the end of the tenth month of hospital residence he left, well, with a straight, sound leg, capable of earning his own living and not likely to become a public charge.

Case 2.—D. A. P., male, was referred by Dr. J. R. Pharr, Dunloop, W. Va.

History.—This man had received the full load of a shotgun at short range in the region of the great trochanter on the left side, a large part of the load entering below that point, producing a comminuted fracture of the femur. The shaft of the femur was split by an oblique fracture eight inches long. The outer portion of the trochanter was shattered and the neck of the femur split in half, the separation extending inward as far as the head of the bone. The injuries to the soft structures were most extensive, the flesh being badly lacerated and torn. Shotgun wadding, bits of clothing and fragments of bone were most plentiful in this wound.

Operation.—My first thought was to do a hip-joint amputation, but I decided to try more conservative treatment. Considerable time was spent in suturing the bones into some semblance of their former shape. The wound was put in as good condition as possible, iodoform gauze was plentifully packed into the gaping cavity and a long well-padded side splint applied. Great care was taken to prevent wound suppuration. Union was good, the injury to the muscles filled by granulation, and the patient left the hospital at the end of the ninth week, well.

Case 3.—F. B., male, aged 21, a saw mill employé.

History.—Patient fell so that his left arm came in contact with a rapidly revolving circular saw. Two and one-half inches below the elbow the forearm was more than two-thirds sawn in two. The radius was cut entirely in two and the articular end of the ulna was torn completely out of the elbow joint and projected backward past the angle of the elbow for at least two inches. He was brought to the hospital about three hours after being injured and was operated on soon afterward.

Operation.—The wound was irrigated with saline solution, the fractured ends of the radius were wired, and the elbow luxation was reduced. The wound was closed with the exception of a small drainage opening and the arm immobilized in a right angled splint. Healing was primary and passive motion was begun at the end of the second week. Results were perfect and the man now has a normal arm with no elbow ankylosis whatever.

Case 4.—G. H. W., Olcott, W. Va., was referred to me by Dr. W. W. Tompkins, Charleston, W Va.

History.—This man had been severely struck on the left elbow in an accident. The arm was terribly swollen, crepitation in region of the elbow joint could be made out and not much else.

Operation.—I made an incision lateral to the joint and found that the component bony parts of the joint had been crushed. I resected the broken end of the ulna, also the articular head of the humerus, which was fractured entirely across its diameter. Through and through drainage was maintained for a time. A useful arm capable of a considerable range of motion was the result.

Case 5.—H. B. was referred to me by Dr. S. M. Stone, Hugheston, W. Va.

History.—The patient had a Pott's fracture of the right leg, also a compound fracture of both tibia and fibula about the junction of the upper and middle thirds. The injuries to the soft tissues were extensive, there being large lacerations and ecchymoses.

Treatment.—The wound was drained and the bones held in position by splints. A large area of the skin sloughed. Edema of the ankle and foot was severe and persistent, and associated with the formation of blebs. The bones finally united, the uncovered areas were repaired by skin grafting, and six months later the patient possessed a fairly useful limb.

Case 6.—C. H., white, adult male, victim of a mine accident, referred by Dr. J. F. Bowles, Ward, W. Va., had a compound fracture of both bones of the leg midway between knee and ankle, with extensive lacerations of skin and muscles; the lower end of the tibia was projecting from the wound.

Treatment.—The wound of four or five hours' standing was irrigated and the displaced bones reduced. Splints were applied. Despite the use of splints and extension it was impossible to keep the bone ends in apposition. A week later the bones were united by suture and rubber tube drainage through the leg was established. There was considerable sloughing of the soft structures and an area of four inches of the anterior surface of the tibia was exposed. The bone surfaces were rapidly covered by granulations until only an inch of the lower fragment was bare. There was considerable infection. The temperature for the first ten days often reached 103 F. in the afternoon, later it seldom rose above 100.5 F., and by the end of six weeks it had reached normal. At the beginning of the thirteenth week the patient had a severe chill and his temperature suddenly rose to 104 F. Two days later a beginning abscess was discovered in the calf of the leg and opened. Union was then excellent and the patient was able to bear considerable weight on the leg when walking. Thirteen weeks after the original injury a piece of necrosed bone 3 inches long by 1¼ inches wide at the upper end and ½ inch wide at the lower end was removed from the lower fragment of the tibia. The wound is nearly healed and except for a little stiffness in the ankle joint the prospects are good for complete recovery.

CONCLUSIONS.

1. The conservative treatment of severe injuries to the arms and legs is essentially modern, and we should not do primary amputations (except in case of a limb held by only a few shreds), but wait for shock to pass and for the patient to regain strength.
2. We should avoid the use of antiseptic solutions for irrigation and use instead normal salt solution.
3. Bones should not be permanently sutured and we must not be in too great a hurry nor attempt too much in the beginning.
4. Moist gangrene calls for radical treatment.
5. Drainage is usually necessary and the rubber tube is to be preferred.
6. Good functional results may be obtained against great apparent odds, and a saved limb is preferable to an amputation stump.

Therapeutic Power of Mental Effort.—Dr. F. T. Seybert, Council Bluffs, Iowa, states that the therapeutic power of mental remedies is best illustrated in the treatment of functional nervous disorders, especially when associated with mental symptoms. A natural susceptibility, which is one of the strongest factors in the etiology of these disturbances, becomes, when judiciously managed, a means by which curative action can be aroused—so sure is Nature in compensations. In neurasthenia, above all other diseases, there is no prescribed routine of treatment; its diverse causes and varied nature would prohibit this. All remedies which have any bearing and all influences are sometimes needed, and he who has the clearest insight and the most ingenuity in devising ways and means will be the most successful. A change of occupation is often beneficial, and in all cases of long duration employment of the mind is essential.—*Iowa Med. Jour.*

BUTTERMILK FEEDING,

WITH REPORT OF CASES.*

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PHILADELPHIA.

The use of buttermilk as an infant food has not been tried to any great extent in America, although it has been used extensively in Europe, particularly for many years in Holland. It certainly has not received the attention it deserves as a suitable method of feeding infants with gastrointestinal disorders and infantile atrophy.

One reason for the hesitancy on the part of the profession in this country to take up buttermilk as a food for sick infants has been the uncleanness of much of the buttermilk on the market. Buttermilk from different dairies is such a variable substance that of necessity different results will be obtained from its use by different observers. This is also the reason why the analysis of buttermilk, made at different times, in different places, has varied greatly. No figures can be set down as the exact percentage formula of buttermilk in general, but from a practical point of view we may consider the quantity of fat in buttermilk to vary from 0.25 per cent. to 1.5 per cent., rarely more; in the majority of cases from 0.5 per cent. to 1 per cent. The quantity of sugar is slightly lower than in sweet milk, due to bacterial action, and may be estimated at 3½ per cent. The quantity of proteid in buttermilk averages from 2 per cent. to 3 per cent., in most cases nearer the latter than the former figure.

The casein of sweet milk is in the form of calcium casein, but this is changed in buttermilk to casein lactate. The relative proportion of the principal proteids, casein and albumin, is not the same in buttermilk as in sweet milk. Buttermilk contains a higher proportion of albumin than sweet milk; again, this proportion varies in different buttermilks, depending on its method of manufacture. For instance, buttermilk made from cream has a higher percentage of soluble albumin than buttermilk made from milk, this latter having a higher percentage of casein.

If fresh buttermilk can not be obtained it may easily be made at the patient's home. The following is the method used at the Philadelphia Hospital: A quart of fresh milk is poured into a sterile pitcher and a sterile towel tied over the top of the pitcher to prevent the entrance of dust. This milk is allowed to stand for twenty-four hours in the room, at ordinary room temperature (65 to 70 F.), and at the end of that time all the cream is skimmed off. This sour milk is placed in a small glass churn of one quart capacity and churned for fifteen minutes; it is then removed from the churn and placed on ice until the nurse is ready to prepare the buttermilk mixture. I have examined buttermilk made in this way and found it to contain 1 per cent. of fat. Buttermilk should be used within twenty-four hours after being made.

Plain buttermilk was not given, but the babies I report were fed routinely on a mixture of wheat flour, cane sugar and buttermilk in the following proportions: Buttermilk, 1 quart; wheat flour, 3¾ teaspoonfuls; granulated sugar, 15 teaspoonfuls. A farina boiler, that is a double boiler, is the best receptacle in which to prepare the food. First, carefully mix the flour and sugar with a few spoonfuls of the buttermilk until a smooth paste results. All lumps should be completely smoothed out. The balance of the buttermilk is then added. This mixture is now heated to the boiling point (212 F.), but must not be boiled or it will curdle; it is also essential that the milk be constantly stirred during the entire process or it will curdle.

If a thermometer is not used, at the first sign of bubbling the milk is removed from the fire and rapidly cooled. It is best now to bottle the food, but in dispensary practice if the patients can not afford enough bottles for the entire day the buttermilk should be placed in a pitcher or jar which has been scalded and placed on ice. Before taking out the milk for each feeding the buttermilk mixture must be carefully stirred, as on standing it separates and the flour falls to the bottom of the vessel. It will be noticed that no water whatever is added to this mixture.

I report the cases of twelve infants; these are all I have fed up to date on buttermilk. I wish also to state that I have not selected cases which would be expected to do well, but with the exception of two cases of acute enteritis, which were put on buttermilk at their first visit, in every case regular milk mixtures were carefully tried but without success, before the infants were given buttermilk. Five of these cases were in the baby ward of the Philadelphia Hospital and seven in the dispensary of the Children's Hospital of Philadelphia.

First I will report the cases of five babies in the Infant Asylum:

CASE 1.—M. M. was admitted to the Philadelphia Hospital when 3 weeks old. For a few weeks the infant was breast fed, but as it lost in weight, it was put on a milk mixture alternating with the breast. The baby gained only eleven ounces in three and a half months. By this time the child had a well developed case of marasmus, the four months' old infant weighing only 8 pounds 11 ounces, and its evacuations showed undigested food. It was now put on the buttermilk mixture, and in three days the stools were normal and the infant had gained ten ounces; in ten days it gained 1½ pounds, or an average of 2½ ounces a day. In the three and a half weeks during which it took the buttermilk it gained 39 ounces, or 11 ounces a week.

Before taking the buttermilk this baby gained only 11 ounces in 3½ months, but after taking it gained that amount each week. This is an unusual result in a case of infantile atrophy confined in a hospital from 3 weeks of age to the age of 4 months:

CASE 2.—C. S. was admitted to the Philadelphia Hospital when 9 hours old. This new-born baby was fed on a regular milk mixture for four weeks, in which time it had lost 14 ounces and had developed a severe gastroenteritis, vomiting after each feeding and showing undigested food in the stools, together with a large quantity of mucus. When one month old it weighed 7 pounds 7 ounces, and was put on the buttermilk mixture 1 ounce and water 1 ounce. In three days, as vomiting ceased and the stools showed that the food was properly digested, the baby was put on 2 ounces of the buttermilk mixture undiluted. As it did not digest this, the stools containing curds, it was put back on one-half buttermilk and one-half water and again improved. In three weeks after taking the buttermilk the infant had gained 9 ounces, or 3 ounces a week, and the stools were much improved.

To recapitulate, a new-born baby, in an institution, artificially fed on a modified milk mixture, developed a gastroenteritis and lost rapidly in weight until given buttermilk, when improvement in digestion occurred and slight gain in weight. But for the mistake of putting this infant on buttermilk undiluted I believe the improvement would have been much more rapid.

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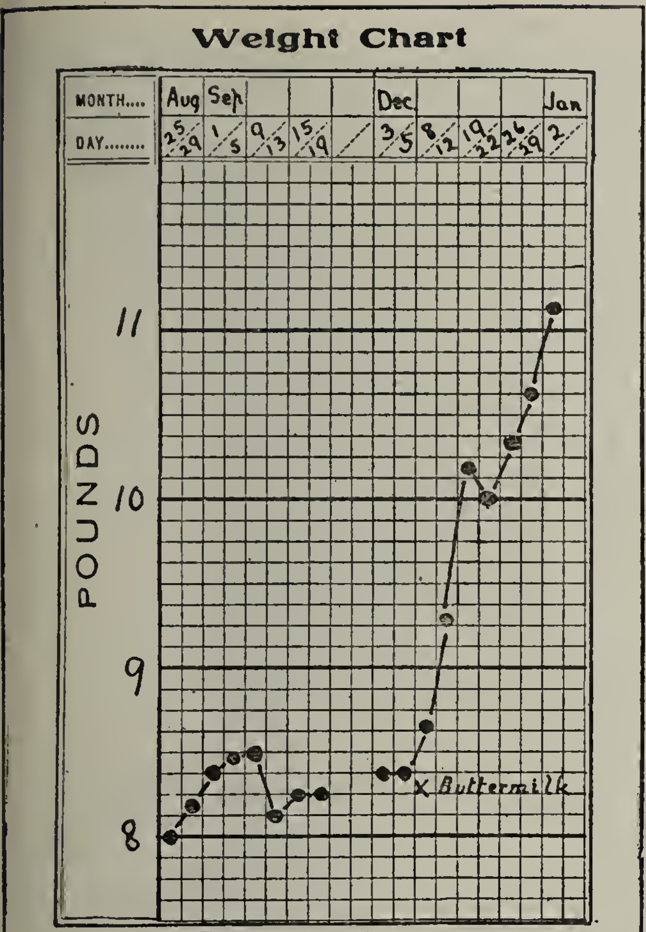
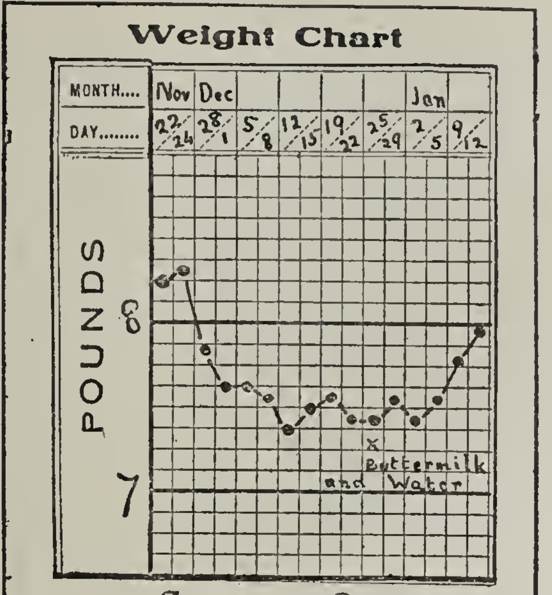
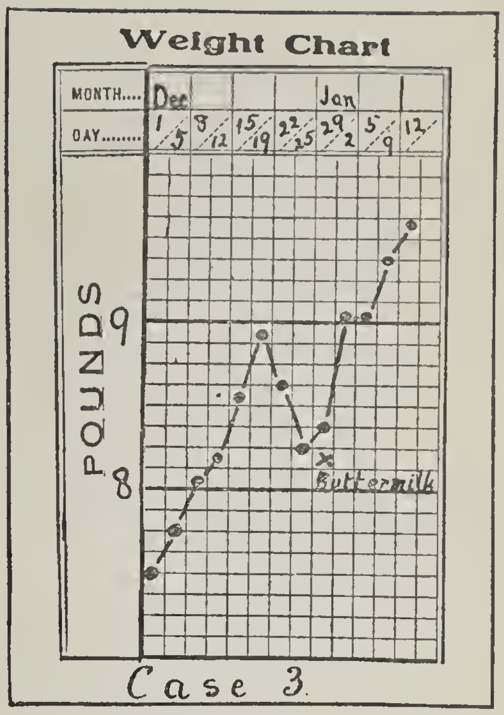
*Read at the meeting of the Philadelphia Pediatric Society, Feb. 9, 1907.



Case 1.



Case 2.



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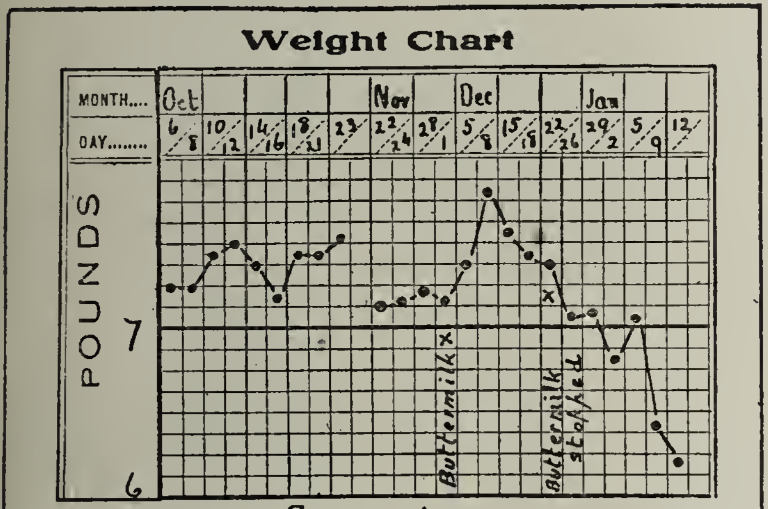

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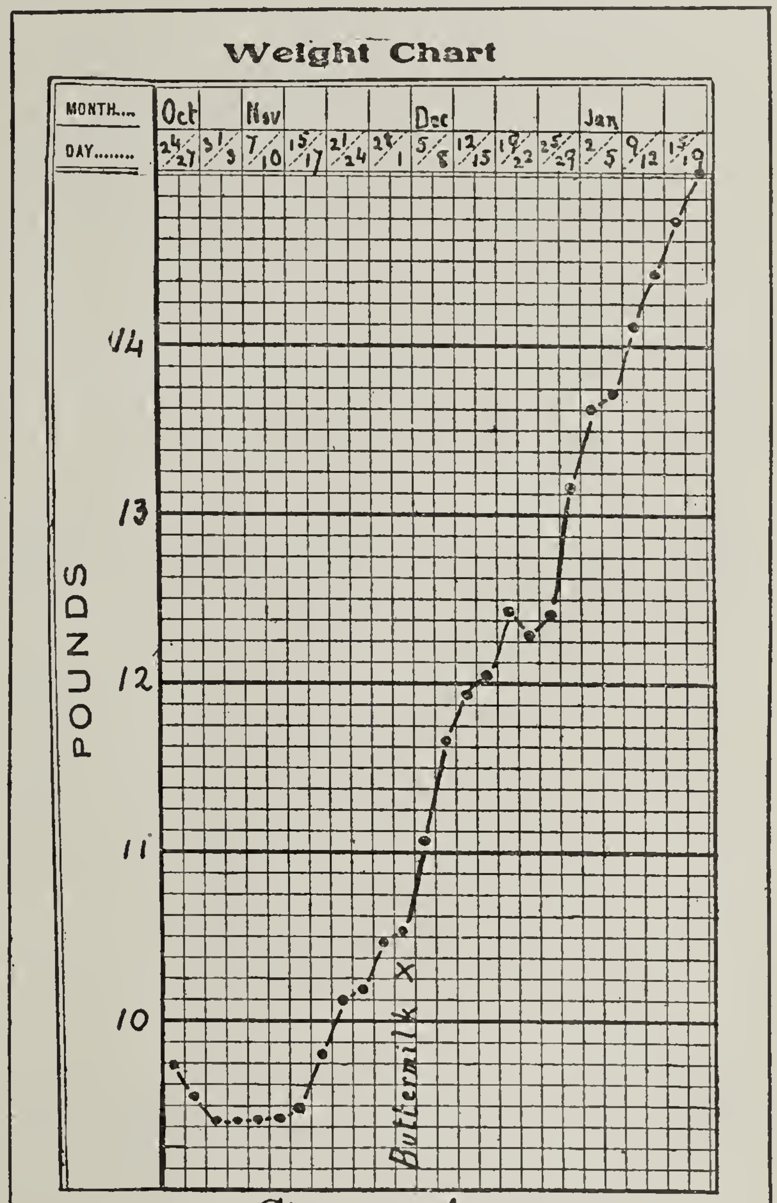
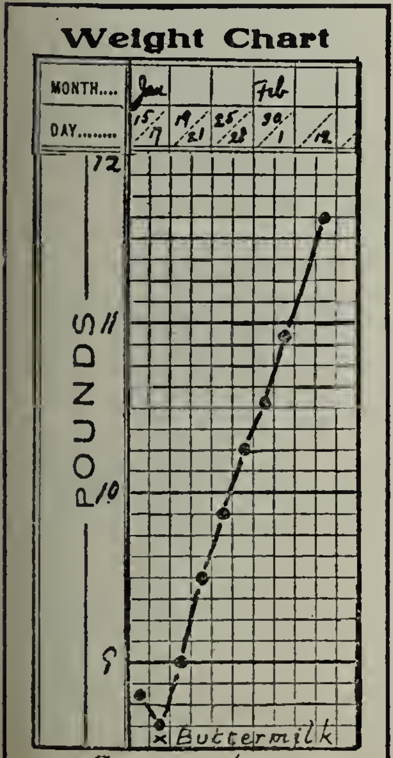
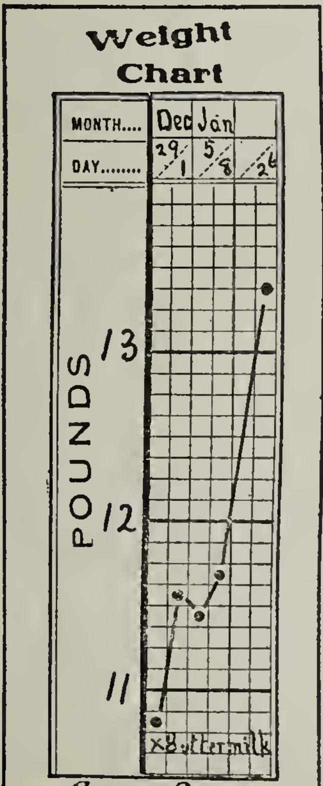


Case 5.



Case 6.



Case 8.

Case 3.—F. T., a foundling, with infantile atrophy, had been in the baby ward of the Philadelphia Hospital for three and one-half months when it came under my care. It was then 5 months old, weighed 7 pounds 8 ounces, and was taking 5 ounces of a 3-6-1 mixture.[1] Since it had been in the hospital it had lost 1 pound 3 ounces. At my first visit I changed its formula to a 3-6-1.25 mixture, 6 ounces every third hour. In the next two weeks the child gained 11 ounces, but at the end of this time it began vomiting after each feeding. The percentage of fat was cut down, and the child put on a 2-6-1.5

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[1] Throughout this paper when the percentages of different ingredients in a milk mixture are given, it must be understood that fat, sugar and proteid are arranged in the order here stated. For example: a 3-6-1 mixture refers to 3 per cent. of fat, 6 per cent. of sugar and 1 per cent. of proteid.

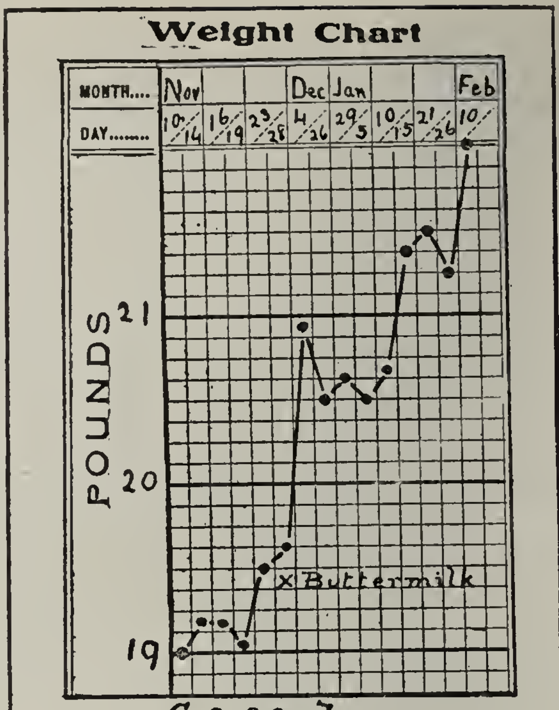
mixture, with the addition of sodium citrate (one grain to each ounce of milk and cream in the mixture). Ten days later the baby vomited less frequently and the formula was changed to a 2-6-1.75, with sodium citrate. Two days after this the baby vomited large curds after each feeding, and the stools became yellowish-green with curds. The baby had lost 6 ounces in the three days. The milk mixture was discontinued, and barley water was given for twenty-four hours, followed by whey for forty-eight hours, but as there was no improvement in three days, infant was put on the buttermilk mixture, 4 ounces every three hours. The next day there were no more curds and the stools were normal. He took the buttermilk well, and only vomited twice. The quantity was then increased to 5 ounces every three hours. Twelve days after buttermilk was started, vomiting had entirely stopped. The stools were normal, and baby had gained 18 ounces, or an average of 1½ ounces a day since taking the buttermilk.

It would certainly be hard to find a more severe test to apply to any food than the test buttermilk was subjected to in this case. In brief, a 7-weeks-old foundling remaining in an asylum 3½ months developed infantile atrophy with gastroenteritis. Was put on buttermilk and a rapid recovery followed.

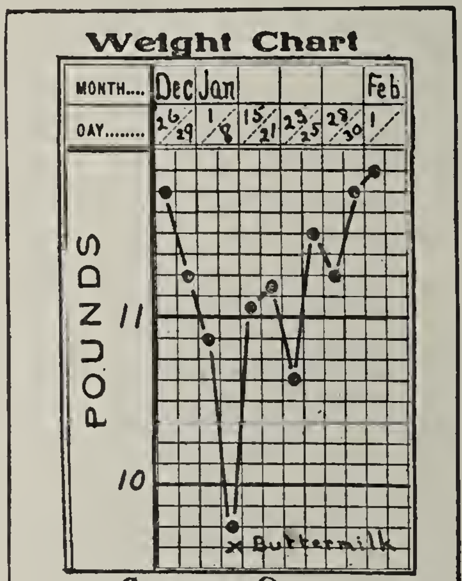
Case 4.—C. W. W., born in the maternity of the Philadelphia Hospital, and was breast fed until transferred to the baby ward at the age of 6 weeks, weighing 7 pounds 2 ounces. It was fed on barley water 1 ounce and whey 1 ounce, with one grain of sodium citrate, but the stools were green with curds and mucus and the baby losing slightly in weight. Put on buttermilk, 3 ounces every two hours, in three days the infant gained 3 ounces, the stools were dark brown, with a few small curds, having noticeably improved. By the end of the first week baby had gained 10 ounces and stools were yellow and well digested. But on the eighth day child began vomiting and continued vomiting after every feeding. The infant became very much worse, and stools became green with curds. Put on one-half buttermilk mixture and one-half water, but did not improve, losing rapidly in weight. Vomiting persisted in spite of daily lavage. Buttermilk was discontinued and patient put on plain whey plus sodium citrate, but it lost even more rapidly than while taking buttermilk.

This baby was a typical case of the atrophic type seen in foundling asylums, who almost always develop acute gastroenteritis and die. The child was born in the institution and weighed at birth 7 pounds 4 ounces. Two months later, before given buttermilk, he weighed an ounce less than at birth. Buttermilk was given for three weeks; the first week the baby gained 12 ounces and in the second and third weeks together he lost 8 ounces. After the child was taken off buttermilk it went rapidly down hill.

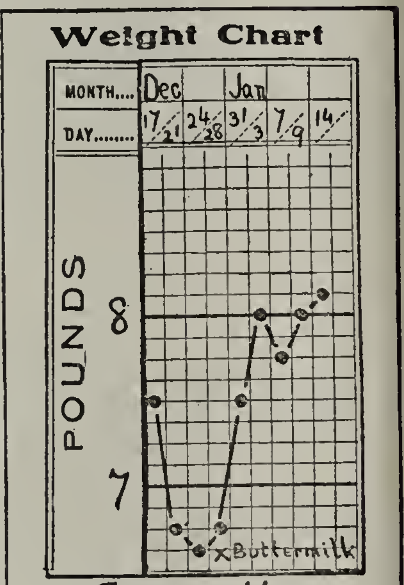
Case 5.—P. B. B., aged 3 months when admitted to the Philadelphia Hospital. Four weeks after admission the infant developed an acute enteritis. It had been taking a 3-6-1 mixture, but now refused its feedings; up to this time it had gained 2½ ounces a week since admission. It was now put on buttermilk, and in twenty-four hours the stools were greatly improved; although previously they had been full of curds, they were now well digested. The baby took the buttermilk well and retained all of each feeding. In one week, beside having normal stools, the baby gained 1 pound 2 ounces. At the end of the second week, 2 drams of 16 per cent. cream were added to each feeding (approximately 1 per cent. of fat). A few days after the cream was added the baby began to vomit and the stools showed undigested food, containing curds and mucus. The child also lost 2 ounces in weight. The cream was discontinued and the baby ceased vomiting and the stools improved. Again in three days the buttermilk was increased to 5 ounces and 1 dram of cream (16 per cent.) added. Four days after this the stools were perfectly normal, yellow, and showed good digestion. Taking and retaining its feedings the child gained over 3 pounds in four weeks, or an average of over 12 ounces a week.



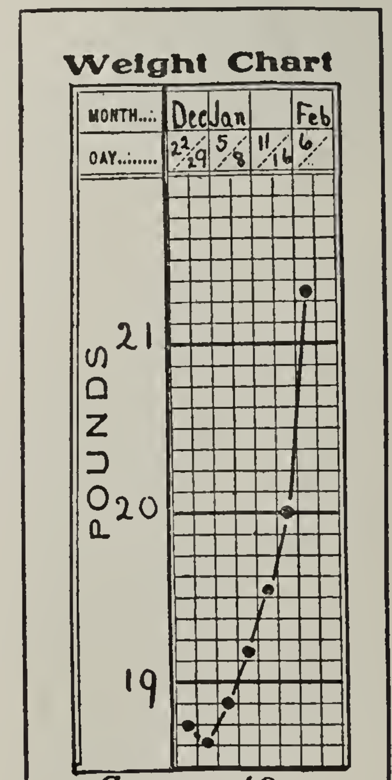
Case 7.



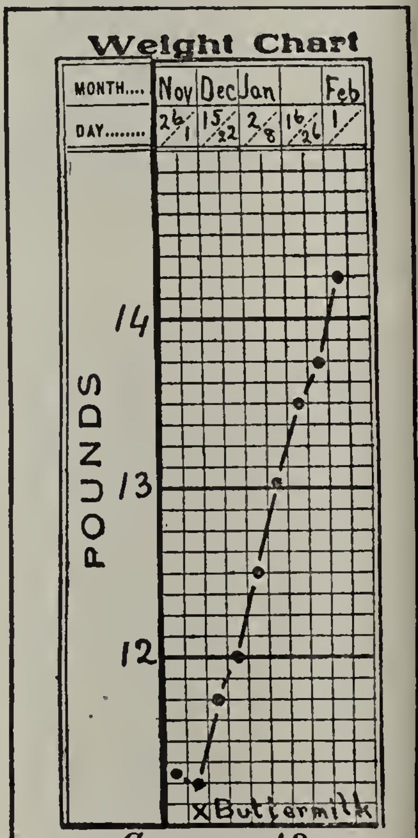
Case 9.



Case 11.



Case 10.



Case 12.

It should be remembered that this infant could not digest 1 per cent. of proteid in a regular milk mixture, but was able to digest the 2 per cent. to 3 per cent. of proteid in the buttermilk. I consider this an unusual result, especially when we remember this baby had been in an infant asylum for two months.

The reports of these five cases unfortunately cover only a short interval of time. My service expiring, I was unable to treat them for a longer time. The following are dispensary cases:

Case 6.—L. M., aged 7 months, was brought to the dispensary Jan. 14, 1907, weighing 8 pounds 13 ounces. This was a case of infantile atrophy. The child had been fed on the breast, alternating with the bottle (¾ milk, ¼ water). Baby had not thrived since birth, always had colic with constipation. Mother gave her infant magnesia daily to relieve the constipation. Baby vomited frequently, both breast and bottle milk; while the stools contained curds. The infant was put on a milk mixture, but in three days, as it continued to lose in weight, and the bowels had not improved, it was put on the buttermilk mixture, 4 ounces every two hours, and given the breast twice during the night. Two days later the infant had gained 6 ounces. The stools were still green and offensive, but contained no mucus or curds. Baby had not vomited, so the buttermilk was increased to 5 ounces every two and one-half hours. Two weeks after taking buttermilk the child was perfectly well. Its stools were normal, and it was taking 7 ounces of the buttermilk every three hours. It had gained 36 ounces in the two weeks, or over 2½ ounces a day.

To repeat: An infant, 7 months old, weighing 8 pounds 13 ounces, suffering from infantile atrophy and with a chronic gastroenteritis, was put on buttermilk. The stools rapidly became normal, the child gaining 2½ ounces a day. This infant retained and digested buttermilk, but it could not digest or retain its mother's milk or a regular milk mixture.

Case 7.—C. J., aged 15 months, was brought to the dispensary Nov. 7, 1906, suffering from chronic intestinal indigestion. This infant had been on condensed milk in the proportion of 3½ drams to a teacupful of water. About four weeks before coming to the dispensary the baby had two weak spells, probably convulsions. From that time on she was feverish at night, and the bowels continued loose, with curds in the stools. To be brief, the infant was brought regularly to the dispensary for three weeks before I put it on buttermilk, and during this time I was unable to feed it successfully. This 15 months' old infant could not even digest 1.75 per cent. of proteid in a skimmed milk mixture. I have never seen a child pass such large tough tenacious curds as this infant did. The stools were also green, contained mucus, and were very offensive. In twenty-four hours after taking the buttermilk mixture the character of the stools was entirely changed. They showed good digestion and were absolutely free from curds. The infant's colic, which before taking buttermilk had been very severe, ceased. In six days the baby gained 21 ounces, or 3½ ounces a day, and the stools were normal. Then the mother neglected to bring the child for three weeks, and as it lost 7 ounces in weight, one dram of 16 per cent. cream was added to each feeding of 8 ounces of the buttermilk mixture (approximately ¼ per cent. of fat). Even this small quantity of cream had to be discontinued in two days, as the bowels became loose and the stools watery. The child tired of buttermilk in three weeks and would take only two or three ounces at a feeding, so broth and white of egg were added to its diet, and a few days later, scraped meat and orange juice. The baby's bowel movements continued to show good digestion, but averaged four or five a day and still contained some mucus.

For months this child had eaten dirt and had been discovered eating coal dirt and ashes out of the coal-scuttle. It could not be expected that this child, now 1½ years old, would continue gaining on simply buttermilk, but as a temporary food in this case its effect was most striking, the improvement, as soon as it was put on buttermilk, was really wonderful.

Case 8.—J. C., aged 5 months, was brought to the dispensary Dec. 26, 1906, with acute intestinal indigestion and rachitis. The infant had been fed since birth on condensed milk (½ teaspoonful of condensed milk in 4 ounces of water). Its mother said the baby had never been sick until four days previously, when diarrhea set in, with much tenesmus. The stools were green, offensive, and contained a good deal of mucus. The baby was put at once on the buttermilk mixture, 4 ounces every two and one-half hours, and in twenty-four hours was much better, the diarrhea was less, and the stools were becoming normal. In three days the child gained 12 ounces, and the stools were normal, although four a day. The infant was not brought to the dispensary for eighteen days, and in that time it gained 27 ounces. The baby's general condition was excellent, two normal evacuations daily, and no vomiting. It was put on 5 ounces of buttermilk and 1 dram of 16 per cent. cream, every three hours. After taking the buttermilk this baby gained 41 ounces in five weeks, or 8 ounces a week.

This infant, having acquired rickets from being fed on condensed milk for five months, developed an acute enteritis, but without putting the child on barley water for 24 hours, as I generally do in similar cases, I placed this baby directly on the buttermilk mixture, and it began immediately to improve. This case illustrates the value of buttermilk in acute intestinal disorders in infancy.

Case 9.—E. A., aged 5 months, was brought to the dispensary Dec. 26, 1906, weighing 11¾ pounds. This was an atrophic infant with a moderate degree of rachitis. The patient had been breast fed until 3 months old, when it was put on condensed milk, which failed to nourish it, and then on a modified milk, approximately a 4-7-1.25 mixture. For five days before coming to the dispensary the infant had been vomiting after each feeding. Bowels moved three or four times a day, and there were always curds in the stools; there was much colic and flatulence. After taking barley water for twenty-four hours the child was put on a 3-6-1 mixture, alternating with the breast. One week later, as the mother had plenty of breast milk, the infant was put on breast milk exclusively. In one week on breast milk it lost 1 pound 2 ounces. In the two weeks it had been coming to the dispensary it had lost 2 pounds. It was now put on the buttermilk mixture, alternating with the breast. At first it gained rapidly, but colic continued and in a week it lost some that it had gained. The breast was then discontinued entirely, except during the night, and the child gained once more. A week later, it again lost in weight and developed all the symptoms of hereditary syphilis. It was placed on an anti-syphilitic treatment and then gained in weight. In the three weeks this atrophic, rachitic, syphilitic infant gained 2 pounds, or 10 ounces a wek.

This baby could not digest a 3-6-1 mixture, or its mother's milk, and lost rapidly while taking them. It improved when buttermilk was given alternating with the breast, but it improved still more when fed on buttermilk exclusively.

Case 10.—J. M., aged 14 months, was brought to the dispensary Dec. 11, 1906, with an entero-colitis. The infant had been passing blood in its stools for three weeks and having bowel movements seven to eight times daily. The stools were green, and besides blood, contained mucus and curds. The child had been fed on condensed milk 1½ ounces to 6 ounces of water. This infant was put immediately on the buttermilk mixture, 6 ounces every three hours, without the usual twenty-four hours on barley water. In forty-eight hours the stools were still green, but contained no curds nor blood. The infant at this visit weighed 18¾ pounds. Three days later the child developed an acute bronchitis and its bowels moved four or five times a day, the stools containing mucus. At the end of the first week the infant had lost one ounce. It was then ordered 8 ounces of buttermilk and 2 drams of 16 per cent. cream. At the end of the second week the baby had gained 8 ounces, but stools contained some curds and were green and offensive. At the end of the third week the patient had gained 13 ounces more and its stools showed good digestion. Six weeks after taking the buttermilk mixture the stools were perfectly normal and the infant's weight was 21 pounds 5 ounces, or a gain of 42 ounces, 7 ounces a week.

Remember this child had had for 3 weeks an intense enterocolitis which was increasing in severity, and at the first visit it was placed immediately on buttermilk. I did this in order to put the buttermilk to a very severe test, and in 24 hours there was a marked improvement in the character of the stools.

Case 11.—C. C., a 3 months' old baby, was brought to the dispensary Dec. 17, 1906, with infantile atrophy. It was breast fed until 6 weeks old, after which time it was fed on a predigested milk mixture, approximately a 1.5-6-1 mixture. The baby since being fed on this mixture had always been constipated, until three days before coming to the dispensary, when its bowels became loose, the stools showing undigested food and there was much flatulence and colic. The child weighed when first seen, 8½ pounds, but the mother said it used to weigh 9½ pounds. The infant was given a dose of oil and put on albumin water for twenty-four hours, and then on a 3-6-0.75 mixture. In one week the patient lost 14 ounces, and the stools were loose, green, contained curds, and were offensive. Baby vomited after each feeding. It was then put on buttermilk and in three days it gained 12 ounces. The baby's general condition improved greatly and its bowel movements showed good digestion, but it still vomited a little. In one week the child gained 1 pound 4 ounces. Four days later baby had lost 4 ounces because the mother had been unable on two days to obtain buttermilk, so she put the baby on the milk mixture she had given it before coming to the dispensary. The infant was only brought a couple of times after this; it was gaining slowly, but as the mother said she was unable to obtain buttermilk every day, she returned to her home in the central part of Pennsylvania, where she could get plenty of fresh buttermilk.

I do not consider it fair to attribute the slow gain during the last two weeks this case was under treatment to buttermilk, as it was not given every day. Nevertheless, the average gain in weight for the three weeks while coming to the dispensary was 8 ounces a week.

This baby could not digest .75 per cent. of calcium casein, the proteid as it occurred in the milk mixture that the child was taking before it was put on buttermilk, but at once it fully digested the 2 per cent. to 3 per cent. of casein lactate in the buttermilk mixture.

Case 12.—M. K., a 3 months' old rachitic infant, who had been fed since birth on too strong a milk mixture, and in consequence had indigestion. It was put on a weaker mixture, but indigestion continued and the infant failed to gain in weight, losing 1 ounce. It was now put on the buttermilk mixture and the stools changed immediately, becoming smooth, yellow and well digested. The child gained 8 ounces the first week on buttermilk, and continued gaining for two months. Up to the date of writing it had gained 3 pounds, or in other words 6 ounces a week, it's weight then being 14¼ pounds.

This case is an example of an infant developing rickets and losing weight on too strong milk mixture, with fat and proteid indigestion. Improving immediately on buttermilk, gaining constantly and rapidly.

In order to give this mixture of buttermilk, cane sugar and wheat flour a fair trial, I purposely did not modify it, but used the whole buttermilk in every case, with two exceptions. There were two cases in which I diluted the buttermilk one-half with water. These were the only patients that did not perfectly digest the proteid of the buttermilk. Both were asylum infants; one was the 1-month-old baby, and the other the case of marasmus that was not successfully fed on buttermilk or on anything else.

The one way I did modify it, which is essential if the child is to be kept on buttermilk for any length of time, was by the addition of fat in the form of cream. The cream was added just as soon as it was thought the infant needed fat in its diet and could digest it. At first one-quarter of 1 per cent. of fat was added, and if this was taken well the amount of fat was increased one-half of 1 per cent. at a time as rapidly as possible. For instance, if the child was taking 4 ounces of buttermilk, 2 drams of 16 per cent. cream was added to each feeding.

SUMMARY.

The twelve infants reported varied in age from 1 month to 15 months old. The average gain in weight of the five babies treated in the Philadelphia Hospital was 7½ ounces a week. The average gain in weight of the seven babies treated at the dispensary was 8¾ ounces a week.

The average gain in weight of the entire twelve infants fed on buttermilk was 8 ounces a week.

This gain in weight is particularly of interest for the reason that every one of these twelve cases were seriously ill at the time they were put on buttermilk. I would call special attention to the five babies in an infant asylum, whose average gain was 7½ ounces a week.

CONCLUSIONS.

One advantage of buttermilk in dispensary practice is its inexpensiveness, costing in Philadelphia only 5 cents a quart.

I believe fresh buttermilk a most excellent temporary food for infants suffering from intestinal indigestion, enteritis and marasmus.

I have observed no unpleasant effects from the administration of fresh buttermilk; infants almost invariably take it well.

A few of these infants, when first put on buttermilk, vomited slightly; but in every case this ceased in a day or two, with one exception (Case 4).

Finally, the point I wish to emphasize from my brief experience is, whatever success has attended the use of buttermilk, is not so much due to the absence of fat as to the great ease with which the proteid of buttermilk is digested. I have had the opportunity to observe this in almost every one of my cases. Several who were unable to digest 0.75 per cent. of calcium casein digested perfectly the 2 per cent. to 3 per cent. of casein lactate in the buttermilk.

1805 Spruce Street.

THE PROBLEMS OF CAR SANITATION.*

THOMAS R. CROWDER, M.D.
CHICAGO.

The railway had long ago reached such a stage of activity in America that its sanitary problems became of importance. It was not until very recent years, however, that these problems were adequately or at all generally discussed. The rapid development of the means of travel gave us a new set of sanitary questions. These have been in part answered in the papers by Bracken,[1] Hurty,[2] Conn,[3] Dudley,[4] Trask,[5] Rosenau[6] and others.

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* Read at the annual meeting of the American Public Health Association, Mexico City, December, 1906.

1. (a) Sanitation and Its Bearing on Certain Railway Problems, The Railway Surgeon, September, 1903. (b) Infection in Transportation, Am. Med., Aug. 12, 1905. (c) A Few Points Relating to Car Sanitation, Rep. of Am. Pub. Health Assn., 1905, xxxi.

2. (a) Passenger Coach Sanitation, The Railway Surgeon, Oct. 16, 1900. (b) Railway Sanitation, Ohio San. Bull., 1906. (c) Internat. Jour. Surg., May, 1902, p. 155.

3. (a) Report of Com. on Car Sanitation, Reports of Am. Pub. Health Assn., 1903, xxix. (b) Internat. Jour. of Surg., May, 1902, p. 152.

4. (a) The Dissemination of Tuberculosis as Affected by Railway Travel, Med. News, Dec. 16, 1905. (b) Passenger Car Ventilation System, Altoona, 1904 (Pa. R. R. Co.)

5. The Dangers of Unrestricted Traveling of Consumptives, Jour. of Assn., of Mil. Surg., 1905.

6. Internat. Jour. of Surg., May, 1902, p. 157.

That the problems presented have not yet been solved in all their relations, however, is amply proven by the great diversity of opinion still held by sanitary experts. Further investigation is needed. It is desirable to know many facts difficult of determination. But in the working out of new sanitary problems frequent orientation is necessary in order to keep them in their right relations, to apply the general principles of sanitary science, and to prevent confusion of the major and minor questions at issue. I wish to make a brief inquiry into the dangers which railway travel may hold out to the public health and to measure the influence of car hygiene in averting these dangers.

This inquiry may be directed under three general headings: First, the danger arising from the mechanical accidents; second, the danger of contracting infectious diseases; third, the danger incident to a group of miscellaneous influences, such as the rapid and variable motion, faulty ventilation, heating and lighting of cars, and the breathing of dust, smoke and engine gases.

DANGER FROM MECHANICAL ACCIDENTS.

First.—Though the first of these items—the danger from mechanical accidents—is, in its ultimate analysis, the most important, and in the broadest sense a sanitary problem, we may, for the present purpose, leave it out of consideration. In the nature of things the professional sanitarian has little to do with the measures taken to prevent such accidents. They are the special concern of the railway management, and require neither the knowledge nor the training of the physician to properly interpret and understand. The economic consideration which they involve may be trusted almost alone to work out their remedy.

DANGER FROM INFECTIOUS DISEASE.

Second.—The liability of a passenger to acquire an infectious disease during his period of travel, while a more intangible danger, is one, the protection from which is the sanitarian's special interest; and its correct interpretation requires all his technical training and his knowledge of technical facts. It covers most of the important problems of our sanitation, strictly interpreted.

We may profitably divide our consideration of this phase of the subject also into three parts: 1, The danger of infection through association, that is, by direct contagion; 2, the danger from the use in common of the facilities for comfort and convenience; 3, the danger from the infected car.

1. The association of any considerable number of persons in any confined space renders each one a possible victim of the contraction of a contagious disease. This holds true in the railway coach in the same degree that it holds true for other public places. It is increased by the railways only to the extent that they facilitate intermingling. That the average danger is in general slight and is not worthy of exerting any deterrent influence on social intercourse or travel seems to be a generally accepted opinion. It is nevertheless probable that such association is responsible for a very large proportion of the ordinary acute infections, and particularly of those affecting the air passages.

It is, of course, desirable that every effort should be made to limit as far as possible the association of the diseased with the healthy in public places. The only obvious way to accomplish this is to deny to the sick the right of mingling with the well. In case of smallpox, scarlet fever, measles, diphtheria and a few other manifestly contagious diseases we do this, depriving the affected individual of his liberty if necessary to insure his isolation. But a host of other infections, which may under certain circumstances become directly communicable, are allowed to associate at will. Consider, for instance, influenza, a disease usually prevailing in epidemic form, spreading with such remarkable rapidity as to leave no doubt of its extreme contagiousness. Produced by a bacillus known to have very little resistance to desiccation, sunlight and unfavorable temperatures,[7] to exist in large numbers in the sputum and nasal secretions of the infected, the disease is transmitted directly from man to man, and chiefly, it is supposed, by means of infected droplets expelled in coughing and sneezing. Those afflicted with influenza are very often still well enough to go about their business and their travels, and thus be spreaders of the infection. Again, it has long been recognized that mild and atypical cases of various contagious diseases are by no means rare. That scarlet fever may have no eruption, mild sore throat be really diphtheritic, that even smallpox may be mild and unrecognized, are facts which have been well established during the last decade. Indeed, we know that there is a vast number of people with unrecognized contagious disease who go about in apparent health spreading their infection. Furthermore, it is well known that virulent organisms may continue to be produced in the bodies of those infected for weeks or months after recovery from the disease, and that pathogenic organisms are frequently found even in those who have never been sick at all. How, then, is it possible to escape from the dangers incident to association? It is not possible to exclude the infected, but only the sick, and whoever is able to go about with the appearance of health will continue to be our fellow traveler.

How far is the railroad able to aid in preventing contagion from this cause by contributing to the desirable segregation of the diseased from the healthy? Dudley[4](a) has defined the situation so clearly that I quote in part his words:

> " . . . It may be urged that the railroads have no right to expose their healthy passengers to the danger of contracting diseases from others, and that they should exclude from their cars all people affected with communicable diseases. . . . While it is undoubted that the railroads have a right to exclude, and, for that matter, do exclude, from their cars people known to have contagious diseases, such, for example, as smallpox, it is entirely evident that the exercise of this right depends on correct diagnosis. To refuse transportation to a person or persons because they were suspected by the ticket agent or conductor of having a communicable disease might entail serious consequences. . . . Railroads are common carriers . . . required to perform certain public duties, prominent among which are the transportation of persons and property. It is not possible to refuse transportation except under certain well-defined conditions, and, since neither ticket agents nor conductors are, or can be from the nature of the case, physicians, it is difficult to see how, at least under present legislation, transportation is to be denied even to those who may be affected with communicable diseases. The proper remedy . . . if any remedy is possible, would seem to be in legislation making it a crime for those afflicted with certain communicable diseases to ask for or to accept transportation from common carriers."

TUBERCULOSIS.

One of the most serious diseases travelers are exposed to is tuberculosis. While we must look on this as a disease possible of direct transmission, and while its prevalence and destructiveness are appalling, public sentiment, and even the sentiment of the medical profession, approves of granting it the right to travel. The railroads can not refuse its victims transportation as dangerous passengers in opposition to the public sentiment which permits them the freedom of all other places, public and private. While I believe it would be well to restrict the freedom of the tuberculous, still, in recognition of the possible benefit that changes of climate may have on the disease, I am not now willing to advocate preventing them from taking advantage of such travel as they are able to undertake in search of health. We are all undoubtedly more or less exposed to this widespread infection at some time in our lives, and the little more or less exposure involved in the healthseeker's travel is probably not of great consequence, the time of association being relatively short and not necessarily close. Much, however, may be done to limit the danger occasioned by the tuberculous whether in cars or elsewhere. Their danger consists in spreading their sputa about them, projecting infected droplets into the faces of others or infecting the things they use, all of which may be avoided or at least so nearly avoided by correct personal habits that the danger practically disappears. Teach the tuberculous that they are dangerous and instruct them in personal hygiene; for so long as they are permitted to associate in freedom with their healthy contemporaries they probably must also be allowed the privilege of traveling in the railway coach. The sanitarium for the tuberculous is a safe place for the well. It is made so by the patients themselves. The railway coach deserves similar protection.

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[7] Ricketts: Infection and Immunity, Chicago, 1906, p. 395.

This leads me naturally to speak of the often repeated proposal that special cars should be furnished for the diseased, more especially for the tuberculous. The proposal undoubtedly has great virtue, and I would say that it should be acted on forthwith if there were not what seem to me insurmountable obstacles to carrying it into effect. In the first place, there is the economic consideration. The amount of such travel will not justify furnishing special cars. These people are often —indeed, usually—too poor to pay for the extra expense entailed. Railways are economic institutions and can not be expected to furnish transportation at a loss. The state is not yet sufficiently impressed with the desirability of isolation to be willing to pay the deficit. But of even greater practical importance is the great probability that it would be impossible to get more than a small proportion of tuberculous patients into such special cars. It is not necessarily the bedridden consumptive who affords the greater danger of infecting his associates. Far more important is the patient, either unsuspecting or showing no conclusive signs of the disease to the casual observer, who would still insist on traveling as a healthy individual travels. Of this class of patients there are vastly more going about the world than of those severely sick. Only a law making it a misdemeanor for him not to declare his disease when applying for railway transportation would force him into his proper compartment; and even then, perhaps, a large proportion of them would either avoid or defy the law and take their places in the ordinary coach and sleeping car and escape detection. In its last analysis the question would remain not so much one of the car as of the habits of those who use the car.

By adopting a pessimistic view we may theorize the dangers of free social intercourse into formidable proportions. The most constant optimism can not argue it into an entirely negligible quantity. I have already expressed the opinion that direct contagion is responsible for most of the contagious diseases; but we must confess that it is a subject which it is difficult to materially alter in any other way than by education in personal hygiene which both the sick and the well should apply, or by changing public sentiment on the subject of allowing those sick of certain diseases the freedom of intercourse and travel.

THE CHANCES OF INDIRECT INFECTION.

2. What are the possibilities of indirect transmission by reason of the use in common of a car's facilities for comfort and convenience? The answer to this question goes back, in great measure, to the determination of how many travelers are afflicted with transmissible diseases or harbor pathogenic organisms—a subject which has been touched on in the consideration of direct contagion. Statistics are not at hand, and are scarcely possible of compilation, showing the proportion of the infected to the healthy among railway travelers. Yet to determine with any degree of accuracy the possibilities of danger held out by them, either from direct or indirect contagion, it would be necessary to know the proportion of the whole each disease constitutes. I do not mean to imply that knowing this would satisfactorily answer the inquiry. It would rather furnish premises from which we might hope to reason logically on the liability of transmission. It would still be necessary to establish, however, the degree to which various utensils must be contaminated before they could be said to hold out real danger of infecting the user. The contraction of disease by infection is so largely a matter of individual resistance and susceptibility that it is difficult, indeed, to draw sharp lines on its probability. The number of organisms which in one person produces disease may be innocuous to another. We may compare pathogenic bacteria to poisonous drugs and speak of a harmless, toxic and lethal dose. Theoretically I suppose it may happen that the smallest dose—a single organism—might be capable of producing a disease; but phagocytes, opsonins and other protective bodies of the human tissues are generally able to overcome considerable numbers of even the most virulent bacteria; and absolute sterility of the things we use, even freedom from pathogenic organisms, is not necessary in order for the great majority of us to escape infection.

The railway should provide facilities in keeping with the state of sanitary science and the hygienic habits of the people; it can not, however, at all times enforce their proper use; and at any stage of perfection in the facilities provided abuses are liable to occur which must be laid at the door of the public. The providing of sanitary appliances is the railroads' duty; the maintenance of sanitary conditions is largely dependent on the users. Consider the wash basin. It is much maligned, and, to a degree, justly so. It is often left abominably dirty by the user; it is much used as a receptacle for washing the teeth; it is frequently used as a cuspidor. With smooth basins and plenty of water this will entail no very great danger, perhaps—we regularly use contaminated water for bathing purposes and consider it safe —but it is, at least, a disgusting and a dirty habit. It does not arise from the conditions existing in the railway coach; it is brought there by habits formed at home, and it should be corrected at home. There is no place in the car devoted solely and especially to tooth washing, nor is there one in any other place, but there are smooth basins and plenty of water, there are cuspidors and there is a closet adjoining the lavatory. These can easily be made use of to avoid both the danger and the disgust until some new device is especially provided for tooth washing. People generally neither try nor care to do so at this time. Before we are through with the crusade against spitting they must be taught that it is not sufficient to avoid spitting on the floor or the sidewalk, but that a wash basin is not to be used as a cuspidor and that drinking cups should be held sacred against tooth brushes.

The dangers of indirect infection in railway coaches increase theoretically, and no doubt practically as well, in proportion to the length of time a car is in service on any single trip. The longer the trip the longer the personal association of passengers, the greater their necessity of using toilet and other facilities at hand, and consequently the greater the liability of pollution. Other things being equal, the sleeping car would, therefore, be more liable to contamination than the day coach. Its average journey is longer. Other things are not equal, however, because of the constant supervision of the sleeping car en route, more care at its cleaning terminal, its average higher class of patrons, and its carrying fewer persons to the car.

It is largely in the power of railway passengers to annul on the one hand the dangers incident to their own intermingling and, on the other, whatever measures the railroad may take for their protection. They have the right to demand, nevertheless, that the railroad provide facilities whereby they may carry out to the utmost their own protection. Closets should be well flushed, perfectly emptying, and capable of easy cleaning. Lavatories should be supplied with abundance of water, well drained, trapped to prevent back flow of water and entrance of dust; the surface should be smooth and easily cleansed by rinsing and wiping. If each user would rinse and wipe out a wash basin after using it he would do no more than his hygienic duty and reduce to the vanishing point its liability of conveying infection. Small towels should be supplied in such abundance that each needs to be used but once. While the common hand towel is perhaps practically without danger, one should never be obliged to use the common face towel on account of the danger of trachoma and other eye diseases.

The common drinking cup has been much discussed and rigidly criticised of late, and orders for abolishing its use entirely have been considered by the surgeon-general of the United States Public Health and Marine-Hospital Service. It would be a sweeping reform, and the effect of such a move on the public humor can not be read in advance. For the present the railroad is obliged to furnish something in the way of a drinking cup, however, and the attempt should be to provide one with the least liability of conveying infection from lip to lip. It should have a perfectly smooth surface, outside and in, preferably made of glass to better accomplish this result and to render immediately visible gross contamination and dirtiness. It is through the medium of the common drinking cup that the closest indirect relations, from a hygienic viewpoint, are established between passengers; and it is here, perhaps, that the greatest danger of the indirect transmission of disease arises. There is considerable experimental evidence of cup contamination. A. Moeller,[8] of Berlin, has recently found tubercle bacilli, influenza bacilli, staphylococci and streptococci on the edges and in the residue remaining in communion cups. Kinyoun[9] found pneumococcus, streptococcus, staphylococcus aureus and diphtheria bacillus once each in twenty-one drinking cups from sleeping cars. Probably cups in constant or oft-repeated use are very generally infected, since mouths are always so and people generally are careless drinkers. For the most part they contain harmless bacteria (Kinyoun found but one of the organisms isolated to be really pathogenic, the diphtheria bacillus, while the pneumococcus was very slightly so); and the same number of organisms found in the wash basin would no doubt be entirely harmless; but the drinking glass comes a little too close for comfortable suspicion. Its contents gain direct entrance to the body and traverse the whole gastrointestinal tract with its vast extent of absorbing surface where some point of entrance for organisms may be found. Obviously the danger of transmission from this source is greatest in those diseases where there are lesions in the mouth, as syphilis, actinomycosis, aphtha and tonsillitis; and quite as obviously the simplest way to avoid it is for each person to carry his own drinking cup, as many do already. The railroads can scarcely be held responsible for a danger to which they do not contribute more directly than they do to this, and in which they follow a custom so generally followed and demanded by the public. The common drinking cup is universal. The evil it contains does not exist in its worst form in well-regulated cars where the cups are, or should be, frequently cleaned. There are ways of drinking from a cup which render the probability of contamination very slight. Most people are careless in this as in other personal habits. Rinsing and a clean towel will make almost any cup harmless, however, if the user cares to take so much trouble.

The drinking water should be the purest locally obtainable; it should be cooled by ice from sources of a pure supply, which should be well washed before putting into the tanks, and handled only from clean receptacles with tongs or clean gloved hands. The water cooler should be removable and cleansable and protected from possible contamination by car occupants. They should be frequently scoured and steamed. These are clear-cut duties of the railroad or car company and distinctly apart from the hygienic duties of the traveling public.

3. Hangings, linen and bedding are, in general, appurtenances of sleeping cars only. What part are they likely to play in the indirect transmission of disease? Linen may be at once dismissed from consideration, since it is always fresh to the user. So far as any single trip is concerned, the hangings and beds belong in lots to single individuals, and the consideration of their possible danger to the health of the traveler brings us to the discussion of the third element of the danger of infection in railway travel, namely, the possibility of the car itself being infected in such a way as to transmit disease to its occupants. This is dealing simply with a new phase of the question of indirect transmission of disease—indirect transmission from previous passengers or from extraneous sources.

Some investigation of this problem has been made in both this country and in Europe. The investigations of Kinyoun, above referred to, included: 1, The bacterial content of the dust from carpets; 2, the bacteria obtained from the interior furnishing of the coach; 3, the bacterial content of the air of the coach, and, 4, the bacteria of the drinking cup, already referred to.

It is worth while to review the results of these examinations. Dust was obtained from 200 cubic feet of air passing over carpets being swept, beaten or blown with compressed air. In seven samples so obtained many varieties of bacteria were found, principally those ordinarily found in the air. Microscopic search failed to demonstrate the tubercle bacillus among them, and animal inoculations proved its absence. The pneumococcus, staphylococcus aureus, streptococcus and colon bacillus were the only pathogens found; of these the author says, "Only the pneumococcus proved pathogenic, and this but slightly so." Some of the inoculated animals, I find from the subsequent text, however, developed abscesses from staphylococcus infections, a result to be expected, no matter what the source of the dust.

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[8] Deutsche med. Wochschr., 1905, xiv.

[9] The Bacterial Content of the Railway Coach, Med. News, July 29, 1905.

Dust was collected from the interior furnishings of twenty-nine sleeping cars, three day coaches and two smoking cars by rubbing sterile moist swabs over not less than fifteen square feet of surface. Eleven of these cars were running to health resorts during the height of the travel. Microscopic examination of these samples showed them to contain various bacteria and the ordinary elements of the dust of habitations. Of numerous samples stained for the tubercle bacillus two gave positive tinctorial and morphologic results. Sixty-four animal inoculations gave 1 positive tuberculosis, 5 pneumococcus infections, 1 diphtheria, 2 staphylococcus, 2 streptococcus, 2 colon bacillus, 1 malignant edema, 1 streptothrix, and 6 hemorrhagic septicemia. Forty-three animals gave negative results.

Realizing that the pathogenic bacteria floating in the air are of greater relative importance than those with stationary lodgment, special attention was given to their examination. Amounts of air ranging from 1,500 to 7,200 cubic feet were aspirated from forty-eight occupied coaches, twenty-seven running to and from health resorts, and its dust filtered out and subjected to analysis. The author says: "The majority of the bacteria found in the air evidently had their origin, as would naturally be expected, from the outside air." Ninety-six animal inoculations were made which resulted as follows: Tuberculosis 1, pneumococcus infection 8, staphylococcus infection 4, general septicemia 5, malignant edema 1, negative 76. The pneumococcal infections were obtained from the air of smoking cars almost entirely.

Prausnitz[10] and Petri[11] were able to demonstrate tubercle bacilli in cars carrying many consumptive patients to the health resorts of Switzerland and to Berlin during the first activity of Koch's tuberculin treatment. They were found chiefly on the floors as the result of spitting, an evil which our widespread crusades has materially lessened in the last few years.

Every space occupied by human beings is to a certain degree infected, as are all the individuals themselves. The colon bacillus, for instance, is a normal inhabitant of the human body. It appears in the intestines soon after birth and is not thereafter absent. Ordinarily it is harmless, perhaps even useful to the bodily functions, though under certain conditions it may take on virulent activities and give rise to pathologic processes. We expect to find it more or less generally distributed where human beings exist; otherwise the child would not become uniformly infected in the first few days of its life. Its existence in the railway coach is scarcely more than normal. "The pneumococcus is present in the nose, mouth and pharynx of a large percentage of individuals. . . . It persists for weeks and months in the mouths of convalescents from pneumonia, and it reaches the mouths of those who are in the vicinity of pneumonics. It is found frequently in the conjunctiva and occasionally in the deeper air passages."[12] Knowing this organism to be fairly constant in the upper respiratory passages of normal individuals, we should expect to find it fairly constant in the places they inhabit. Having but little resistance outside the body it soon dies off, but occupied places are being constantly reinfected. Concerning the unusual conditions that must arise to precipitate infection of the pulmonary tissues we have little but theories. Certain it is that attempts should be made to lessen its distribution; this can be done only by care on the part of those who harbor it.

So far as the staphylococcus is concerned, it is widely distributed in nature. We all expect to find it on our hands, consequently on the things our hands pick up. Almost as much may be said of the streptococcus. It may be usually cultivated from the normal mouth cavity. Streptothrix is also frequently found in the normal mouth and usually is harmless there. The bacillus of malignant edema is normal in garden earth, which we handle with impunity. To introduce it into the peritoneal cavity is another matter. Hemorrhagic septicemia is produced by various organisms, which are more or less widely distributed in nature, and is not ordinarily an infection easily acquired.

Diphtheria bacilli may persist in the nose and pharynx of convalescents for weeks and months, continuing long after recovery. They are frequently found in the upper air passages of healthy persons who may never have had diphtheria, but who have been in contact with the diseased. Kober[13] obtained virulent bacilli from 8 per cent. of individuals who had been in direct contact with patients, and he states that 0.83 per cent. of the people at large carry with them virulent organisms. Ustvedt[14] found 4.5 per cent. of 4,277 school children to be infected, and he quotes Geirsvold, Graham-Smith, Leegard and others as reporting percentages of infection ranging from 2 per cent. to 30 per cent. of those examined. It is furthermore well known that many sore throats of benign type are really caused by the diphtheria bacillus. Wassermann[15] has shown that the blood of a large proportion of both children and adults contains diphtheria antitoxin, even when there is no history of the disease. These facts furnish ample explanation for the finding of the organism in cars and other places where people congregate and the practical impossibility of preventing such findings. The diphtheria bacillus is an obligate parasite, having no vegetative existence outside the body. Infection takes place chiefly by direct contact. It may occur also by indirect contact or, presumably, by the dust from infected fomites, since the organism may remain virulent for a considerable period in the dried state. With the vast number of infected throats among the general population the inference of indirect contagion is not only unnecessary to explain the cases that arise, but without clear and direct evidence of such a mode of infection is scarcely a logical supposition. Though I can not accept Chapin's[16] view that infection by fomites is among the great rarities and that disinfection is unnecessary, still he has sounded a timely sentiment in urging the relative infrequence of the transmission of contagious diseases by inanimate objects, and has called attention to more fundamental, if not more important, means of control than fumigation. He quite correctly looks on the infected individual as a far more dangerous source of transmission than the things this individual has used or the place he has occupied.

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[10] Münch. med. Wochschr., 1892.

[11] Arb. aus d. Kais. Gesundheitsamt, 1894, 111.

[12] Ricketts, loc. cit., p. 339.

[13] Die Verbreitung des Diphtheriebazillus auf der Mundschleimhaut gesunder Menchen," Ztschr. f. Hyg., xxxi, 433.

[14] Die Diphtherieprophylaxe und die Bedeutung der gesunden Bazillenträger für die Verbreitung der Krankheit., Ztschr. f. Hyg., 1906, lv, 147.

[15] Ueber die Persönliche Disposition und die Prophylaxe gegenüber Diphtherie. Ztschr. f. Hyg., 1895, 408.

[16] The Fetich of Disinfection, The Journal, Aug. 25, 1906, xlvii, 574.

In view of the fact that about 15 per cent. of all people die of tuberculosis and that 80 per cent. or 90 per cent. of autopsies show evidence of healed tuberculous lesions, and that a large proportion of the afflicted associate with the healthy and distribute their infected sputum with indifference, it is a surprising element of Kinyoun's results that he succeeded in producing the disease in only two of 160 animals inoculated. It is not surprising that car sweepings, dust and furnishings are now and then infected with the tubercle bacillus. Any public place is likely to be so. Under present conditions we must expect it. We all understand that the procedure necessary to most successfully combat the evil is to prevent spitting any place where the sun does not shine. The remedy is personal cleanliness.

The results obtained in the investigation of railway coach bacteriology up to this time are in the main what might have been expected. It is not possible, however, to draw conclusions from them which will finally establish the relations between the railway coach and disease without adding vastly to the experimental evidence which they contain. It is desirable to know something of the average absolute number of pathogenic bacteria and their relation to the whole number present, their ratio to the number of passengers and to the length of trips, the relation between the internal air and the surrounding air of the moving train, and to compare these results with those obtained by investigating other inhabited places. If the car contains only the organisms, absolute and relative, found in other similarly inhabited places, the problem then becomes one of altering conditions of infection generally; the car sinks into the relative insignificance of its small proportion of the whole and is merged in the general combat. If, on the other hand, the car is found to be burdened with pathogenic bacteria in excess of other places, it then becomes a problem calling for special methods of solution and special care in its handling. The time and labor required to determine these things is necessarily great on account of the many factors entering into the problem as it concerns the coach in transit.

It is, of course, hopeless to attempt to keep cars sterile or free from even pathogenic bacteria, nor is this necessary in order that they may be safe. In order to acquire an infectious disease we must receive organisms in sufficient quantity and of a sufficient degree of virulence. We must also have a resistance low enough to permit infection to take place, and having that we may ourselves harbor the very germs that await the critical moment.

Though we must expect most cars to contain pathogenic micro-organisms in greater or lesser numbers, it is nevertheless desirable that the railroads should take precautions to reduce them to a minimum. Good mechanical cleaning is of first importance. Remove dust, and dirt or excreta that may become dust, and most of the bacteria, grossly considered, will be removed with it. Beat or blow with an air blast the seats and carpets, outside the car if possible. It will not remove the last particle of dust, but if it is well done not enough will be raised from them in ordinary use to afford danger of infection to the car occupants. Scrub the floors, wash basins and closets and disinfect them regularly. Wipe down the woodwork. Expose bedding to the disinfecting influences of air and sunlight and to beating and blowing. If the sick have occupied coaches or sleeping cars fumigate them at the end of the run. In addition, regular fumigation at stated intervals is indicated simply as a prophylactic measure. There has been applied to the Pullman service within the past year a system embracing all these measures, and one which in my judgment meets the more important requirements for the maintenance of sanitary cars. Much labor is expended in removing dust, much time is given to sunning and airing; smoking rooms and closets, basins and cuspidors are washed daily with disinfectants; cars that have carried the sick are fumigated; all cars are fumigated monthly, and those running to health resorts weekly or oftener. The public has a supplementary duty and the members of the medical profession a complementary one; educate the social body to an appreciation of its own power of self preservation.

THE MORE INDIRECT DANGERS.

Third.—The miscellaneous influences constituting the third group of the dangers of railway travel, as I have outlined them, affect the health of car occupants only indirectly as a rule and tend to reduce resistance rather than to produce disease directly. Certain individuals have peculiar susceptibilities of the nervous system, rendering them liable to the so-called "car-sickness" during any long railroad journey. There are people, too, who almost invariably have attacks of migraine under similar conditions. It is not possible to entirely prevent these results of rapid train motion in the predisposed, though smooth roadbeds and comfortable cars probably tend to lessen the liability of their occurrence.

The ventilation of cars is a vital problem. That it has not been satisfactorily solved long ago is due to its great mechanical difficulties. The car contains, and must contain, a minimum of space for a maximum number of occupants. The swift and changing motion of the train, its constantly changing direction and wind conditions, its rapid transit from cold to warm or warm to cold regions, the necessity of changing the air frequently, the consequent great liability to draughts, and the variable sentiments of the passengers, who must all accept the same amount of air, make up a combination of conditions difficult to manage. The real difficulty arises, of course, when the outside temperature is low. Summer ventilation is scarcely a problem. We all know that cars often seem to be ill ventilated and "stuffy," but as a matter of fact, we do not know just how good or how poor is the average of car air from the chemical standpoint. A series of experiments is now under way to determine this. The results of these experiments will be made the subject of a future communication.

Remaining long in an atmosphere heavily laden with the products of respiration may produce headache, drowsiness, nausea and general malaise. Similar results may come from a close, overheated moist atmosphere, even though its chemical purity is sufficient for every hygienic demand. Indeed, recent experiments by

Flügge,[17] Heymann,[18] Paul,[19] Ercklentz[20] and others go to show that high temperature, much moisture and air stagnation are alone responsible for the deleterious influences of faulty ventilation, and that chemical impurity of the air plays no part in them except under the most extraordinary conditions. A strong opponent of this view among recent writers is Wolpert,[21] who maintains that metabolism is hindered by a much breathed atmosphere. Whatever the explanation, it seems to be certain, however, that poor ventilation is ordinarily not harmless; and that in addition to the temporary symptoms of discomfort, the long occupancy of so-called "stuffy" rooms so lowers resistance as to be conducive to the contraction of colds and perhaps also to the more serious infections. But draughts of cold air are equally depressing, and the problem is to find the means of introducing enough air to maintain comfort and not enough to produce danger from exposure.

Heating is a problem going hand in hand with ventilation. With the present means at our command it needs but care and intelligent operation to maintain a proper temperature in the closed car. With the attempt to change the air frequently, however, the difficulty is many times increased, for the reason that the entering air is so liable to great variation in amount and temperature as indicated above. If Flügge and his followers are right in their contention that the relation existing between temperature and moisture and the motion of the air are responsible for the whole of the bad effects of ill ventilation, then the problem of heating becomes relatively more important than it has heretofore been considered and ventilation relatively less important.

A certain amount of dust and smoke and locomotive gases inevitably enter the train. These are, of course, liable to great variation; but smoke and gases are not really troublesome except in passing tunnels, when they produce no more than temporary discomfort. Ordinarily only the heavier particles of smoke—the small cinders—enter the car, the lighter solid particles and the gases floating upward and away with the wind. If we are forced to breath much smoke for prolonged periods it acts as a mechanical irritant and exerts a harmful influence upon the respiratory passages. Ascher[22] of Königsberg published a series of experiments on animals showing that it both hastens the fatality of tuberculosis and predisposes to acute infections of the lungs; and he arrives at similar conclusions concerning human beings from a study of the vital statistics in relation to smoke production in the manufacturing towns of Prussia.

Ordinary dust is of more importance because it is more prevalent and because it may be infectious. It comes chiefly from the railway tracks, and their nearly universal free exposure to the sunlight makes it very probable that any pathogens will be rendered innocuous before the dust stage of their container is reached. Track contamination is probably of greater danger to the consumers of the water of streams into which sewage may be washed before it has a chance to dry than to the users of cars. The mechanical irritation of dust is, however, of some importance. It may produce mild inflammation directly, or it may lower the resistance of the mucous membranes of the respiratory passages to the point of favoring infections. Certain dusts, as those of the alkali deserts, which are soluble in the secretions, may act as chemical irritants. Sprinkling of the track with oil, as is practiced by some railroads, is, therefore, a salutary measure from a hygienic standpoint. To convert dust into something else than dust removes the difficulty in the best way, and is in the end the simplest. Of next efficiency would be some air filtering device.

It need scarcely be said, in conclusion, that it has been the author's purpose rather to define and to estimate the importance of the various problems of car sanitation than to detail their solution. That there is always a slight danger of acquiring infectious diseases in railway coaches can not be denied. That this danger is chiefly dependent on direct contagion in the close personal association of passengers seems probable, while indirect transmission through the common use of facilities for comfort or by the infected car is of secondary importance only.

An attempt has been made to show why it is that personal hygiene is a most important element in the solution of the problems of car sanitation and why the coöperation of travelers is necessary to an effective combat against the contraction of infectious diseases in cars. This statement must not be interpreted as a defense of the railway company which does not take every reasonable precaution to maintain its cars in a sanitary condition, or does not provide facilities whereby the liability of the transmission of infectious diseases may be reduced to a minimum. The duties of the railway in this regard are perfectly clear, and their fulfillment is essential to the maintenance of the public health. Bad habits in matters of personal hygiene are due largely to ignorance. It is the correction of this very general ignorance in the public at large that must supplement the best car sanitation in order to bring it to a high degree of efficiency in protecting those who travel.

CHRONIC ARTICULAR RHEUMATISM AND ARTHRITIS DEFORMANS.*

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I wish to present some researches on the subject of chronic articular rheumatism and arthritis deformans which I have been making for a number of years, with the cooperation of my assistant, Dr. Wollenberg. By some authors, especially surgeons, chronic articular rheumatism is distinctly separated from arthritis deformans; while another group, chiefly internists, refuse to accept this distinction.

Take a concrete case, a woman of 35, affected with a chronic joint disease. The disease first involved symmetrically the joints of the fingers and toes. Slowly and without fever, the affection spread in paroxysmal attacks from the finger joints to the wrists, elbows, ankles and knees. At length the patient became entirely helpless; she was confined to an invalid chair or to her bed permanently. The disease was chronic from the beginning, no valvular affection arose and the patient did not react to salicylic acid.

What position does this affection assume in pathology?

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[17] Ueber Luftverunreingung. Wärmestanuung and Lüftung in geschlossenen Räumen., Ztschr. f. Hyg., xlix, 363.

[18] Ibid., 388.

[19] Die Wirkungen der Luft bewohnter Räumen., Ibid, 405.

[20] Ibid, 433.

[21] Ztschr. f. Hyg., l, 529 and li. 175.

[22] Der Einfluss des Rauches auf die Atmungsorgane, Stuttgart, 1905.

* Abbreviation of an address delivered, February, 1907, before the Anglo-American Medical Association of Berlin.

It has been variously designated chronic articular rheumatism, arthritis nodosa, polyarthritis chronica villosa, rheumatoid arthritis, etc.

I wish to give you the proof from clinical, radiologic and pathologic-anatomic sources, that it is an affection *sui generis,* to be sharply separated from arthritis deformans. Let me designate this disease as polyarthritis chronica progressiva primitiva, or, in order to distinguish it from arthritis deformans, simply as arthritis destruens, because the destruction of the joint ends is characteristic of the disease. The term rheumatism is dropped, since there is a chronic articular rheumatism occurring as a sequela of acute articular rheumatism, but presenting in its acute or subacute onset a different clinical picture from the disease under consideration. Furthermore, I drop the term deformans, as we have not to deal with an alteration of the joint characterized by atrophy of the bone and cartilage on the one hand, and proliferation of cartilage and bone on the other, but with an actual destruction of the joint itself. We shall see that occasionally, in advanced stages of this disease, a sort of proliferation at the articular extremities may occur; in these cases we have to deal with secondary complications, absolutely not characteristic for the joint lesion.

Schneller proposed the term polyarthritis chronica villosa. This term likewise, I am sorry to say, we can not accept. Our researches have shown us that the formation of villi is not at all characteristic of our disease. Wherever irritation is present in a joint villi may be formed. We find them in arthritis deformans, in secondary articular rheumatism, in tabes, etc., and at least to as great a degree as in progressive polyarthritis.

The clinical course of arthritis deformans is so well known that I need not further deal with it. The disease begins insidiously, involving, as a rule, the larger joints, while the smaller joints are more rarely affected. While the disease has a progressive character, it does not show the progression of a polyarthritis chronica progressiva. When arthritis deformans has once reached a certain degree, the condition, as a rule, remains stationary, or may even improve. Real ankylosis never occurs in arthritis deformans, however deformed the articular extremities may be; there always arises a new joint, so that movements are still possible, although in a false direction. Rarely pseudo-ankyloses are observed, being brought about by a sort of entanglement of the new-formed bone masses with one another.

Roentgen pictures of cases of arthritis deformans are extremely characteristic. This is especially true of the knee joint, and the photograms which I show exhibit very well the changes from the beginning to the end. The first changes are seen as spur-shaped formations at the upper and lower end of the patella, which later on may give the patella a rhomboid shape. The joint cleft is at first normal, and there is no considerable atrophy of the bone. The latter fact is in contradistinction to polyarthritis chronica progressiva, in which a considerable atrophy of the bone is present quite early. At a more advanced stage the rhomboid shape of the patella is distinctly marked. Defects are seen at the condyles, which are flattened. The articular extremities of the bones approach each other, proving that the articular cartilages have been broken down.

Later the flattening of the condyles becomes more and more distinct. Lip-shaped projections at the ends of the tibia and of the femur are seen. In consequence of the atrophy of the cartilage the articular extremities seem still nearer each other and present an unsymmetrical, dentated, wavy outline.

If the joints be inflated with oxygen the soft parts of the joints are made visible, and in such an oxygen Roentgen ray picture the changes already described are seen, and in addition it is shown that the upper recessus of the joint is well preserved. There is never such a breaking down of the joint as is characteristic of polyarthritis chronica progressiva, in which an obliteration of the joint cavity is the rule.

In the clinical course of polyarthritis chronica progressiva the marked characteristics are the progressive character, its beginning in the small joints and spreading to the larger ones, deformities of various types, and especially the high grade of muscular atrophy. Skiagraphs show extremely characteristic changes.

Above all, an extraordinarily high degree of atrophy of the bone strikes us. In addition, the breaking down of the cartilage is significant. The outlines of the joints disappear, the extremities of the bones are pressed one on another, and, where the latter are lying on one another, defects and enlargements are found. These enlargements have up to date been regarded as proliferations of the bone. As a matter of fact, they are simply plastic deviations of the softened, atrophic bone, which yields too readily to deforming forces. As the articular extremities are pressed together by retraction of the ligaments, enlargements of the articular ends arise and various dislocations or subluxations are produced. Sometimes the end of one bone is telescoped into the end of the other.

Now, I wish to draw your attention to an important accessory symptom which we occasionally, although rarely, find in cases in which the atrophy of the bone is not of a high degree. In addition to the typical alterations of the finger joints at the base of the phalanx you see a slight widening of the bone, in the shape of an osteophyte formation. We have here to deal with a small new formation of bone, so that one could speak of a real arthritis deformans. You notice, however, in all pictures a character absolutely different from the real arthritis deformans. In such cases we are dealing, not with anything essential but with secondary complications. Oxygen radiograms of the knee joint show marked obliteration of the joint cavity. The superior recessus disappears almost completely, the other joint spaces are absent and the bones coalescent.

The occasional proliferations of the bone are to be looked on as examples of reparative action, which is the rule in arthritis deformans, but in progressive polyarthritis, as a rule, the vitality of the bone-cartilage tissue is so much diminished that this reaction fails. At any rate, we find in Roentgen plates opposite proportions between the extent of bone atrophy and of new formation.

The forces producing the alterations of the joints are well known to us. There is in the first place the effect of the retracting capsules. In this disease we have to deal chiefly with a pathologic process taking place in the soft parts of the joint. Subsequent to the affection of the synovialis occurs a retraction of the joint capsule. The articular extremities follow this retracting capsule, being pressed on one another, become broader and shorter. Then the action of the muscles aids the shrinking of the capsule. The extensor muscles always atrophy more than the flexors, and therefore mostly flexion-contractures arise in consequence of the flexors overweighing the extensor muscles. Furthermore, gravitation is effective as a destructive force. The well-known deviation of the fingers to the ulnar side is especially explained thereby, as the patients always hold their hands in pronation with a flexed elbow joint, so that the fingers fall by themselves into the ulnar abduction. Finally, also, the function of the limbs plays a rôle. If you observe how the patients use their hands, you will see that they try to pick up a thing from the table by grasping it with their pronated hands; consequently, the fingers must be deviated to the ulnar side. In the same way the hyperextension in the interphalangeal points is easily explained by the patients bracing their fingers, in the use of their hands, with the tips on the table, etc.

The consideration of the Roentgen ray plates has shown us that in arthritis deformans and in chronic progressive polyarthritis we have to do with two entirely different diseases.

Entering now into the consideration of the pathologic-anatomic differences of the two affections, our researches in this direction have resulted in the following:

1. *Arthritis Deformans* (in the sense of v. Volkmann).—The pathologic process manifests itself first in the cartilage and in the bone, while the synovialis in the beginning only shows insignificant alterations. If the appearance of dentation and of proliferation at the cartilage are already well marked, we see at the synovialis only a simple hyperplasia of villi with a slight new formation of vessels and connective tissue. Only when the cartilaginous and bony parts of the joint are strongly altered, when extensive destructions, polished surfaces and glandular proliferations of the margin are present, do the above-described alterations at the synvovialis become more distinctly marked.

The inflammatory signs on the synovial membrane, however, are but slight; only rarely few small accumulations of lymphocytes occur, but never nearly as much as in the earlier stages of the primary chronic polyarthritis. On the contrary, in the later stages of arthritis deformans degenerative processes of the synovialis, especially hyaline degeneration, become more prominent. Thus the entire synovialis may be changed into a structureless, hyaline tissue. Furthermore, calcification and pigment deposits (intracellularly and extracellularly) are often found.

If we compare these alterations with other pathologic processes of the synovialis, they resemble mostly the anatomic pictures of traumatic synovial affections, which we have had frequent opportunity to observe; and we are therefore inclined to refer a great part of the anatomic alterations of the synovia in arthritis deformans to an "internal trauma," to which the synovial membrane is exposed in every movement.

2. *Primary Chronic Progressive Polyarthritis.*—The pathologic process begins here in the strictest contradistinction to arthritis deformans in the synovialis, whereas the cartilage at first shows no alteration. In the earlier stages of the disease we observe a far more marked proliferation of villi of the synovialis, a far more copious new formation of vessels, a far greater proliferation of the fixed connective tissue cells, than we meet with even in the more advanced stages of arthritis deformans; most significant, however, are large accumulations of round cells lying close to one another, representing mostly circumscribed, perivascular, lymphoma-shaped formations; in addition, we find here and there a diffuse infiltration of the tissue with lymphocytes.

These lymphoma-shaped, round-cell accumulations are also found in various other diseases of the joints, but there they are almost never so numerous and dense; of course, they are not specific, and are especially sharply distinct from tuberculous nodules. Alterations of the cartilage and of the bone are in these early stages either not present, or they have a purely regressive character, as the cartilage undergoes destruction, shows erosions, or is substituted by a pannus-shaped granulation tissue, originating from the synovia. Thus the cartilaginous surface is gradually transformed into connective tissue.

In later stages, also, apparently slight symptoms of proliferation may occur, especially in mild cases. Under the influence of the granulation tissue covering the cartilage, a slight swelling of the interstitial substance of the cartilage may arise. A real proliferation of cartilaginous cells, however, we could only find in a slight degree. At the margin of the cartilage the corticalis is perforated and granulation tissue, likewise originating from the synovialis, infiltrates the marrow cavity.

In very late stages of the affection we finally find a strong connective tissue thickening and a shrinking of the joint capsule; furthermore, a more or less complete fusion of the portions of synovialis opposite to one another and of the articular extremities. Everywhere in the neighborhood of the surfaces of fusion we find more or less copious accumulations of lymphocytes and infiltrations. The cartilage is now entirely or almost entirely broken down or substituted by connective tissue, so that often only a thin lamina of connective tissue forms the outline of the marrow cavity, since the corticalis of the bone is also extensively destroyed. The bony ends of the joint are markedly diminished in size, their spongiosa being extremely rarified and altered into scanty, very thin trabeculæ. Proliferations of the bones and of the cartilage we have not been able to ascertain.

If we compare these anatomic alterations with those of other joint diseases, a great resemblance of the lesions of the synovialis with those in infectious arthritis of a known etiology, as, for instance, in gonorrheal arthritis, is manifest.

In arthritis deformans we have to deal with a primary affection of the skeleton parts of the joint; in polyarthritis progressiva, on the contrary, with a primary affection of the soft parts of the joint. According to our statements, we must, therefore, insist on definitely separating these two forms of disease.

My classification of chronic joint diseases on an etiologic basis would therefore be as follows:

A. Non-infectious chronic joint diseases.
  1. Traumatic arthritis chronica.
  2. Irritative arthritis chronica (Hydrarthos chronicus).
  3. Constitutional or dyscratic arthritis chronica:
     (*a*) Gout; (*b*) hemophilia.
  4. Arthritis deformans:
     (*a*) Spontaneous; (*b*) reactive; (*c*) neuropathic.
  5. Functional arthritis chronica (joint-neuralgia, intermittent hydrops).

B. Infectious chronic joint-diseases.
  1. Primary infectious chronic joint-diseases:
     (*a*) Polyarthritis chronica progressiva primitiva or destruens.
  2. Secondary infectious chronic joint diseases:
     (*a*) Secondary chronic joint rheumatism following an acute joint rheumatism. (*b*) Chronic joint-diseases after acute infectious-diseases: gonorrhea, scarlatina, measles, etc.; (*c*) tuberculosis; (*d*) syphilis.

This is only an attempt to classify chronic joint diseases etiologically, for in a number of cases of the diseases concerned the etiology is still hypothetical. As long as we have nothing better, we must be content to inaugurate the progress, and progress can only be made by recognizing the etiology of our affections. In this direction, therefore, our further researches have to be carried out.

Concerning the prognosis of our disease, I do not wish to enter into details. But I would like to add some remarks on therapeutics. You all know that in these chronic diseases, besides salicylic acid and other drugs, the whole arsenal of physical therapy has been tried; hot air, massage, gymnastics, various poultices and packings, baths, etc., however, as a rule, with no great success. In arthritis deformans I have often obtained good results with supporting apparatus for the hip as well as for the knee and for the foot, after all other means had failed. This is well known. In very much advanced cases, where even supporting apparatus did not help, I finally decided to perform the resection of the articular extremities of the hip and of the knee, and have here obtained good results.

The treatment of polyarthritis destruens is more difficult. All the measures of physical therapy have been tried unsuccessfully. I have repeatedly performed arthrectomy, especially of the knee, but with no good results beyond slight improvement in the symptoms. On the other hand, I obtained good results, that is to say, I enabled patients to walk even when contractures were far advanced, by supporting apparatus applied after stretching the contractures and fixing the legs in the stretched position. The leather must extend over the knee joints in such a way as to give them a real support. Then the patients receive side supports and by means of these and of special stretching apparatus one can gradually stretch the legs entirely straight. The supports of the knee are made movable only when the disease has improved so far that the swelling of the joints has considerably decreased and the pains have entirely disappeared. I advise, however, not to do this too early, as otherwise relapses may readily occur. I have found that it is best to assist the apparatus treatment by a course of mud baths. When the legs are stretched, the atrophied muscles are strengthened by daily massage, and finally the patients can put away their machines entirely after some years without fearing any relapse.

THE DEVELOPMENT OF CARDIAC MURMURS DURING ATTACKS OF BILIARY COLIC.*

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In two cases I have had the opportunity of observing, a systolic murmur, not previously present, was heard during or soon after an attack of biliary colic. The first case was in a woman, a doctor's mother, sixty-one years of age, who had had her first attack of gallstone colic eighteen years before. I saw her in a typical seizure, the third within a few days, as a sequel to which she passed five faceted stones. At the first examination I discovered a loud, systolic murmur at the apex, which the doctor assured me had not been present before. There was no accentuation of the second pulmonic sound. The murmur persisted for nine days; the jaundice, which was pronounced, lasted only four days. After an interval of two years, during which the patient was very well, she had another attack of biliary colic with jaundice, but without murmur, and without the passage of stones. An operation, the advisability of which had been considered, was rejected. Two months later another attack occurred, and in this one the patient died. The jaundice was decided in all the attacks; the murmur was present in only one; and in only one was there any itching, and then of slight degree.

The second case I saw was with Dr. E. Lindauer, Oct. 29, 1906. The patient was a man 52 years of age, a tobacco stripper, whom I had seen some weeks previously on account of a persistent pain in the right hypochondrium; at that time his heart was normal, except for accentuation of the second aortic sound. October 20 he had a violent attack of biliary colic, followed by deep jaundice and three separate seizures of chills and fever without sweating; there was no itching. On examination I found in the mitral area a loud, blowing murmur, which Dr. Lindauer tells me he first noticed October 24. The cardiac boundary was enlarged to the left and ran outside the left nipple line; the liver extended a hand's breadth below the costal arch, but was not tender; the urine was deeply bile-stained; the feces clay-colored. A diagnosis of stone in the common duct was made. I did not see the patient again, but I am informed by Dr. Lindauer that at the operation on November 1 a large, solitary, ovoid stone was found in the common duct. The jaundice, which had been very pronounced, rapidly disappeared; the murmur is still present, although the heart outline is practically normal.[1]

In the literature there are but few references to murmurs in connection with gallstone disease or with jaundice. Gangolphe[2] calls attention to the subject and reports nine cases, of which four were examples of cholelithiasis; two were cases of emotional jaundice, so-called; two of cancer of the liver, and one of cholangitis. I will give brief summaries of these cases.

Case 1.—Male, aged 21, two weeks before admission to the hospital, nearly lost his life in aiding an injured man. Since that time there had been malaise followed by jaundice, with tenderness in the hepatic region. There was palpitation of the heart; strong impulse; no enlargement of the boundary. A systolic murmur could be heard at the mitral and tricuspid areas. Four days later a systolic murmur developed in the aortic area transmitted into the cervical arteries; a month later the murmurs had all disappeared, and the patient left the hospital.

Case 2.—Female, aged 31, had always been well except for repeated attacks of hepatic colic, followed by jaundice. The last attack occurred ten days previously. There was no fever, but there were slight jaundice, tenderness and a small tumor in the gall-bladder region. There was a systolic murmur at the apex, the latter being normal in position; no appreciable change could be made out in the volume of the heart; the murmur lasted twenty-two days.

Case 3.—Female, aged 57, had cancer of the liver. There was slight jaundice. A systolic, apical murmur appeared eighteen days after entrance into hospital.

Case 4.—Male, aged 39, had hepatic colic; subfebrile temperature and bradycardia. A systolic murmur at the base was audible in the vessels of the neck; a systolic murmur at the apex appeared coincident with the onset of the bradycardia.

Case 5.—Female, aged 51; had emotional jaundice following fright; a systolic murmur was present at apex. Eleven days after admission to hospital the murmur was very faint and eventually disappeared entirely.

Case 6.—Female, aged 26, had hepatic colic. A systolic murmur was present, heard best in the third interspace to the right of the sternum and was transmitted into the vessels of neck. A systolic murmur of the same quality was heard at the apex, but was not transmitted to the axilla. There was no fever; pulse was 68. Six days later the murmur and icterus grew fainter and the patient felt well and demanded her discharge.

Case 7.—Male, aged 54, had cancer of the liver with inflammation of neighboring structures. There was fever, at first intermittent, then remittent. A systolic murmur was heard at the apex, with doubling of the first sound.

Case 8.—Male, aged 34, had hepatic colic. He was admitted

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* Read before the Section in Medicine of the College of Physicians of Philadelphia, Dec. 10, 1906.

[1] On December 19, fifty-one days after my visit, I saw the patient again. He seemed to be entirely well; the murmur had disappeared.

[2] Du bruit de souffle mitral dans l'Ictere, Thèse de Paris, 1875.

August 20, with jaundice and generalized itching. A systolic apical murmur appeared seven days later; the pulse then was 40. By September 7 the murmur had disappeared.

Case 9.—Male, age not given, had catarrhal jaundice. He entered the hospital July 12 with no murmurs and temperature 39.1 C. (102.3 F.); pulse 112. On July 19 there was no fever; pulse was 70; a systolic murmur was present. July 22 pulse was 56 and the systolic murmur was loud. On July 25 the murmur was still audible; the jaundice had lessened. By July 30 the murmur had disappeared.

Fabre,[3] among eight cases of jaundice, found the heart affected in five, but gives only meager details regarding them. In an elaborate monograph Rendu[4] mentions a case of hepatic colic in which a systolic murmur appeared. A woman, aged 57, had repeated attacks of colic; in the last one dilatation of the heart with the production of a systolic murmur supervened, and ended in death. In another case of hepatic colic with jaundice there was marked arrhythmia, and in one of catarrhal icterus, a gallop rhythm without arrhythmia. Rendu also cites a case of Potain's, in which all the signs of tricuspid insufficiency were found without the classical causes for that condition. The patient had had repeated attacks of hepatic colic, and it was during one of particular violence that the signs of cardiac disturbance manifested themselves. Treatment directed to the cholelithiasis caused disappearance of all symptoms, including the tricuspid murmur. Potain[5] and Rendu both believed that the murmur had its origin in the right heart and was due to a transitory dilatation of the right ventricle.

Tessier[6] classifies the cardiac disturbances depending on gastrohepatic disease as follows: 1. Unusual loudness of the second sound. 2. Doubling of the second sound. 3. Tricuspid murmur. 4. Complete tricuspid insufficiency with venous pulse. This indicates that he, too, thinks the murmur is produced at the tricuspid valve.

Guéneau de Mussy,[7] for whom Revillout claims priority in the discovery of cardiac murmurs in jaundice, attribute the murmur to a paralyzing effect of the bile salts on the vasomotors and the general circulatory system. Gangolphe considers the principal factor to be a paralysis of the papillary muscles, while Fabre looks on myocarditis produced by the accumulation of biliary salts and acids in the blood as the essential change. Quincke,[8] who observed the murmur as well as accentuation of the second pulmonic sound, believes it to be no more frequent in icterus than in other conditions in which the general health is impaired.

There are various ways in which a murmur may be produced in cholelithiasis and jaundice.

1. By a true endocarditis, such as may readily be caused by any septic process in the hepatic region, as empyema of the gall bladder or suppurative cholangitis.
2. By anemia.
3. By altered chemism of the blood apart from anemia.
4. By dilatation of the heart and other changes in the myocardium, as e. g., paralysis of the papillary muscles.

The transitory character of the murmur, together with the absence of any signs indicating grave infective lesions in the region of the liver, renders it unlikely that the murmur is due to an acute endocarditis. Anemia can hardly be a factor of importance; the murmur comes on too early, long before any signs of grave impairment of health manifest themselves. It can scarcely be that the jaundice is responsible for the murmur in cases like those I have described, otherwise such murmurs would be more common. I have purposely examined a considerable number of jaundice cases, but have not detected a murmur in any save the two mentioned. Among them were cases of deep jaundice that had persisted for several months with decided detriment to the general health, and yet there was no murmur. Moreover, the murmur usually outlasts the jaundice. If the jaundice has nothing to do with it, do the bile acids and bile salts play any rôle? I do not think they do in the sense that they alter the chemism of the blood as anemia does, but they may cause changes in the myocardium or in the innervation of the heart, it being agreed that they are responsible for the slowing of the pulse.

One point of importance remains, namely, the *pain*, and this I hold to be the principal factor in the production of the murmur in cases of hepatic colic. The pain, which is proverbially of the most agonizing character, in the predisposed, causes dilatation of the heart with a temporary insufficiency of the mitral valve; perhaps, also, of the tricuspid. I said "in the predisposed," because if pain were the only etiologic agent, then every case of biliary colic ought to have a murmur. The heart must be potentially dilatable.

This theory, or hypothesis, fails to account for the murmur in Gangolphe's cases of emotional jaundice, and for that sometimes seen in catarrhal jaundice and in cancer of the liver. With regard to the last, I think that anemia and cachexia are an adequate explanation. What the factors are in the rather dubious emotional jaundice I am not able to say; personally I have not met with any such cases, nor have I heard the murmur in question in cases of catarrhal jaundice.

A word as to the practical importance of the murmur. If its mode of production is as I have stated, then its presence indicates that the musculature of the heart is not entirely normal, and, therefore, it enforces some caution in the choice of the anesthetic, perhaps in that of the operative technic itself. A prolonged operation might be dangerous. On the other hand, the discovery of the murmur might lead to the erroneous belief that an old endocarditis existed, a belief that would probably influence the decision of the physician or surgeon. It is evident from these considerations that the knowledge that a systolic murmur might arise *de novo* in cases of biliary colic and that it is an index of a weakened myocardium—a weakness that may not be serious—will be of value in the management of a given case.

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[3] Gaz. des Hôp., 1877. p. 916.

[4] De l'influence des maladies du coeur sur les maladies du foie et reciproquement, Paris, 1883.

[5] Gaz. des Hôp., 1878, p. 667.

[6] Progrès med., 1879, p. 725.

[7] Quoted by Revillout. Gaz. des hop., 1878, 666.

[8] Dis of Liver, Nothnagel's Practice, English Translation, p. 438.

TORSION OF THE GREAT OMENTUM.

WITH REPORT OF A CASE.*

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The full value of the following case has suffered by my neglect to report it when the literature on the subject was scant. It is with the hope that even this delayed report may be of value that it is now given, with some remarks on the subject based on the literature which I have been able to secure.

Patient.—Mrs. J. K. Austrian, aged 34, iii para.

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* Read before the Los Angeles County Medical Society, Feb. 15, 1907.

History.—I first saw her in 1893 during an attack of acute abdominal pain and discovered an ovarian tumor about the size of an adult head. These attacks of abdominal pain were repeated at frequent intervals. In January, 1894, she had two attacks of this pain and in February three. She gradually lost strength and flesh and the tumor slowly enlarged. February 23 an unusually severe attack of the pain drove her to consent to operation.

Operation.—March 2, 1894, the abdomen was opened by a median incision six inches long, below the umbilicus. The tumor, which was intensely congested and rather firmly adherent to the parietal peritoneum and intestines, was removed with some difficulty. The pedicle was about two inches long by three inches wide, and was twisted on its long axis, from left to right. The tumor was a multilocular ovarian cyst with thick walls of a dark bluish color, and contained about one gallon of dark bluish, almost black fluid, as the result of the strangulation at the pedicle. It was noticed that the uterus was enlarged to the size of a large orange and was soft. The parietal and intestinal peritoneum was lusterless, velvety and bluish-red and the abdomen contained a small quantity of fluid. The incision was closed by through-and-through sutures of silk, and a glass drainage tube was left in for forty-eight hours. Recovery was uneventful and she left the hospital on the eighteenth day.

Postoperative History.—In April it was noticed that the uterus was enlarged, and in May it was nearly to the umbilicus. August 15 she gave birth, unattended, to a large male child. About one year after the birth of the child a hernia developed in the laparotomy wound, and in June, 1901, an abdominal binder and pad was applied. The hernia was then about the size of a small orange, easily reducible and caused little inconvenience. July 14, 1901, she found it impossible to reduce the hernia, and there was some pain, but no vomiting. On the following day the pain increased and there was no passage from the bowels. July 16 I saw her and found a fat woman, with pendulous abdomen, who appeared very sick. She had vomited that morning, and the pain in the abdomen was severe. Her pulse was 140. The hernia was about midway between the umbilicus and pubes, about the size of an orange, it was hard and tender to the touch. There was slight redness over a small area and increased local temperature. No attempt was made at reduction. She was removed to the hospital and operated on at once.

Second Operation.—The hernial sac was thickened and of a dull reddish color. The contents of the sac consisted wholly of omentum, matted into a solid mass, bluish-black in color, and adherent everywhere by recent adhesions to the sac and the hernial ring. There was no pedicle and apparently no constriction at the ring, which was about two inches in diameter. On loosening the adhesions at the ring it was found that the hernial mass was directly continuous with a mass of similar appearance within the abdomen. This intra-abdominal mass was delivered with some difficulty through the hernial ring, but without enlarging it. It was not adherent within the abdomen except at the hernial ring, and came out like a cork from a bottle, revealing a pedicle no larger than a goose quill, about two inches long and twisted several times on its long axis. The omentum proximal to the pedicle was of normal appearance, but the distal mass was intensely engorged and matted into a solid mass.

The pedicle was ligated and the mass removed. The abdomen contained considerable bloody fluid, but there was no peritonitis. Radical closure of the hernia followed and recovery was uneventful. The mass removed was in size and appearance not unlike an average placenta. No notes were taken of the number nor direction of the twists in the pedicle.

HISTORICAL.

The first mention of torsion of the omentum in the literature is the report of a case by Oberst.[1] Ten years passed before the second case was reported, that of Demons.[2] A silence of five years was followed by the report of Bayer,[3] of Monod[4] and Eiselsberg.[5] In 1899 Eitel of Minnesota[6] reported a case which has been included in some of the collections and excluded from others.

In 1900 the reports became more frequent, and Wiener's[7] valuable paper appeared, attracting attention to the subject in this country, by reporting a case and reviewing five cases from the literature. In 1902 Moresco[8] collected ten cases and reported one of his own. The following year Vignard and Girondeau[9] reported two cases of their own and collected twenty cases, and in the same year Rudolf[10] reported four cases from Schnitzler's clinic and collected twenty-five additional. Audier[11] in 1904 published a valuable thesis on the subject, with abstracts of twenty cases and a report of one. In 1905 Corner and Pinches,[12] in a valuable paper on the subject, were able to collect fifty-four cases from the literature up to the end of 1904, including three new ones of their own and one of Makin's, and a brief record of each of these cases was published in the St. Thomas' Hospital report for 1904.

In a very cursory review of the literature for 1905 and 1906 I have found reports of seven additional cases. The number of reported cases is now so large that a careful study of them will permit certain general conclusions to be drawn and, although Corner and Pinches have covered the subject with thoroughness in their articles, I hope that I may be able to add a little of value.

DEFINITION.

The term torsion of the omentum should include only those cases in which twisting of the omentum on itself has caused a sufficient obstruction of the circulation to produce evidences of strangulation. The matting of the omentum into a mass or ball which precedes the torsion, although a part of the pathologic process, should not by itself be included under this term. Strangulation from any other cause than the twisting of the omentum on itself should also be excluded.

CLASSIFICATION.

A sufficient number of well-described cases have been reported to permit a division into well-defined clinical and pathologic groups. A strictly clinical division into acute and chronic is warranted from the varying intensity of the symptoms which attract attention to the condition, although the pathologic changes which precede the appearance of the symptoms of strangulation are probably always chronic.

Among the chronic cases should be included those in which the torsion of the omentum has occurred gradually or has not reached such a degree as to cause great obstruction to the circulation. The venous return only is obstructed, as is evidenced by venous engorgement and edema, but with the production of no acute symptoms of strangulation.

The number of chronic cases yet reported is small, and they are of secondary interest as compared with the larger class of acute cases, which are characterized by sudden onset and symptoms of acute strangulation.

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1. Centrbl. f. Chir., 1882, xxvii.
2. Rev. de Chir., 1893.
3. Centrbl. f. Chir., 1898, xvii.
4. Thèse de Requier, 1898.
5. Deutsch. med. Wochschr., 1898.
6. N. Y. Med. Rec., May, 1899.
7. Ann. of Surg., 1900.
8. Gazz. degli ospedali e delle clin., 1902, lxix.
9. Arch. provincial de Chir., 1903.
10. Wien. klin. Rundschau, 1903.
11. Thèse de Lyon, 1904.
12. American Jour. Med. Sci., August, 1905.

ANATOMICO-PATHOLOGIC CLASSIFICATION.

A study of the reported cases suggests a convenient classification from an anatomico-pathologic standpoint into two main groups, according as the point of torsion is within the sac of a hernia, or within the abdominal cavity. As some reported cases combine the two conditions, we may make a third class and divide all the cases into three groups:

1. Torsio Omentalis Intrahernialis.
2. Torsio Omentalis Intra-abdominalis.
3. Torsio Omentalis Intrahernialis et Intra-abdominalis.

In the first group are included those cases in which the point of torsion lies, at least in part, within the sac of a hernia, and the whole mass of strangulated omentum lies outside of the general abdominal cavity and within the hernial sac (Fig. 1). The cases of this group are distinguished from strangulated epiplocele only by the absence of constriction at the hernial ring and by the presence of a twisted pedicle. The number of reported cases which may be included in this class is not large, but it is probably of fairly frequent occurrence, and has been mistaken for strangulated epiplocele. This same remark will apply with equal force to volvulus of the intestine, and Corner and Pinches have drawn attention to the frequency with which volvulus in strangulated intestinal hernia is found if sought for.

The second group, or intra-abdominal torsion, is characterized by the presence of a point of torsion lying altogether within the abdominal cavity (Fig. 2). The strangulated omental mass may then be found altogether within the abdominal cavity (Fig. 2, c) or partly within the abdomen and partly within the sac of a hernia (Fig. 2, d), but not constricted at the hernial ring. Those cases in which no hernia was evident, or if present had no direct connection with the omental mass, are the purest examples of this group, but neither the existence or non-existence of a hernia, nor the presence or absence of part of the omental mass in the hernial sac are the distinguishing features of this class, according to my definition. It is not the situation of the omental mass, but the location of the point of torsion which determines the class. This class contains by far the largest number of the reported cases, as attention is attracted to the uncommon condition of strangulated omentum, within the abdominal cavity, and the mechanism of the third class being more complicated, its actual frequency must be less.

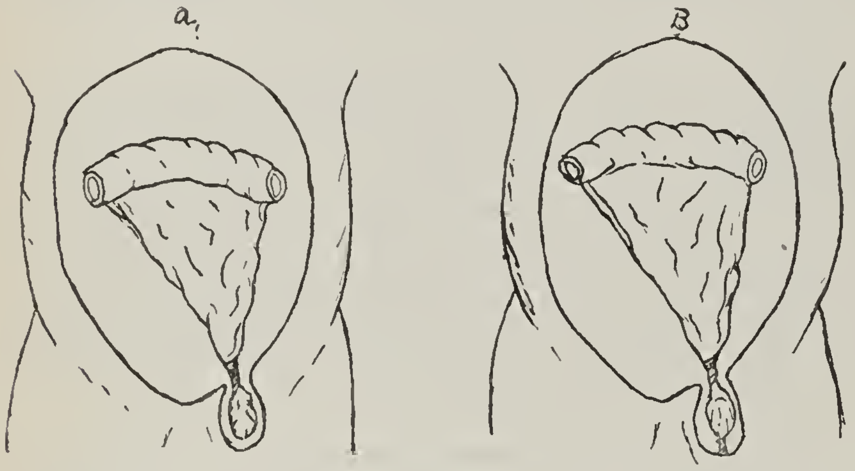

Fig. 1.—Torsio omentalis intra-hernialis: a, about one point; b, about two points.

The third class comprises those cases in which there exist two points of torsion, one lying within the cavity of the abdomen and one at least partially within the sac of a hernia (Fig. 3). There will thus be formed one (Fig. 3, g) or two (Fig. 3, h) strangulated masses of omentum according to the location of the distal point of torsion.

These three classes of torsion are based on the conditions as found at operation or autopsy in the published cases, but these conditions do not necessarily indicate the position of the omentum at the time of torsion, as classes one or three may be converted into class two by reduction of the omentum from the hernial sac into the abdomen, and the possibility of extrusion of an intra-abdominal mass into a hernial sac, after strangulation has occurred, is admissible.

As a subdivision of these main classes the classification of Vignard and Girondeau[9] is useful as an indication of the mechanism of the torsion. They divide the cases into three groups according to the number and nature of the point of torsion.

Class A.—Torsion about one point alone.
Class B.—Torsion about two separate points.
Class C.—Complex torsion.

In Class A, torsion about one point alone, are placed those cases in which the omentum has described one or more revolutions on a vertical axis about one fixed point. There is thus found but one pedicle which may be intra-abdominal (Fig. 2, c and d) or intrahernial (Fig. 1, a), and but one strangulated mass. The majority of reported cases belong to this class.

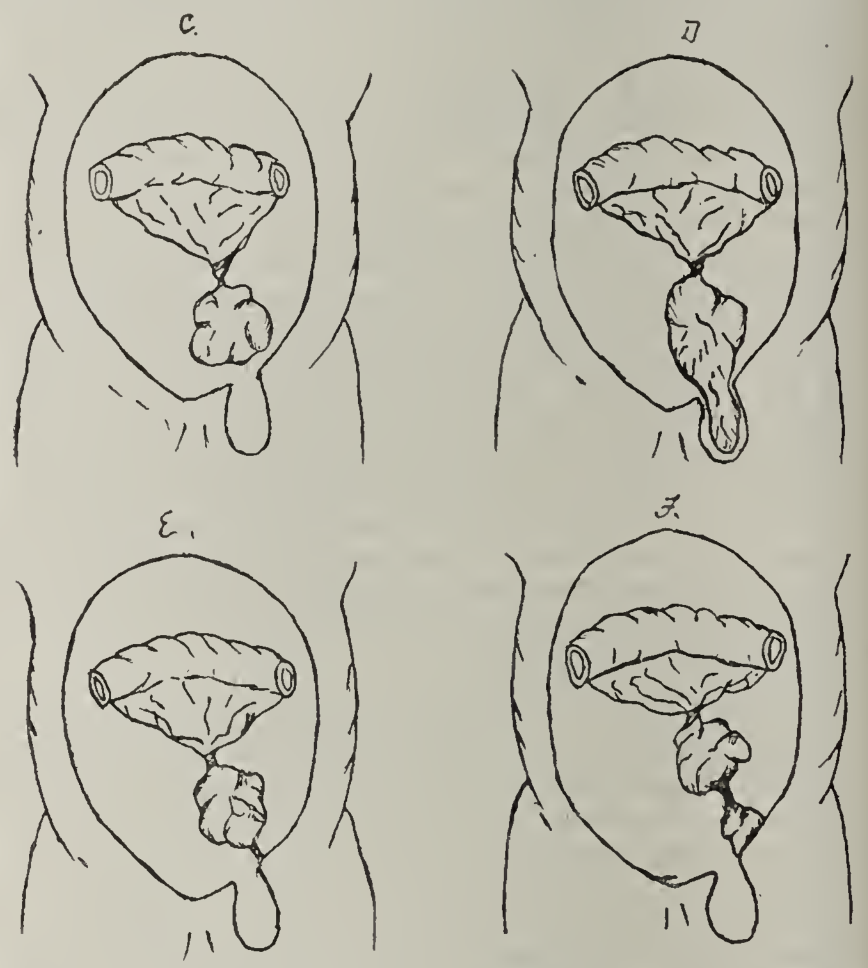

Fig. 2.—Torsio omentalis intra-abdominalis; c and d, about one point; e and f, about two points.

In the cases of Class B the revolutions have taken place about two fixed points, and two pedicles are found, both of which may lie in the abdomen (Fig. 2, e and f), or both within a hernia (Fig. 1, b), or, as has been frequently the case, one may be intra-abdominal and one at least partly within the sac of a hernia (Fig. 3, g and h).

In these cases one or two strangulated masses are formed according to the mechanism of the torsion.

If the distal extremity of the omentum is attached by a small area to some fixed point the omentum is divided into but two parts, a proximal normal part and a distal strangulated mass, the latter being attached by one pedicle to the normal omentum and by a second pedicle to some fixed point within the abdomen (Fig. 2 e), or in the sac of a hernia (Fig. 3, h). But if the area of adhesions to the distal fixed point is large the omentum is divided into three portions, a proximal normal portion, a central strangulated mass connected by one pedicle to the normal omentum and by a distal pedicle to a second likewise strangulated mass, which may be intra-abdominal (Fig. 2, f) or intra-hernial (Fig. 3, g). Several cases of this class are recorded.

Cases of the third class or complex torsion are more complicated in their mechanism, as the strangulation is produced by knotting or twisting of separated shreds of omentum about each other (Fig. 4, k), or of one shred about the main omental mass (Fig. 4, i). But few cases of this class are recorded. They may be either abdominal or hernial in type.

ETIOLOGY AND MECHANISM.

The normal great omentum hangs down like an apron in front of the intestines and is attached by a broad base to the transverse colon and stomach, the distal extremity hanging free within the abdominal cavity subject to movements imparted to it from the intestines and other abdominal organs and to influences from without, with probably also an independent movement of its own. Should the free extremity of the omentum become thickened or matted into a mass or ball we would have conditions favorable to a torsion, analogous to those of a triangular piece of cloth attached by its base to a fixed point with a weight hanging from its apex (Fig. 2, c). If the free extremity should become adherent to any fixed point, as so frequently occurs, we would have a condition analogous to a triangular cloth attached by its base and apex, each to a fixed point, around which the intervening portion could rotate on its long axis (Fig. 2, e). In this case there would be formed two pedicles and either one or two strangulated portions, according as the attachment of the apex was over a large or small area (Fig. 2, e and f; Fig. 3, g and h).

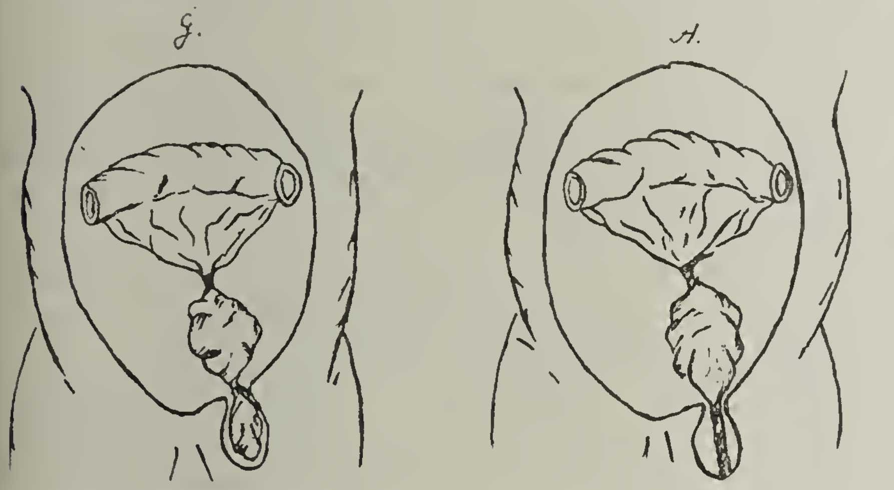

Fig. 3.—Torsio omentalis intra-hernialis et intra-abdominalis.

The conditions necessary for the production of an omental torsion are, therefore, the formation of a mass of matted omentum at its free extremity or the formation of a second fixed point by adhesions of the free end to some other structure.

That a hernia is the most frequent factor in the production of these conditions is evidenced by the frequency with which its presence is mentioned in the reported cases. In but six of the fifty-four cases collected by Corner and Pinches[12] was the presence of a hernia denied. Even in these cases doubt is thrown on the actual absence of a hernia, by a recent observation of Riedel's.[13] In a young woman on whom he operated, with a diagnosis of acute appendicitis, an acute torsion of the omentum was discovered. There was no hernia demonstrable externally, but on carefully pulling up the omental mass the neck of a femoral hernia came into view. Further traction disengaged the tip of the omentum and it appeared in the form of a plump mass twisted once on its axis. In this case had the reduction of the hernia been accomplished before opening the abdomen, or unconsciously during the operation, as could easily happen, this case would have been reported as "no hernia." Riedel is inclined to believe, therefore, that this condition is frequently present in "no hernia" cases.

Inguinal hernia has been the variety most frequently present, but femoral, umbilical and ventral hernias are represented among the reported cases. I have been able to find mention of but one other case than my own of hernia in a laparotomy scar, that of Souligoux and Deschamps.[14] The great majority of the hernias are ancient, as one would expect, for matting and adhesions to occur. Although hernia is the cause of the vast majority of cases, the same conditions may undoubtedly be produced by other processes. The matting or balling of the free extremity may be produced by tumors or by inflammatory thickening.

Adhesion of the free end of the omentum may take place to any organ within the abdomen and torsion result. In Noble's case[15] it was adherent to the fimbriated extremity of the fallopian tube, in Peck's case[16] to the right ovary, in Wiener's case[17] to an appendix epiploica of the ascending colon and to the abdominal wall, and in Simon's second case[18] it was adherent to an ovarian tumor. The complex torsion may be produced by hernia or by inflammatory changes, causing separation of the omentum into shreds, which become twisted or knotted.

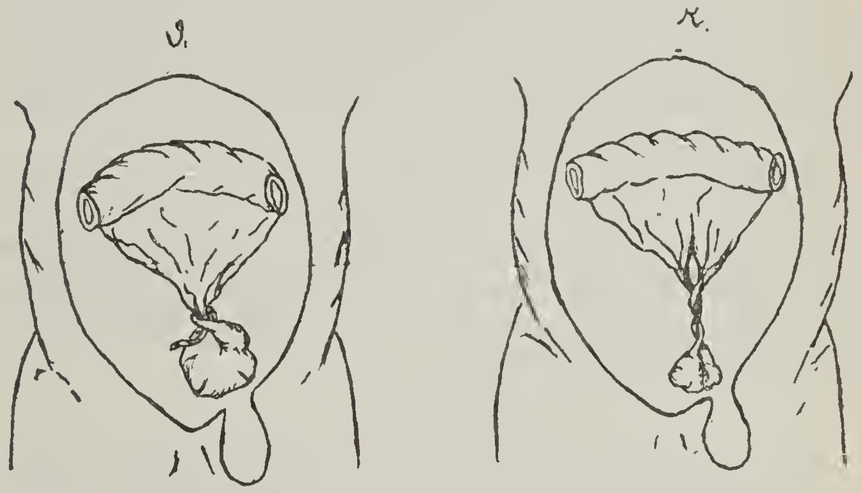

Fig. 4.—Torsio omentalis complexa.

SYMPTOMATOLOGY AND DIAGNOSIS.

That the formation of a matted mass or ball of omentum is a necessary antecedent to the strangulation by torsion seems probable, for it is otherwise difficult to account for the mechanism. It is, however, not until sufficient torsion has occurred to obstruct the return circulation that symptoms of strangulation appear. The presence of the omental mass may have been unnoticed, or its presence may have been known for some time as a solid tumor within the abdomen or within the sac of a hernia, without symptoms of strangulation having appeared. If the torsion takes place slowly, or if it is of

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13. Centrbl. f. Chir., 1906, vii.
14. Bull. Soc. Anat., Paris, 1901.
15. American Jour. of Obst., 1904, p. 364.
16. Med. Rec., 1900.
17. Ann. of Surg., November, 1900.
18. Münch. Med. Wochschr., 1905, xli.

a degree sufficient only to cause slight obstruction to the return circulation, the symptoms will be of a mild character. If the torsion is intra-abdominal there may be only vague discomfort with or without ascites.

If the omental mass lies in part or as a whole within a hernial sac the symptoms will be those of a mildly strangulated hernia. In the vast majority of cases the onset has been sudden and the symptoms have been those of acute strangulation, differing in no wise from those of acute strangulation of the omentum in an epiplocele. If a part or the whole of the strangulated mass lies within the hernial sac the signs also are those of strangulated epiplocele. The presence of a strangulated mass within the abdomen also adds little if any to the symptom complex, and it is only the discovery of a tumor within the abdominal cavity which distinguishes the intra-abdominal and the combined hernial and abdominal from the purely hernial cases. In Rudolf's case[19] only has a correct diagnosis been made before the operation. The most frequent diagnoses have been that of intestinal strangulation, appendicitis and peritonitis.

The only cases which admit of a probable diagnosis are those in which the presence of an old omental hernia, reducible with more or less difficulty, has called attention to the probability of a matting or balling of the omentum. If, then, symptoms of strangulation should appear a suspicion might be aroused of the real nature of the affection. If, in addition, the intrahernial mass is found to be directly continuous with a mass within the abdomen, and more especially if the intrahernial mass is reducible without relief of the symptoms, a diagnosis of reasonable probability could be made.

When torsion of the omentum becomes more widely known as a possible cause of symptoms of strangulation and is considered as a possibility in every case in which the symptoms and signs point to intestinal or omental strangulation, a correct diagnosis before operation will be more frequently made.

PROGNOSIS.

As the diagnosis has been made in but one case before operation, it is impossible to make any definite statement sustained by facts as to the mortality of this affection if left to itself. The degree of strangulation, the area of the strangulated mass, and its location, will determine the issue. That unaided recovery is possible, even in acute cases, would seem probable from what we know of strangulated epiplocele. Repeated attacks are recorded from which recovery has taken place, the nature of the attacks being unrecognized until a more severe one has led to operation, and the discovery of the probable cause of all previous symptoms. If the degree of strangulation is sufficient to cause gangrene of the omentum the probable result would be, and has been in several cases, peritonitis and death.

The results of treatment have been most satisfactory. As would be expected, the cases of early operation have, without exception, recovered. As in all cases of strangulation of abdominal organs, the mortality depends on the stage of operative intervention.

TREATMENT.

There can be but one treatment of this affection, early operation and removal of all omentum which shows signs of strangulation. Fortunately, the necessity of early operation is apparent in most of the affections for which torsion of the omentum has been mistaken. In one case, that of Eitel,[6] the twisted omentum was unrolled and allowed to remain, but this plan, even if desirable, could be followed only in such an exceptional case as his.

EXAMPLES.

I have selected from the collected reports, as far as possible, a type of each of the classes described, and a perusal of the abstracts may prove of interest.

CLASS 1.—*Torsio Omentalis Intra-Hernialis.* (Oberst.[1]) Male, aged 35. A right inguinal hernia which had existed for twelve years became irreducible two days before the operation. A diagnosis was made of irreducible hernia. At operation the sac was found to contain an omental mass, connected by a pedicle leading through the inguinal rings to the normal omentum within the abdomen (Fig. 1, a).

CLASS 2.—(a) *Torsio Omentalis Intra-Abdominalis Chronica.* As an example of the chronic form of this class, Eitel's case,[6] I think, may be cited, although Corner and Pinches[12] exclude the case, claiming that torsion was not proved.

Male, aged 44, with great abdominal ascites. Three gallons of fluid withdrawn by tapping. Twenty-four days later a second tapping withdrew two and one-half gallons, and a tumor, which was soft, movable and painless, was discovered in the abdomen. At operation three days later a tumor was exposed consisting of omentum, "rolled inward and upward, producing constriction and obstruction to the return circulation, as evidenced by enormously dilated veins." The tumor was unravelled without difficulty, and the omentum spread out over the intestines. The enlarged veins disappeared and the omentum resumed a normal appearance. The other abdominal organs were normal.

That in this case the obstruction to circulation was due to torsion seems probable, and Eitel's neglect to use the word, I think, should not exclude his case. That the ascites was due to the constricted omental circulation certainly seems probable, as it did not return after unrolling the omentum.

(b) *Torsio Omentalis Intra-Abdominalis Acuta.*—Acute intra-abdominal torsion of the omentum about one point only (Fig. 2, c) is well illustrated by the case of Simon.[18]

TYPE 1.—Male, aged 26. There was no hernia nor disposition to such, to which adhesions of the omentum could have occurred. The symptoms were such that a diagnosis of acute appendicitis was made. On opening the abdomen, one and one-half liters of bloody fluid were found. The omentum was converted into a bluish black tumor, measuring 18 cm. in length. It had but one pedicle, which was attached to the middle of the transverse colon. Resection was followed by recovery.

My own case is an example of this class, but of that variety in which a part of the strangulated mass is contained within a hernia sac (Fig. 2, d).

The variety of acute intra-abdominal torsion in which twisting occurs about two separate points (Fig. 2, c) is well illustrated by the case of Bayer.[3]

TYPE 2.—A woman, aged 54, had a left inguinal hernia for fifteen years. Following an attack of coughing there was some pain in the hernia with the sensation of a body revolving within the sac. On the following day an operation was undertaken for strangulated hernia. There was found a mass of strangulated omentum within the abdomen, attached by a proximal twisted pedicle to the transverse colon, and by a distal twisted pedicle to the abdominal wall near the mouth of the sac, both pedicles being within the abdomen. A portion of the strangulated mass had been extruded into the hernial sac.

The case of Peck[16] should probably also be included in this class, as the strangulated omental mass, which lay wholly within the abdomen, was connected proximally to the transverse colon by a tightly-twisted pedicle and was adherent distally by old adhesions to the right ovary. Simply the presence of adhesions between the omental mass and neighboring organs is not sufficient to warrant the statement that torsion occurred about two points, but the presence of old adhesions makes it seem probable.

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[19] Wien. klin. Rundschau, 1903.

Class 3.—*Torsio Omentalis Intra-Abdominalis et Intra-Hernialis.* As the presence of two pedicles, one in the abdomen and one within a hernial sac, is the distinguishing feature of this class, they are all examples of torsion about two separate points, but two types may be distinguished according as the distal pedicle lies between an intra-abdominal omental mass and a second intrahernial mass (Fig. 3, g), or stretches from a single intra-abdominal mass, through the neck of a hernia to a fixed point within the sac (Fig 3, h). As an example of the first type the case of Audier[11] is typical.

Type 1.—A woman, aged 50, was operated on *in extremis* for a strangulated hernia. A mass of gangrenous omentum was found in the hernial sac. On enlarging the wound upward, this mass was found connected by a pedicle to a large mass, also strangulated, within the abdomen. This large mass was in turn connected by a second pedicle to the transverse colon. The gangrenous omentum was resected, but the patient died in collapse.

The second type in which but one strangulated mass is found (Fig. 3, h) is well illustrated by Nordmann's second case.[20]

Type 2.—A man with a right congenital inguinal hernia previously reducible developed symptoms of strangulation. In the abdomen bloody serum was found, and the omentum was adherent and thickened. The omental mass was twisted close to the transverse colon above, and a second pedicle, also twisted, led through the neck of the hernia to the testicle where it was adherent. Resection was followed by recovery.

Complex Torsion.—The examples of this ariety are few, but the case of Heitz and Bender[21] will illustrate one form of complex torsion (Fig. 4, k).

A left inguinal hernia which had been irreducible for some time, revealed on operation that the lower extremity of the omentum had become separated into two parts, which had become twisted at their bases about each other, so tightly as to cause obstruction to the circulation.

When a description of the condition known as torsion of the omentum is included in the text-books on surgery and its mechanism and symptomatology become more widely known, I believe it will prove to be a much more frequent affection than the reports indicate.

Although the number of reported cases is now above sixty, the publishing of future cases will be of value. In order to aid in the classification of cases, future reports should be exact in their description of the conditions present. The location of the point or points of torsion should be explicitly stated, and the location of the strangulated mass or masses. The presence of old adhesions of the omentum and their bearing on the mechanism should be noted. The presence or absence of a hernia should always be stated, and if no hernia is apparent, careful search of the abdomen should be made at the operation for hidden hernial sacs.

If the possibility of torsion of the omentum be borne in mind in every case in which the symptoms point to strangulation of some abdominal organ, a correct diagnosis before operation will become more frequent than has hitherto been the case.

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[20] Deutsche Med. Wochschr., 1903, xxviii.

[21] Bull. Soc. Anat., October, 1900.

Anesthetize Patients on Operating Table.—Dr. J. T. Gwathmey, New York, states that patients should be anesthetized on the operating table, thus avoiding the lifting and jolting otherwise necessary. He declares that there is no reason why every operating table should not be fitted with wheels, thus making it possible to anesthetize the patient in an adjoining room.

Clinical Notes

ACUTE PURULENT MYOSITIS.*

A. O. SQUIER, M.D.
SPRINGFIELD, MASS.

Patient.—Dr. L. P., aged 39, consulted me at my office about 6 p. m., May 13, 1905.

History.—The patient stated the day previously he had changed the dressings of a child on whom a tracheotomy had been done for relief of tracheal obstruction due to the pressure of a purulent collection in the adjacent tissues. While doing this his patient coughed and ejected a quantity of the trachael contents, particles of which he was conscious were projected into his face, nose and throat. No immediate ill effects were observed, but about noon of the following day he began to have chilly sensations, headache and some pharyngeal soreness. The chilliness increased steadily during the afternoon, until at the time I saw him he was having a severe rigor with chattering of the teeth and general muscular quivering. Temperature, 102 F.; pulse, 106; respirations, 24. He complained of severe headache, anorexia and tendency to nausea. He was at once ordered to bed. During the succeeding twelve hours he had a short, dry, hacking cough and intense frontal and occipital headache and severe backache. His tongue was heavily coated and he complained of discomfort in right chest. He was nauseated several times during the night; very restless until 1:30 a. m., then dozed occasionally. He had a slight epistaxis at 2 a. m. and chilly sensations during the night. On the morning of May 14 he felt much improved and was inclined to consider his illness not serious. He requested to see the daily papers and proposed getting dressed and about later in the day. Temperature, 99.2 F.; pulse, 72; respirations, 20. This improved condition continued until after 3 p. m., at which time the records were as stated. He had slept at intervals during the day. About 5 p. m. he began to have chilly sensations and complained of intense muscular pain in left arm and left chest, and of severe diffuse headache and backache. At 7:45 p. m. his temperature was 103 F.; pulse, 112, and respirations, 26. At 10:30 p. m., temperature was 104 F.; pulse, 126, and respirations, 26. He slept none during that night; skin was hot and dry; had frequent nausea, and his fingers and toes were cyanotic at intervals. He was bathed frequently and liquid nourishment was given him. His urine for twenty-four hours was 19 ounces and contained a large quantity of albumin and many granular and hyalin casts.

From 6 p. m., May 14, until after noon May 17 his temperature ranged from 103.2 F. to 104.4 F. continuously. There was no regular diurnal variation, it sometimes being high in forenoon, again in afternoon or at midday or midnight. Hot sponge baths induced free perspiration for short periods. On May 15 he had five free liquid dejections following the use of elaterium. The pulse range during this time was from 106 to 120, and his respiratory rate 20 to 26. During the night of May 16 he coughed frequently, was delirious at times and had rather profuse epistaxis at 10 p. m. Slept one and one-half hours during the night.

On May 17 he complained of severe pain in region of left pectoral muscle, had persistent, dry, hacking cough, but no expectoration; suffered from intense postocular and occipital headache. Light annoyed him. He had a moderate epistaxis three times during the forenoon. Was delirious at frequent intervals during the day and perspired freely in the evening.

On May 18 at 9 a. m. consultation was held with Drs. J. H. Musser, Weiser, Keefe, Guild and Weston. Patient's temperature was 103.2 F.; pulse, 104, and respirations, 28. He had slept but about twenty minutes during the night. A most thorough examination of the chest was made, but no abnormal pulmonary or cardiac condition was demonstrable. The left pectoral muscle was somewhat indurated and exquisitely tender on palpation. Needle exploration for pus was negative. The subsequent progress of the case demonstrated the inefficiency of this method for determining the presence of pus.

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* Read at regular meeting of Hampden Medical Society, Oct. 17, 1905.

Diagnosis.—Acute myositis, infective, with acute nephritis, probably also infective. The infective agent probably the pneumococcus, grippe bacillus or staphylococcus. In the endeavor to determine the infective agent careful bacteriologic examination was made by Dr. Guild of both the nasal and buccal discharges, but without demonstrating the pneumococcus. The patient was delirious the greater part of the day.

May 19: Patient slept about eight and one-half hours (induced). Complained of aching in all parts of body, with particular soreness of left chest on coughing or deep inspiration. Temperature, 102.6 F. at noon, 100.2 F. at 6 p. m.; pulse ranged from 104 to 98.

May 20: Soreness in left chest; stiffness and pain in cervical region. Temperature (high), 102.6 F. at 3 a. m.; (low), 101.2 F. at 3 p. m.; pulse, 110 to 96; respirations, 44 at 9 p. m., 26 at noon.

May 21, 22 and 23: Temperature ranged from 102 F. to 99.6 F.; pulse from 104 to 88, and respirations from 44 to 26. Slept most of the time. Had to be awakened for nourishment and medicines. Complained of general pains throughout body, and of an annoying, short, dry, hacking cough most of the time when awake, and of severe headache.

May 24: Headache continued and he complained of vertigo of subjective type, and of frequent attacks of faintness and malaise. His skin was cool, moist and clammy. Temperature, 102 F. to 99 F.; pulse from 110 to 90, and respirations from 32 to 26. During this time there was exquisite tenderness, marked redness and a tense, indurated condition in the left pectoral region. Sometimes deep palpation would indicate that there might be fluid deeply seated; again this would not be demonstrable, but the muscles felt hard and tensely drawn against the chest wall. Pain was constant in the left pectoral muscles and left arm. There was no voluntary movement of the arm because of increased pain if such movement was attempted. The forearm was flexed on the arm most of the time, this position affording the greatest degree of comfort. The arm could be moved only about two inches laterally without causing extreme pain.

May 25 to June 3 inclusive: Patient perspired freely and continuously, and the pain in his left arm was very severe and continuous. He felt extremely weak and exhausted. Had several large, loose dejections with sharp, griping pain in bowels every day. He attributed this to the milk (which had been peptonized), and for three days milk was discontinued and other forms of nourishment substituted—barley, egg albumin, chicken broth and meat powder. The dejections were apparently well digested, only two containing undigested particles. Headache was constant. He perspired freely during the night. Slept on an average eight hours every night, and from five to eight hours during the day. Had severe pain in left arm, and occasional chilly sensations. There was a distressing tendency to cough. His face was very red at intervals, being cyanotic about the nose and ears. Had more pain in arm during the last two days and less in chest wall.

On June 2 about 4 p. m. he complained of feeling cold and of having increased pain. The pain in the pectoral region was described as of a deep, boring, burning character. Some soreness of throat with constant headache and increased hebetude. Temperature ranged from 102.6 F. to 98.6 F., during most of this time being from 100 F. to 101 F. Pulse was of good volume and from 114 to 92, the greater part of the time being between 100 and 110. Respirations were from 30 to 24. For several days there had been an increasing difference of opinion between the attending physicians as to the demand for surgical intervention, and on June 3 it was determined to summon Dr. J. B. Deaver in consultation. He saw the patient at 8 a. m., June 4. It was then decided that the patient should be removed from his hotel, where he had been from the beginning of his illness, to the hospital. This was done.

Operation.—At 9 a. m., June 4, operation was done by Dr. Deaver. An incision was made from near the left coracoid process diagonally downward across the chest, following approximately, the lower border of the pectoralis major muscle to a point near the lower end of the sternum. About eight ounces of thick purulent material was evacuated. The muscle was considerably disorganized, but, as remarked by Dr. Deaver at the time, apparently not sufficiently to preclude possible restoration to comparative usefulness. Numerous pus foci were present scattered through the body of the pectoral muscles. These were evacuated, the large pectoral muscle being lifted from the chest wall and all the exposed parts thoroughly cleansed. Four counter openings were made through the skin along the line of the clavicle at the upper border of the cavity, through which large rubber drainage tubes were passed, emerging through the long incision below. The wound was then packed with gauze and the patient returned to bed. Previous to the operation the temperature was 99.8 F., the pulse 106, and the respiration 24.

Postoperative History.—Patient recovered consciousness at 10:20 a. m. The skin was cold and covered with a profuse clammy perspiration. At noon his temperature was 97.6 F.; pulse 114, and respirations 20. He slept at intervals during the day. Complained of chilly sensations about 5 p. m. There was considerable serous oozing from the wound. At 9 p. m. his temperature was 103.8 F., pulse 140, and respirations 38. He perspired freely all night. Felt weak, but had no pain in arm or chest, and slept eight hours.

June 5 to 9 inclusive: At 6 a. m. of June 5 his temperature was 100.4 F., pulse 140, and respirations 34. At 6 p. m., temperature 102 F., pulse 138, and respirations 28. During the following days the diseased area was thoroughly irrigated twice daily with antiseptic solutions and packed with plain gauze. Temperature ranged from normal in the morning to 101.6 F. at night. Pulse from June 6, two days after operation, to June 10, from 98 to 110. Respirations, 24 to 30. To the date of the surgical intervention, mental depression had been a marked feature. Following the surgical measures the mental attitude changed decidedly and the patient was bright and cheerful.

June 10: Complained of more pain in left shoulder and chest, and also of great exhaustion. Had occasional chills. Temperature ranged from normal to 102 F.; pulse weaker, 116 to 128; respirations, 24 to 28.

June 11: Pain through left chest, shoulder and arm increased. Increased discharge of pus and perspired profusely, especially when asleep.

June 12: Temperature from normal to 101.2; pulse, 120 to 138; respirations, 24 to 28. This condition continued with little if any change until June 17, the patient feeling very weak and exhausted and having severe pain in left arm, shoulder and chest. Temperature, from 100 F. to 103 F. (latter at 6 p. m. both 16th and 17th); pulse, 126 to 148; respirations, 26 to 30.

Second Operation.—June 18.—At 9 a. m. temperature was 99.6, pulse 126, and respirations 26. At 6 p. m., temperature 102.6 F., pulse 124, and respirations 28. At 8 p. m., operation by Dr. Deaver, consisting of complete extirpation of the left major and minor pectoral muscles, with clearing of the axillary space which was filled with disorganized, broken-down tissue. The pectoral muscles consisted of softened, infiltrated débris, with numerous pockets of pus. The denuded surface was swabbed with pure carbolic acid, followed immediately with alcohol, and the wound was then packed with gauze saturated with alcohol. The patient was returned to bed at 8:55 p. m. in a state of collapse with no perceptible radial pulse, surface of body cold and bathed in perspiration. At 9:30 p. m. pulse was 200; at 10 p. m., 210; at 11, 180; at 12, 200; at 1 a. m., 220. Died at 1:30 a. m., without having recovered consciousness. The improvement in the pulse shortly after 10 a. m. followed the intravenous introduction of 24 ounces of physiologic salt solution.

Uranalyses.—The first quantitative analysis of the urine was made May 16 and contained 17 per cent. (by volume) of albumin, numerous other coarse, dark, granular, medium-sized casts, some hyaline casts and a few epithelial cells. Urea 10 grains to the ounce.

May 19: Albumin, 4.5 per cent (by volume).

May 26: Albumin, 1.75 per cent. (by volume). During this period the chlorids fluctuated between 1 and 2 per cent. Urea normal or slightly below.

May 30: There remained but a trace of albumin, chlorids

7 per cent., and urea 6½ grains per ounce. There were found three medium-sized hyaline casts.

June 7: Albumin entirely gone, urea 6 grains to ounce, chlorids 9 per cent. The twenty-four hour quantity fluctuated between 50 and 100 ounces, averaging 70 to 80 ounces.

Bacteriologic Examinations.—May 15: Widal test for typhoid, negative. On June 1 a blood examination showed the leucocyte count 20,650 per mm., increase confined to the polynuclear leucocytes. It was an inflammatory leucocytosis, probably septic, not enough to warrant a diagnosis of pus formation. On June 5 a bacteriologic examination of specimens of pus taken from swabs of diseased surfaces at time of operation on previous day showed only the staphylococcus pyogenes aureus.

Dietetic Treatment.—It was realized from the outset that the patient was suffering from a complication of diseases of a most serious nature. The attempt was made, therefore, to secure the assimilation of a sufficient variety and quantity of food to fully support the vital forces. To do this without overworking the renal organs added to the difficulties. The patient was supplied with, and perfectly assimilated from 2,000 to 4,000 calories of mixed foodstuffs during each twenty-four hours of his sickness. During the entire period he had but two dejections containing undigested particles in sufficient quantity to be determinable by macroscopic examination. He was so well nourished as to occasion approving comment of the professional friends who saw him.

Medicinal Treatment.—The first day he had, in divided doses, two grains of calomel, which acted mildly. On the second day he had one grain of elaterium, divided in eight doses. This was followed by free watery dejections, with immediate relief from uremic symptoms. On the fourth day he had one dose (by rectum) of 20 grains of chloral hydrate and 60 grains sodium bromid, which was followed by several hours of refreshing sleep. At this time and continuing for several days, he had 20 grains of potassium citrate every four hours, alternating with one-drop doses of a 1 per cent. solution of glonoin. From June 3 to June 10 he had no drugs. From this date until the end he had strychnin sulphate, 1/40 to 1/30 grain hypodermatically at three and four-hour intervals.

The surgical conditions and treatment have been given in detail in the history of the case.

THE BLOCKING OF AURICULAR EXTRASYSTOLES.

ALBION WALTER HEWLETT, M.D.
SAN FRANCISCO.

The newer methods of analyzing the venous pulse have enabled us to differentiate clinically a number of forms of cardiac arrhythmia that could not otherwise be properly classified. So far as I am aware, arrhythmias due to a blocking of extrasystoles on their passage from the auricles to the ventricles have not been described. I am able to report such a case here through the kindness of Dr. T. W. Huntington.

Patient.—P. C., clergyman, aged 56, entered the Lane Hospital for operation on a left inguinal hernia.

History.—His family history was excellent and his past history contained little of note. He had been twice poisoned by eating mussels, the last time five years ago, but had never had a severe illness. He habitually drank a cup of coffee in the morning, a cup of tea at noon, and an occasional glass of wine at meals; he did not use tobacco. He first noticed some irregularity of the heart three months previously. He did not know what brought it on nor what made it worse, and was conscious of his heart action only when considerably excited. He had no shortness of breath on exertion; no swelling of the feet; no attacks of dizziness; no cough, etc.

Examination.—This showed a rather nervous, fairly well-nourished man. The right pupil was slightly larger than the left; both reacted to light and on accommodation. Lungs, abdomen, and reflexes were negative.

Heart and Vessels: The point of maximum impulse was in the fifth intercostal space, 2 cm. outside of the mammary line and 12 cm. to the left of the median line. The area of cardiac dulness extended from the upper border of the third rib to 12 cm. to the left and 3 cm. to the right of the median line. The heart sounds were clear, the first being of a booming quality at the apex; the second at the pulmonary area was accentuated and reduplicated. The radial arteries were markedly thickened and contained irregular hard plates. The temporal arteries were also thickened and tortuous. Pulse: The rhythm was interrupted at times by small premature beats, followed by longer compensatory pauses; at other times there was simply a pause in the regular succession of beats without any palpable premature pulse. These pauses were sometimes so frequent as to produce for a short time a slow and perfectly regular rhythm (Fig. 2). One might have suspected that he was dealing with an ordinary case of extrasystoles, some of which produced a radial pulse, while others did not. Auscultation over the apex, however, showed complete silence during most of the intervals when no extra pulse was felt; whereas, as is well known, extrasystoles affecting the ventricles invariably give rise to a well-marked first sound.

Sphygmography.—In Figure 1 are seen tracings of the radial pulse, the apex beat, and the jugular pulse during a comparatively normal period. The duration of the normal pulse interval is about 0.85 second. The jugular tracing shows the three characteristic waves: a, due to the contraction of the auricle; c, the transmitted carotid pulse; and v, following the contraction of the ventricle. The regular rhythm is interrupted by an extrasystole at x. This extrasystole shows slightly on the rather poor apex tracing, and slightly also on the radial tracing. On the jugular tracing it is indicated by an unusually high wave a', which begins a little earlier than the v wave, which should follow the preceding normal systole. The early occurrence of this wave and its height lead us to believe that it is due, at least in part, to a premature auricular contraction, and possibly in part to the v wave from the preceding normal systole. The carotid pulse following this extra-auricular contraction is so small as not to be visible on the tracing from the neck, but the radial tracing shows that a small extra pulse was present. The apex tracing and the occurrence of a v' wave on the jugular tracing likewise bear witness to the occurrence of an extrasystole of the ventricle. This tracing shows, therefore, a normal pulse rhythm interrupted at one point by an extrasystole. The latter originates in the auricles and spreads thence to the ventricles.

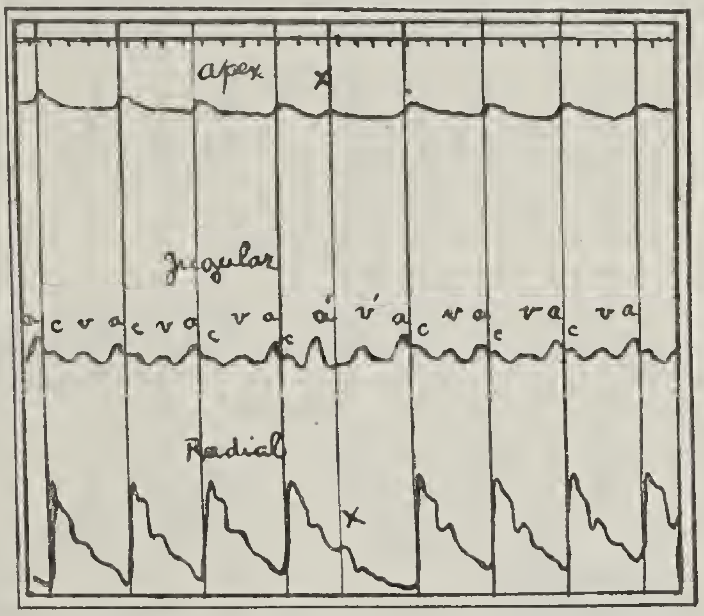

Fig. 1.—Normal pulse rate, interrupted at x by an extrasystole, which starts in the auricles and spreads to the ventricles.

The radial pulse in Figure 2 might lead one to suspect a slow and regular heart action were it not that the apex tracing and a closer inspection of the radial tracing also demonstrate the presence of extrasystoles, x. It is possible to have ventricular extrasystoles interpolated between the normal beats of a slowly beating heart without there being any compensatory pauses.[1] On such an assumption the normal pulse interval in this tracing would be 1.5 seconds; but from Figure 1, which is a continuation of Figure 2, on the same piece of paper, we have already learned that the normal interval is 0.85 second. From a comparison with this earlier tracing, it also becomes apparent that those extrasystoles of Figure 2 involving the ventricles are exactly the same as the solitary extrasystole of Figure 1. They all originate in the auricles and spread thence to the ventricles. In two places on Figure 2, however, no extra-ventricular contractions are interposed between the normal beats. This appears not only from an inspection of the apex tracing, but from the complete absence of heart sounds previously referred to. A study of the jugular pulse shows the cause of this absence. The ordinary extrasystole in this patient shows itself on the jugular pulse by a well-marked *a′* wave, due to the premature contraction of the auricle, and also by the *c′* and *v′* waves, due to the contraction of the ventricles. During these intermissions, however, the high *a′* wave alone appears. The auricles contract prematurely, but no contraction of the ventricles follows.

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[1] Pan (O.); Deutsch. Arch. f. klin. Med., lxxviii, 128.

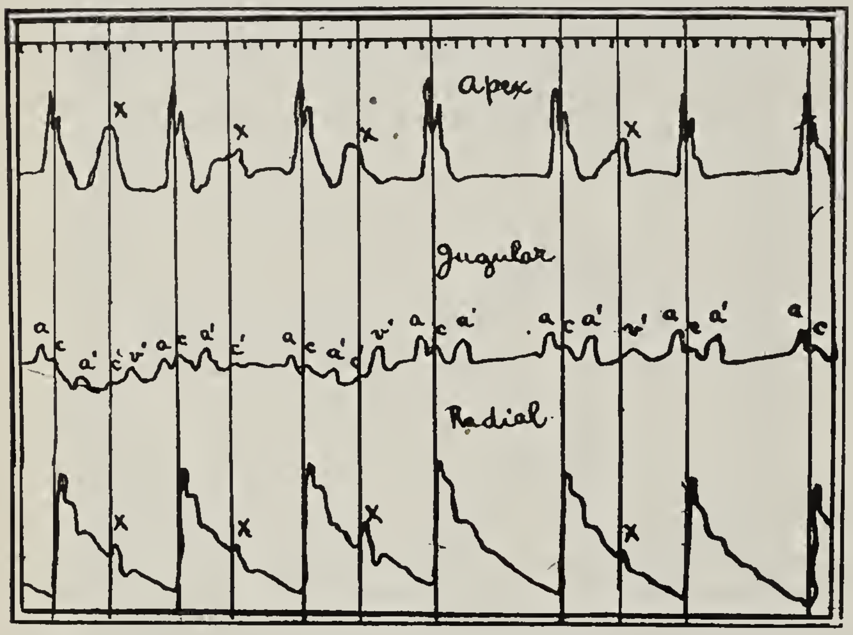

Fig. 2.—Each normal pulse is followed by an auricular extrasystole. In those marked *x* the extrasystole spreads from the auricles to the ventricles; in the remaining two the contraction wave does not affect the ventricles.

The reason why the ventricle fails to contract may be studied in Figure 3, which by a fortunate coincidence shows on a rapidly moving paper the three main features of this pulse, viz.: The normal pulse, the extrasystole crossing to the ventricle, and the extrasystole that affects the auricles only. The interval between any *a* wave (contraction of the auricle) and the succeeding *c* wave (carotid pulse), the *a-c* interval, as it is called, has been taken by Mackenzie to measure the rate of transmission of the cardiac contraction wave from the auricles to the ventricles. Its normal duration is 0.2 second or less; and if it be longer than this, Mackenzie considers that the conductivity across the His bundle is impaired. The *a-c* interval for the normal beats in my patient was 0.18 second, or about normal. The *a-c* interval for the extrasystoles on the other hand was 0.35 second, a very considerable prolongation (0.17 second beyond his normal); yet the prolongation here was due only in part to a loss of conductivity. A comparison of the apex and jugular tracings shows that the interval between the beginning of the *a* wave on the jugular tracing and the beginning of the ventricular contraction on the apex tracing is 0.13 second in the normal beat and 0.21 second in the extrasystole; a lengthening of 0.08 second. The remainder of the lengthening of the *a-c* interval is due to the fact that an abnormally long time elapses between the beginning of the ventricular contraction and the beginning of the carotid pulse (prolongation of the period of ventricular tension). Thus in Figure 3, the interval between the beginning of the ventricular systole and the beginning of the normal carotid pulse is 0.05 second, while the same interval for the extrasystole is 0.14 second, a difference of 0.09 second. At least two factors tend to lengthen the period of tension, both of which depend on the early occurrence of the abnormal contraction. In the first place, the aortic pressure is highest just after any systole so that the earlier the succeeding contraction the longer it will take for the intraventricular pressure to reach such a height as to exceed the aortic pressure and to open the semilunar valves. In the second place, the contractility of the ventricle is reduced after a systole and it seems reasonable to assume that a weakened ventricle should take a longer time than a rested one to produce a certain pressure.

How are we to explain the complete absence of certain ventricular contractions? Two possibilities present themselves: 1, A lack of conductivity from the auricles to the ventricles; 2, a lack of contractility on the part of the ventricles. We have just seen that where the ventricles take part in the extrasystoles both conductivity and contractility are diminished. The diminution of conductivity is apparent from the lengthening of the interval between the contraction of the auricles and the contraction of the ventricles. The diminution of contractility is evidenced by the prolongation of the period of tension. A still further reduction of either of these might lead to a falling out of the ventricular systole; but it is difficult to decide which is actually most at fault in this patient. One fact mitigates against its being a lack of contractility. In the many times I listened to the irregular heart action I have never heard an extrasystolic first sound that was not followed by a second sound, which means that the ventricular contractions, when present, were always of sufficient force to send blood into the aorta or pulmonary artery. Had the falling out of the extrasystoles been due to a lack of contractility we should have expected to find transition systoles of such force that, although the ventricle contracted, the semilunar valves were not opened. The apparent absence of such extrasystoles causes us to favor the view that the falling out of ventricular contractions was due, not to a lack of contractility, but to a failure of impulses to cross the auriculoventricular junction.

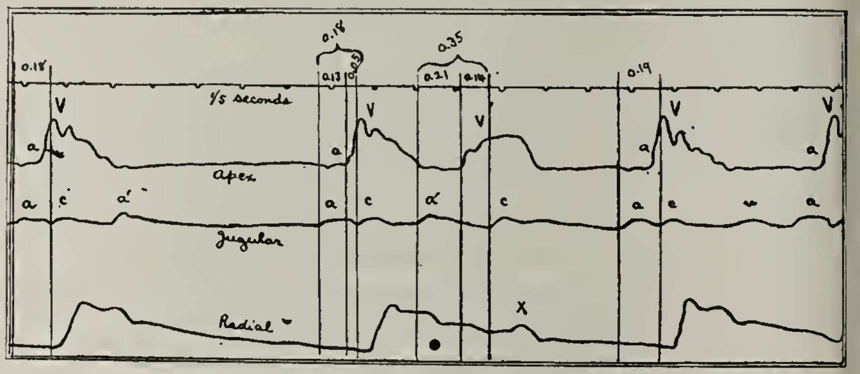

Fig. 3.—Record on a rapidly moving piece of a paper. First a normal contraction followed by an extra-auricular contraction, but not ventricular contraction; second, a normal contraction followed by an ordinary auricular extrasystole; third, a normal pulse without an extrasystole.

The slowing or failure of the conduction during the extrasystoles is due to the occurrence of the latter so immediately after the preceding normal beats. The interval was not sufficiently long for the conductivity of the His bundle to return to its normal level. A similar observation has been made on hearts whose conductivity was but slightly diminished. In such hearts every contraction wave may pass from the auricles to the ventricles so long as the rate is a slow one; but if the rate becomes accelerated, one or more waves are blocked at the auriculoventricular junction.

Syncope in Biliary Colic.—Maggard, in the *Journal of the Kansas Medical Society*, states that the syncope which sometimes attends biliary colic is best treated by atropin, strychnin, normal salt solution and brandy. Ether is a valuable heart stimulant and should be injected deeply when given hypodermatically in order to prevent the severe pain which it produces when injected superficially.

N IMPROVED AND ACCURATE METHOD OF LOCATING FOREIGN BODIES WITH THE ROENTGEN RAY.*

ROBERT CAROTHERS, M.D.
CINCINNATI.

There are living to-day many veterans of the Civil Var who have carried bullets within their bodies all these years and who have experienced little or no discomfort from them. But while a foreign body within the anatomy is not always a menace to good health and it does not become necessary and imperative that it should be removed, it is undoubtedly true that foreign bodies do at times cause trouble that calls for their removal. In these days of neuroses it becomes, at times, imperative to remove a foreign body for the relief of neurasthenia, although it must be admitted that such removal does not always relieve the condition. Since the introduction of the Roentgen ray this reason for removal is on the increase. An individual who is the recipient of a foreign body does not go far before some one, either on solicitation or otherwise, makes a radiogram of the part which, in many instances, is known to either excite or increase neurasthenic symptoms, and then the foreign body must come out.

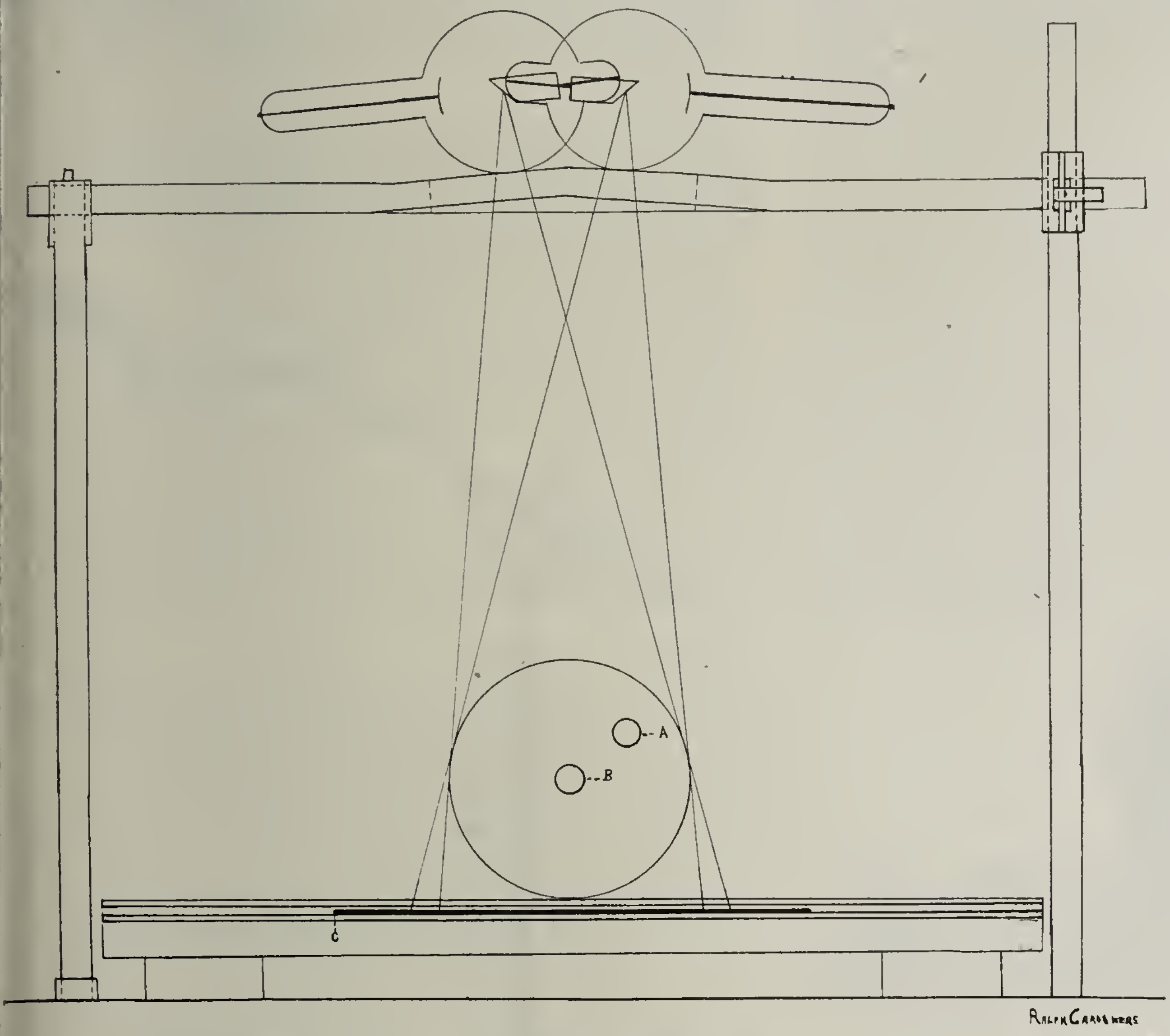

Fig. 1.—Diagram showing method of obtaining stereoskiagram. A, bullet or foreign body; B, bone; C, plate for exposure.

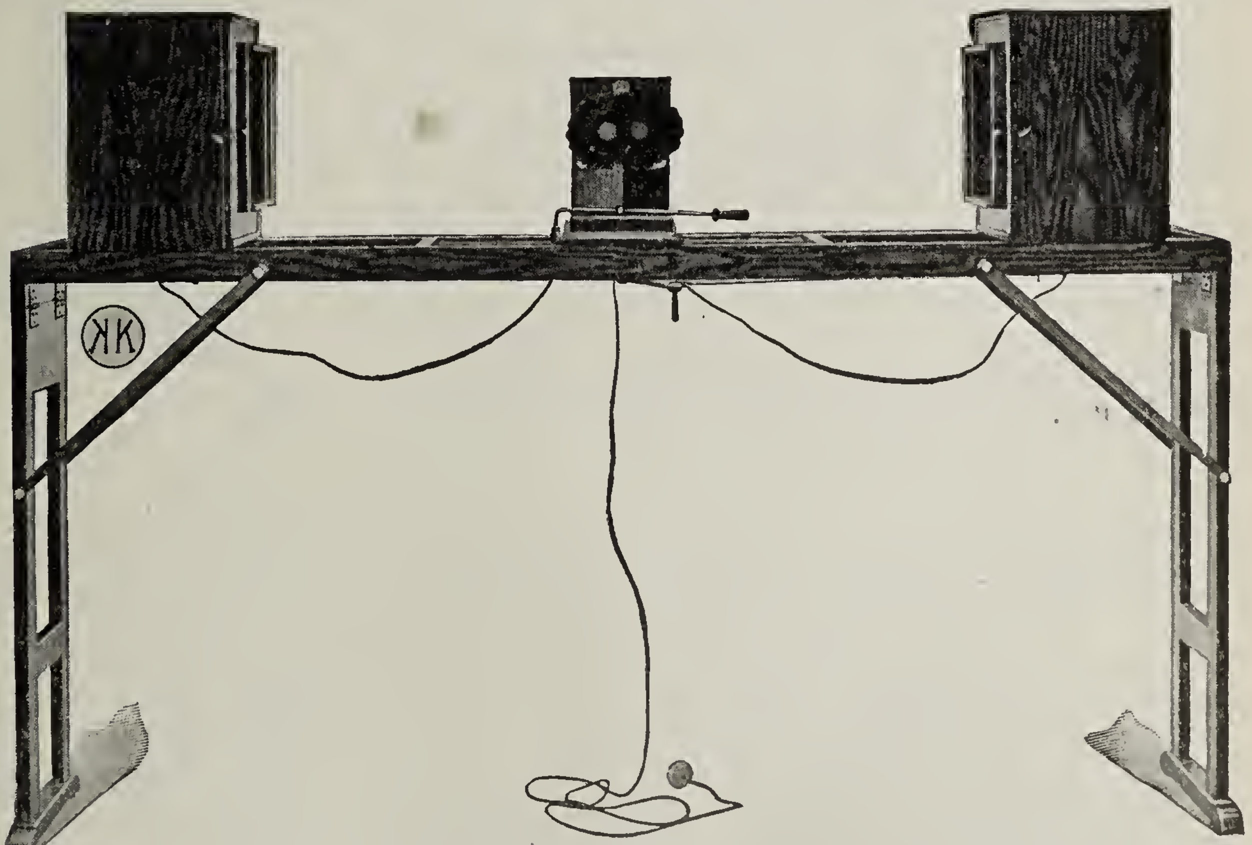

Fig. 2.—Apparatus for viewing the two plates so as to obtain stereoscopic effect.

Asepsis is of prime importance in foreign body surgery, as also is surgical experience. It is no work for the novice. I have seen two failures by young men who, after radiograms had been made, viewed the work from a light-hearted standpoint, but in the end were glad to have assistance. Even under the most favorable circumstances it is not always easy work, leading one, not infrequently, into dangerous waters and sometimes trying to the limit one's patience. The easy cases in dexterous hands are misleading, and that coolness and equipoise a surgeon acquires from experience is much to be desired in this branch of surgery.

If the field of operation can be made dry with tourniquet or otherwise it is a decided advantage. Whatever else may be said, the most important requisite is a definite idea of the location of the foreign body. The Roentgen ray has been of untold value in supplying this requirement.

Stereoscopy as applied to skiagraphy, called stereoskiagraphy, is the most improved method and would seem to give the most accurate location of a foreign body. The object of this paper is really to demonstrate the stereoscope. This idea has been worked up by many radiographers in different parts of the country, independent of each other; therefore, no one can claim unchallenged priority. The instrument shown in the illustration was designed and made by Mr. Kelley of the Kelley-Koett Manufacturing Co., and to him I am indebted for his mechanical skill in working out crude ideas. The ordinary Roentgen ray plate looks flat. The stereoscope gives a perspective view much as if the parts (bone and bullet) were before one.

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* Read before the Southern Surgical and Gynecological Association, Baltimore, Dec. 10, 1906.

Two separate plates are made of the same part without changing in the least the position of the part skiagraphed, which is placed on the compression diaphragm table on a hollow board or plate holder with a metallic bottom, so that the rays can be partially obstructed, and in this way one plate can be removed and a second supplied. The compression diaphragm is discarded and replaced by a hollow, double-inclined plane or platform at an angle of 160 degrees. With a plumb-bob the apex of the double-inclined plane is centered through the center of the part to be skiagraphed on to the center of the plate. The plates are made with the tube in the tube holder placed eighteen inches above the plate and one and three-eighths inches to either side of this central point so that they are made from points two and three-quarter inches separated from each other, corresponding to the distance between the human eyes.

The developed plates are placed in highly-illuminated boxes facing each other and are from them reflected into two small looking-glasses which are placed at a right angle to each other with the apex of the angle placed between the eyes of the observer in the stereoscope. One now looks into the two looking-glasses; each eye in a separate glass sees a separate plate; then by adjusting the plates and the stereoscope to get an exact focus the two plates are made to look as one, giving a perspective view. This method is of special value in locating foreign bodies in the spine, thorax and abdomen where it is impossible to get a plate, which is not flat, by any other method.

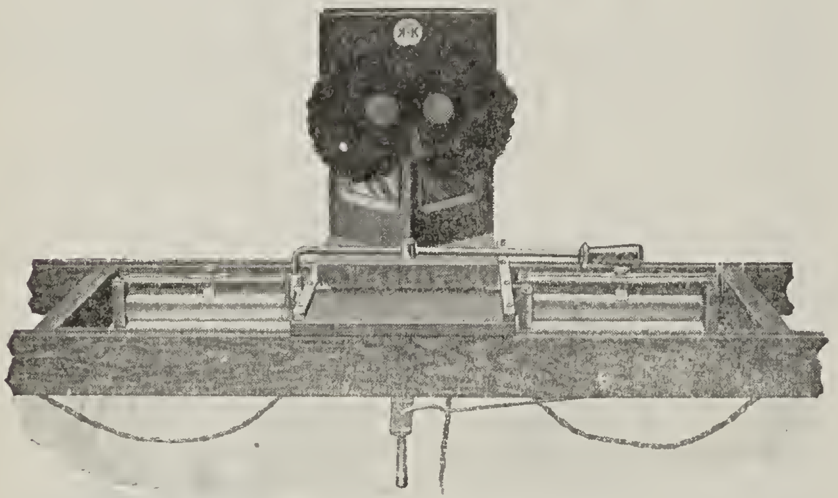

Fig. 3.—The stereoscope shown in Fig. 2, enlarged.

THE TREATMENT OF ABSCESSES BY PUNCTURE AND DISINFECTION WITHOUT INCISION AND DRAINAGE.

De Witt Stetten, M.D.
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Stimulated by the results of Bier[1] and Klapp[2] with suction and hyperemia and of Lennander[3] with his carbolic-alcohol method, I have been led to attempt a conservative treatment of localized suppurations without elaborate apparatus on the one hand and without incision and drainage on the other. The plan I followed is not a new one. It is simply a modification of older methods with a newer application. What Scott Helm,[4] Hayden[5] and others tried with buboes I modified and extended to almost every form of acute external abscess. The object was to avoid mutilating scars and protracted convalescence from extensive incisions and long-continued drainage. Briefly stated, the method is as follows:

1. After careful disinfection of the skin and under infiltration anesthesia of the most dependent portion of the abscess, the abscess is punctured with a large trocar or a pointed scalpel and the pus is gently expressed This is superior to aspiration.

2. The cavity is then thoroughly irrigated through the trocar, which fits an ordinary 10 c.c. syringe, with a 1-1000 corrosive sublimate solution. This can be used with impunity in large quantities, as the abscess wal does not absorb. I have found this strength to be the most satisfactory.

3. The remnants of the corrosive sublimate solution are carefully expressed and the abscess cavity is partly distended with a 5 to 10 per cent. iodoform glycerin. A moist dressing with a firm pressure bandage is then applied.

In other words, the acute abscess is converted into a chronic one by more or less thorough disinfection and treated according to the principles originally laid down by Henle[6] for the management of cold abscesses.

Up to date I have treated forty-five cases of every degree and variety with rather astonishing results. Most of them were cured without scarring in four or five days. Turbid serum oozes from the puncture wound for a day or two, all signs of acute inflammation subside and the walls of the abscess cavity agglutinate. Occasionally an induration persists for about a week, but eventually this entirely disappears. Sometimes sero-pus or serum reaccumulates, but expression, or if need be, redisinfection and reinjection remedies this. Rarely is a third treatment necessary.

Although there were never any unfavorable complications, abscesses of caseous tuberculous glands did no yield well to this treatment. These generally required a secondary curetting, but were none the worse for the preliminary conservative therapy. There were four of this class in my series. All the other cases whether of streptococcus or staphylococcus origin, particularly mammary and cervical abscesses, ran a very smooth course. The method is somewhat painful, bu perfected technic will in a great measure dispose of this disadvantage. This treatment is not offered as a panacea for all acute abscesses, but I am convinced of its indications and think it worthy of trial. It is not suggested as a revolutionary measure, but the results justify the opinion that incision and drainage have been practiced hitherto in the treatment of circumscribed pu formation with unnecessary and indiscriminate ruthlessness and severity.

I am indebted to Dr. Charles Goodman, in whose department of the Mt. Sinai Dispensary I carried out my treatment, for the opportunity to give my theory a practical test.

1356 Madison Avenue.

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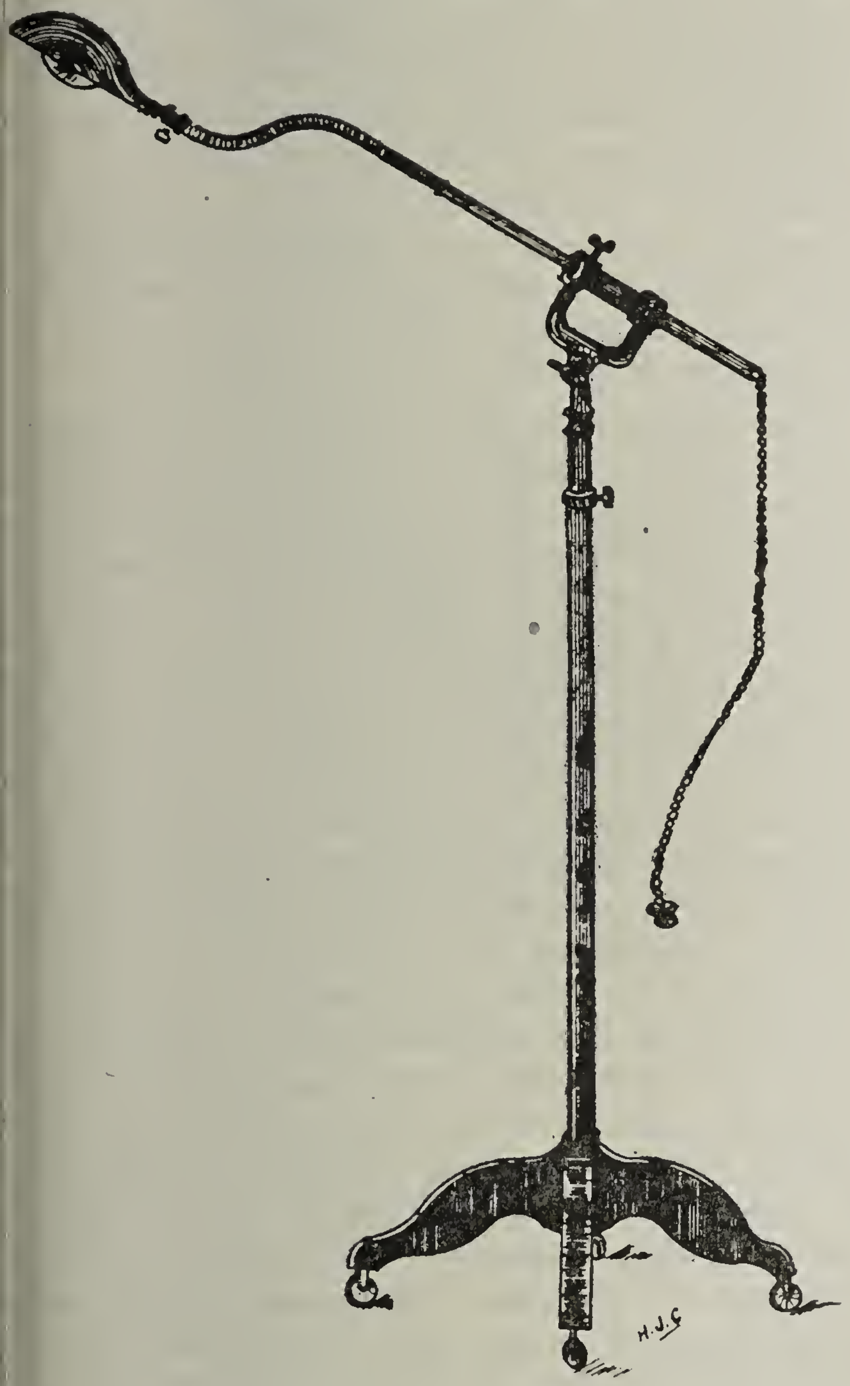
[1] Münch. med. Wochschr., 1905, lii, 201, 263, 318; Hyperaemie als Heilmittel, Leipsig, 1905.
[2] Münch. med. Wochschr., 1905, lii, 740-745.
[3] Beitr. z. d. klin. Chir., 1906, li, 1-22.
[4] Chicago Med. Jour. and Exam. 1886, liii, 201.
[5] American Jour. Med. Sci., 1895, n. s. cx, 519.
[6] Beit. z. d. klin. Chir., 1898, xx, 363, 803.

AN IMPROVED ADJUSTABLE ELECTRIC LIGHT STAND FOR OPERATING ROOMS.

GILBERT ROYCE, B.A., M.B.
rmerly House Surgeon to the Eye and Ear Departments of the New York Eye and Ear Infirmary.
TORONTO.

A feature of this standard is its universal adjustality. The whole stand can be rotated on its base. The eight of the lamp can be regulated by the inner tube of e upright. The extension arm can be shortened or ngthened, tilted up or down or shortened and used rtically.

The standard consists of a heavy tripod base mounted n rubber-tired castors. Attached to this is an upright iece consisting of two tubes, one telescoping in the ther, the movement of the inner tube being controlled y a thumb screw. At the top of the inner tube a slot ngages a U-shaped bracket, which can be tilted up or own and is retained in position by a winged screw. A hort tube is brazed into the ends of the bracket.



The upright piece of an ordinary goose-neck electric ight stand is pushed through the tube in the bracket, here it can be clamped if necessary. The flexible part f this horizontal arm is of sufficient length (eight nches) to enable one to turn the light in any desired irection.

The lamp itself is a spiral filament stereopticon of 24 andle-power with no frosting and is shaded by an alumnum reflector so fastened as to allow of its being turned bout the lamp in directing the light toward any side.

This apparatus has been found especially useful in mastoid work, for which, indeed, it was originally intended. The stand is placed behind the anesthetist and the horizontal arm, covered with sterilized towels, is stretched forward over the patient, where the light, with the aid of one hand only, can be instantly and easily adjusted to illuminate the operative field or turned up toward the head-mirror of the operator. This appliance has been in use in the New York Eye and Ear Infirmary for the past year, and has given satisfaction. It is manufactured by the Hospital Supply Company of New York.

12 Carlton Street

ACUTE FRONTAL SINUSITIS.

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JOHNSTOWN, PA.

Although writers frequently refer to ocular phenomena occurring as complications or symptoms of disease of the accessory cavities of the nose, I report this case in order to emphasize the importance of differential diagnosis and to illustrate the fallacy of too strictly limiting one's observation to the organ which exhibits the more pronounced symptoms.

History.—A minister, aged 39, gave a history of good general health except for a chronic rhinitis of moderate degree. He had worn glasses during the past sixteen years. The latest pair proved to be lenses for the correction of simple myopia. I later found a marked degree of compound myopic astigmatism, which being corrected, greatly improved the vision. The patient had always been singularly free from the usual symptoms of eyestrain, seeking glasses only as a means of improving vision. In the latter part of the winter of 1897 he contracted a "cold" which was followed by excruciating pain at the root of the nose on the right side, extending outward along the supraorbital region and upward toward the vertex. The right eye was painful and sensitive to light. He consulted an ophthalmologist in the city where he then lived, who pronounced it "optic nerve inflammation," and proceeded to treat the eyes. After a week of almost unbearable pain, a discharge of greenish pus appeared in the right naris and relief was prompt. Almost four years later after moving to another state, a similar attack developed. In spite of the previous history, another specialist treated the eye without so much as examining the nasal cavities. Another week of suffering, a flow of pus, and it terminated as before. In February of this year I saw him for the first time. He related his history and stated that he had recently been suffering from a "cold." For two days past excruciating pain in the right inner supra-orbital and frontal regions and right eye had prevailed.

Examination.—Light pressure over the eye and frontal sinus could hardly be borne. The eye was also exceedingly sensitive to light. The vision on comparison with the fellow eye, and with test after recovery, was about what one would expect in neglected myopia with astigmatism. The fundus appearance can be described in the same way. The left nasal passage was negative except for a moderate rhinitis. The right side, however, presented more rhinitis, and the middle turbinate was turgid and had a glazed appearance.

Treatment.—After application of adrenalin and cocain an attempt was made to probe the frontal duct but it proved futile. An alkaline wash and an adrenalin spray were prescribed for nasal application. Acetanilid compound was given for pain, and atropin for its effect on the mucous membrane. He returned next day, reporting slight relief. Another attempt at probing proved successful. A small amount of pus appeared and relief was almost immediate. The turgidity of the middle turbinate and the flow of pus continued for about ten days. Absolutely no subjective symptoms have since been present.

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SATURDAY, MAY 11, 1907.

APPENDICITIS AND ANGINA.

According to Kretz,[1] acute phlegmonous appendicitis may be associated with acute tonsillitis, and in these cases streptococci occur as the predominating organism in the appendix, in the peritoneal exudate, and in the tonsils.

These conclusions are based on observations made after death, in cases in which the conditions were favorable for satisfactory study and all which occurred in young persons without previous attacks. The changes in the tonsils are marked: There is great swelling, pus oozes from the crypts on slight pressure, the tissue is succulent and there is edema of the surrounding structures; there is also swelling of the cervical lymph glands. Microscopically, in addition to the ordinary inflammatory changes, the tonsils show thrombosis of the lymph vessels and small fibrinous thrombi in the veins, but without purulent softening. In the cervical lymph nodes there may be large masses of cocci in the subcapsular sinuses and fibrin mixed with leucocytes and cocci in the central and efferent lymph vessels. So far as the changes in the appendix are concerned, they indicate that the process begins in the follicular tissue, whence it may extend to the peritoneum, either directly by continuity or in the form of lymphangitis in the mesentery.

As regards the route of the infection, assuming that the appendicitis is secondary to the tonsillitis, then the following possibilities must be considered: Pyogenic cocci may be pressed out of the tonsils in the act of swallowing and carried to the intestine, or the cocci may be transferred to the appendix by way of the blood. In favor of the latter as the more likely route speak the conditions already described in the tonsils and in the cervical lymph nodes, whence bacteria may pass directly into the blood (tonsillogenous bacteriemia); and the conditions in the appendix itself and the adjacent parts of the intestinal tract, especially when death ensues early, indicate clearly that the inflammation begins about minute foci of necrosis and miliary abscesses which correspond accurately in size and location to the lymphatic follicles, and which undoubtedly result from mycotic embolism, minute masses of cocci being found within the vessels in the center of the follicles. These interesting follicular foci were observed by Kretz in th cecum and also in the otherwise normal ileum.

Naturally, Kretz supports the hypothesis already advanced by others that acute appendicitis in certain case may be the result of a general infection which originates in a streptococcal tonsillitis and angina. The localization of the bacteria in the lymphatic apparatus o the intestine may be regarded as analogous to the localization that occurs in the bone marrow in acute osteomyelitis. In these cases (14) that serve as the basi of the work there was, as stated, no evidence of previou disease in the appendix, and the course of the diseas was rapid and severe. Kretz points out that in certain cases of acute appendicitis of moderate severity ther may be a history of attacks of tonsillitis shortly befor the appendicitis. And in several cases of subacute appendicitis examined after death Kretz found marke changes of a somewhat chronic nature in the tonsils an enlargement of the cervical lymph nodes. He suggest that when appendicitis develops some time after an attack of angina it is less dangerous because the body ha had time to arrange for its defense and is, therefore less likely to be overwhelmed by the infection.

These observations again emphasize the importanc of the tonsils in the etiology of various pyogenic infections. Kretz estimates that probably one-third of fata pyogenic infections are associated with angina as a initial lesion, and he suggests, as others have don before him, that undoubtedly many acute, more or les transitory febrile conditions are in reality mild angina or postanginal bacteriemias. He also points out tha Semmelweis really was the first to announce clearl that many apparently heterogeneous inflammations—acute endocarditis, osteomyelitis and arthritis, acute pericarditis and acute inflammations of other serous membranes—really belong together by virtue of a common mode of origin, namely, acute angina. And we now know that all these manifestations of infection may result from localizations of the same infectious agents, the most important of which undoubtedly is the streptococcus, for the entrance of which the tonsils offer specially favorable opportunities. There is need of careful systematic clinical studies of the relation of tonsillar infections to acute appendicitis in order that the special characteristics of appendicitis as a manifestation of tonsillogenous bacteriemia may become better known.

TYPHOID BACILLUS BEARERS AND THE PREVENTION OF TYPHOID FEVER.

We have called attention to the investigations which have been carried on in the past few years, especially in Bavaria, bearing on the transmission of typhoid fever by apparently healthy individuals. Such cases have been shown, as the work has progressed, to be not infrequent. The Germans call them *Typhusbacillentraeger*, but in the absence of precedent in our own language for the manufacture of such compound words we must call hem typhoid bacillus carriers or bearers. In a certain mall district in Bavaria bacteriologic examinations of the discharges have shown over fifty infected persons. When we consider how difficult it is to trace epidemic outbreaks of typhoid to their source, the importance of such individuals becomes apparent. In the recent Scranton epidemic, for example, evidence showed plainly enough that a certain water supply was infected, but no record of a typhoid fever patient being in a situation to affect the supply was obtained after the most careful search. Doubtless some "bacillus bearer" who felt, and, in fact, was, in good health carried the infection. Epidemics aside, small sporadic outbreaks of typhoid fever, such as occur in hospitals for the insane, and house outbreaks in remote country places, have usually been very difficult to follow to their source. Here, again the bacillus bearer doubtless plays a part. That this is sometimes the case is certain, as is shown by an instance cited by Dehler,[1] in which one bacillus bearer kept up a small outbreak.

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[1] Verh. d. Path. Ges., 1906, x, p. 229.

The important question regarding the bacillus bearers is, what is to be done to detect them and to prevent them from infecting others? So far as detection is concerned, we know of no method now universally practicable. We may reach a stage in the development of preventive medicine when a typhoid patient will be quarantined, like a diphtheria patient, until he is free from bacilli. No physician who has done bacteriologic work among typhoid patients doubts that, under present conditions, hundreds of them are discharged from hospitals yearly bearing typhoid bacilli in their urine and stools. This takes no account of private patients who are less carefully followed bacteriologically. So long as such conditions continue, it seems a hopeless task to try to limit typhoid fever by our present method, viz., the disinfection of the urine and feces. If the bacilli disappeared as soon as convalescence was established, this would be all very well, but, as the work on bacillus bearers has shown, the typhoid germ may be present in the urine or stools for months. Doubtless the fecal infection is in many cases, as Dehler suggests, secondary to a gall-bladder infection. Doubtless, too, in some instances, as in a case quoted by this author, draining of the bile passages will cure the infection and render the individual harmless. Even supposing it were possible to detect all bacillus bearers, it would not be possible to keep them under the influence of hexamethylenamin or to force them to submit to having their bile passages drained.

Shall we ever be able, then, to limit the ravages of typhoid fever? Certainly there is no excuse for outbreaks of the disease due to contaminated water supplies. The water company which permits conditions which allow of wholesale water contamination should be heavily mulcted by means of damage suits. It is doubtful that we shall be able to prevent sporadic cases of typhoid fever by educating the public in cleanliness. That it can almost be done under military discipline the Japanese have shown us, but that it can be done under the circumstances of every-day life is, to say the least, extremely dubious. There we are dealing not with trained men under discipline, but with the ignorant, the shiftless, and those of immature years unable to realize the meaning of preventive measures. It almost looks as though the stamping out of typhoid fever must be accomplished by some other means than by preventing the entrance of the typhoid bacillus into the human economy.

What other means of stamping out the disease do we possess? At present it would seem as though our greatest hope lay in preventive inoculation. Originated by the English army surgeons, its use has recently been extended to the German army, and the statistics of Eichholtz[2] seems to confirm the view that it is a valuable procedure. This author's figures are small, but, like the recent English figures, they show that inoculated soldiers are less liable to the disease, and when attacked show a much smaller mortality, much fewer severe complications, a shorter course and a milder run of fever. The method is still in its childhood, and may be improved. Millions submit to vaccination; typhoid fever is to the layman less terrible than smallpox, and it is not so indiscriminate in its attentions, but it is within the bounds of possibility that in time we shall be inoculating against typhoid fever just as we now vaccinate against smallpox.

THE FUTURE OF MEDICAL EDUCATION IN THE UNITED STATES.

Medical education in the United States is, at present, in a rather unsatisfactory condition, a condition due mainly to the circumstances under which it has developed. In this country the growth of medical education has followed lines quite different from those along which it has developed in Europe. In Germany and France the medical school has developed as a department of the university, in England under similar circumstances or in connection with a hospital, while in the United States it has usually come into existence as a fruit of the effort of a group of ambitious medical men, and has been devoid, originally, at any rate, of close official connection with either a university or a hospital. These remarks apply to a majority, but not to all, of the medical schools in this country.

Twenty or twenty-five years ago the student at an American medical school received almost purely didactic instruction, supplemented, however, by clinical observation under a preceptor which was often of a most practical kind. The actual instruction in a medical school extended over two short terms, the student hearing the same lectures each year. Later the longer graded course was instituted, and the amphitheater clinic came into vogue, and still later laboratory methods of teaching were developed, with the employment by the better schools of trained laboratory instructors devoting their whole time to the work. At present most, in fact practically all, of the better schools are, to use Barker's classification, on a semi-university basis. The subjects of the first two years are well, in a few instances admirably, taught by men specially trained for this purpose. The work of the last two years is still in the hands of the men who have by dint of hard work and natural ability risen above the rank and file, and stand in the forefront of the profession. Many of these men are good teachers, some are great teachers, but they are the busiest practitioners of the cities, and their practice, their livelihood, has, of necessity, first call on their time and their energy. The teachers in the clinical branches in some schools receive no remuneration, in others a scanty pittance, in a few a salary on which they can exist with the aid of consultation work. Not once but scores of times have these clinical teachers made the greatest sacrifices in the cause of teaching. Is it to be expected that the teaching work of these men, no matter how able they are, will compare with the work of men who devote their whole time and energy to the subject?

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[1] Münch. med. Wochschr., April 16, 1907.

[2] Münch. med. Wochschr., April 16, 1907.

The changes in teaching have been accompanied, as we mentioned recently,[1] by a great increase in the expense of medical education. A well equipped medical college is perhaps the most expensive form of technical school, and if medical teaching is to be put on a proper basis it will become more, rather than less, expensive. How to meet the demands of this increased expense is the question which the American medical college must answer. Not only must adequate laboratory facilities be provided, but a teaching hospital under the control of the school is an essential. Not only must the teachers of the scientific branches be adequately rewarded, but the clinical teachers must also receive salaries large enough to enable them at least to make their teaching their primary work. A few schools have met the problem by securing endowments from private sources, more are attempting to meet it by affiliation with rich universities. Up to the present time, however, none of the universities has placed its medical department on a true university basis. Just as the doctor's bill is generally the last to be paid, so the medical department is usually the last to which a university president pays attention.

After all it is the people who are most vitally interested in the question, for it is they who profit by the more thorough training of the physician. Has the general public done its duty by medical education? In some states the state university has a well equipped medical department, including a university hospital, but there are very few of these. Minnesota has taken the lead, not only in providing for high entrance requirements to its university medical school, but also in demanding that physicians coming to that state shall be educated equally as well as those from its own schools. The United States is no longer so thinly populated that there is difficulty in getting a sufficient number of physicians for the scattered population of the country districts; it is no longer so poor that it can not afford well educated physicians. The action already taken by some states indicates the lines along which help must come. The present system, however, presents certain problems. Is each state to aid only its own university medical school? If so, what is to become of the proprietary medical schools? These schools represent hundreds of thousands of dollars of capital, and, more than his, they have been built up by years of often unselfish work. Under present conditions they can not turn out well educated physicians, when the cost of educating a student—if educated as the times and conditions demand—is from two to three times the amount received from him in fees. We are forced to the conclusion, therefore, that the successful medical school of the future must receive aid. Whether such endowment shall come from the state or from private sources local conditions will determine, but that such support must come is self-evident.

TYPICAL NOSTRUMS.

During the last two years there have appeared in the Department on Pharmacology exposés of some of the most typical nostrums which have exploited the medical profession. No doubt some of our readers have considered it beneath the dignity of The Journal to discuss such preparations and have felt that the space would be better used if filled with scientific articles on subjects of interest to the better class of physicians. On this point there may be room for argument. These exposés are primarily educational in character; they are object lessons to show physicians how they are being imposed on. The preparations exposed have been selected from a mass of similar stuff, not because they are the worst, or the only ones, but because each is the type of a certain feature or aspect of the nostrum business. The large number of these products now offered through physicians to the public—we believe this is a good way of expressing it—as well as the amount of money spent in advertising, show to what extent this business has developed. We wish that every physician could read these articles, and that he would read between the lines as well as on them, so that he might realize the absurdity and disgracefulness of the whole business. In the preceding issue and in this one we have given considerable space—running the exposé as a continued story, as it were—to two proprietary medicines that are such typical nostrums—outdoing the average "patent medicine" in many respects—that we are almost persuaded to apologize for noti ing them, since one would suppose no intelligent physi cian would be foolish enough to prescribe them. An yet, according to reports, both the Anasarcin an Anademin companies are prospering, showing that thei stuff is largely used. Further, these nostrums are rep resentative of a very large class and have many of th characteristics of the ordinary "ethical" proprietary article. While pretending to give a formula, in both instances the formulas are fakes in that they are incomplete and misleading. Both are typical of the fact that most of the proprietary medicines are simple mixtures, of some value possibly in certain indicated conditions if they are used with caution, while the promoters are lavish in their statements that the combinations are the result of great scientific research, etc. They illustrate further the fact that the majority of such articles are put out by men who know nothing of medicine, pharmacy or chemistry, and yet assume to supply not only the medicines, but all information regarding their use. In this instance there seem to be some doctors mixed up in the business, but so far as we have been able to learn they are not noted for their educational acquirements or superlative knowledge regarding either medicine, pharmacy, chemistry or any other branch of science. We repeat, we publish this and similar matter for the enlightenment of the profession in regard to some phases of this nostrum evil. We make no apology for doing so, but urge every physician to read this matter and, whether or not he is in the habit of prescribing nostrums, to aid the propaganda to suppress them.

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[1] The Journal, March 9, 1907, 880.

PLACES MAINTAINED BY ABORTIONISTS ARE NUISANCES.

One of the hardest problems to solve in the attempt to put professional abortionists out of business is the difficulty of obtaining direct evidence of a specific offense. Such evidence, of course, is essential if conviction is sought on the ground that the crime of abortion has been committed. If conviction can be secured on a more general charge, however, the problem seems in a fair way of being solved. In our Medicolegal Department this week[1] a decision of the Supreme Court of New York is reported which has a special significance in this regard, it being the first of its kind in American legal records. The defendant, an advertising abortionist, was charged with maintaining a public nuisance, which under the New York Penal Code is defined as: (1) Unlawfully doing an act or omitting to perform a duty, which act or omission annoys, injures or endangers the comfort of persons; or (2) offends public decency. The case was carried to the higher court after conviction of the defendant on the ground that the penal code made abortion a crime of a higher character and that there was no jurisdiction in the trial court of the offense charged as a public nuisance. No previous decision could be found declaring the maintenance of a place kept for such purposes a public nuisance. The court took the broad view that it was not necessary, as was technically claimed, that the actual commitment of the crime should be proved to bring the case under the statute. The offense of inviting the performance of abortion and maintaining premises for its commission is in itself a crime against order and public decency. A comprehensive definition such as was adopted by the court should cover a much larger class of offenses, it would seem, than those directly aimed at in the decision and it ought to be easy hereafter to put down illegal and immoral advertising offenders in New York. A valuable precedent is made also for legal proceedings against like offenses in other states where the technical interpretation of the letter and disregard of the spirit of the law have too often successfully aided open violators of good morals.

COMMITMENT OF SUSPECTED INSANE.

Following hard on the Thaw trial, and probably as one of its results, a bill has been introduced in the New York Legislature amending the criminal code of the state in relation to inquiry before trial as to the sanity of a prisoner charged with felony. It makes provision for the commitment to a state hospital for the insane of such a person, at the request of either his attorneys or the prosecuting attorneys, for a period of not less than three nor more than six weeks, within which period it is assumed a correct knowledge of his mental condition can be acquired. The idea is a good one, but the wisdom of the exact time limitations may perhaps be questioned. In a doubtful case, such as are most of those in which the plea of insanity has been raised as a defense, it is not always possible to say that six weeks would be sufficient time to form a positive opinion as to the sanity or insanity of the accused. Most experienced alienists, we think, can tell of cases in which they were not satisfied as to the mental condition of a patient after considerably longer observation than the six weeks here provided for. It is possible for a paranoiac to conceal delusions over long periods, and while it would be difficult for the ordinary criminal to simulate insanity successfully, it would be rash to say that there might not be some so well posted in the symptoms and capable of self-control as to enable them to leave a doubt as to their mental soundness in the mind of even a skilled observer. Simulation of insanity is not at all confined to the sane, and while it may be very evident, there may be underneath it a real mental aberration that may be aggravated by the attempt to exaggerate. Some authorities have maintained that the attempt to sham mental disease has a direct tendency to produce it. It is very improbable that the patients occasionally discharged from asylums as "not insane" have been detained, as a rule, for so short a period as six weeks, and yet no superintendent would be justified in keeping them a day after he is convinced of their mental integrity. The plan, however, is a good one, and if generally adopted and properly carried out, would be in the interest of justice, would prevent the escape of some criminals from their just deserts, and, probably, prevent an occasional judicial murder. It is practically followed out in some parts of the country without special legal provision for it, by a little stretching, it may be, of existing laws. A properly drawn-up measure analogous to that proposed in New York specifically legalizing the commitment for observation and making due provisions for properly guarding the individuals thus committed (which can not always be done in an ordinary state hospital) would be still better.

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[1] Page 1633.

Medical News

ALABAMA.

Society Meetings.—At the annual meeting of the Marengo County Medical Society, held in Linden, April 13, the following officers were elected: President, Dr. Andrew P. McArthur, Rembert; vice-president, Dr. John C. Christopher, Nanafalia; censor, Dr. James D. Jones, Sweetwater; treasurer, Dr. James B. Whitfield, Demopolis; secretary, Dr. Offa L. Shivers, Jr., Linden; and health officer, Dr. William L. Kimbrough, Linden. ——At an enthusiastic meeting of the alumni of the Medical Department of the University of Alabama, held at Mobile Medical College, April 16, the alumni association reorganized and elected the following officers: President, Dr. Louis W. Johnston, Tuskegee; vice-presidents, Drs. Lewis W. Desprez, Florence, and Charles Whelan, Birmingham; and secretary-treasurer, Dr. Percy J. Howard, Mobile.——At the twelfth annual session of the Alabama Medical, Dental and Pharmaceutical Association (colored), held at Birmingham, April 11 and 12. Montgomery was chosen as the next place of meeting. and the following officers were elected: President, Dr. George H. Wilkerson, Mobile; vice-president, Dr. Cato H. Wilson. Eufaula; William Hawkins, Montgomery; D. L. Johnson, Birmingham, and U. C. Robinson, Ensley; secretary, Dr. Lincoln L. Burwell, Selma; assistant secretary, Dr. W. H. Brummit, Taladega; treasurer, I. B. Kigh, Birmingham, and delegate to the National Medical Association, Dr. Willis W. Steers, Decatur.

CALIFORNIA.

Trachoma at Fresno.—Thirty cases of trachoma are reported among Russian and Japanese immigrants at Fresno.

Public Health Association Meets.—The second annual meeting of the California Public Health Association was held at Del Monte, April 15. The association recommended that a law be passed appointing a medical officer to every school, to investigate the health conditions prevailing, and also make a thorough investigation of the eyes and ears of all scholars, and to advise with the parents concerning the advisability of compelling weak children to attend school. Dr. Antrim E. Osborne, Santa Clara, was elected president, and Dr. Charles F. Clark, Woodland. vice-president. The next meeting of the association will be held at Woodland in October.

State Society Election.—At the annual meeting of the Medical Society of the State of California held at Del Monte, Monterey, April 16 to 18, the following officers were elected: President, Dr. George H. Evans, San Francisco; vice-presidents, Drs. James A. McKee, Sacramento, and John C. King, Banning; secretary, Dr. Philip Mills Jones, San Francisco; delegates to the American Medical Association, Drs. H. Bert Ellis, Los Angeles; Philip Mills Jones, San Francisco, and Oliver D. Hamlin, Oakland; alternates, Drs. Henry M. Pond, Alameda; Charles C. Browning, Monrovia, and William F. Snow, Stanford University, and councilors, Dr. George H. Kress, Los Angeles, succeeding Dr. H. Bert Ellis; Dr. Fred R. Burnham, San Diego, succeeding Dr. Ashley S. Parker, Riverside, and Dr. Henry A. L. Rykfogel, San Francisco, succeeding Dr. George H. Evans. The House of Delegates approved the efforts made toward securing the new law, and, in fact, approved all acts of councilors and officers during the year. The House of Delegates also instructed the publication committee to advertise no preparations not approved by the Council on Pharmacy and Chemistry, but to continue until their expiration all existing contracts. Coronado was selected as the meeting place for 1908.

Personal.—Dr. Fred E. Zumwalt has been appointed assistant surgeon of the Emergency Hospital, San Francisco, to succeed Dr. Charles B. Pinkham.——Dr. Edward C. Sewall has been appointed eye specialist at the San Francisco County Hospital.——Dr. James W. Ward. San Francisco, has resigned from the health commission. Dr. Jules A. Simon has been elected president of the board and Dr. Henry D'Arcy Power a member.——Dr. W. R. Ingersoll, Fresno, has been appointed physician at the state prison, Folsom, vice Dr. Charles F. Gladding, Represa, resigned.——Drs. Sumner J. Quint and Edward H. Garrett have been appointed surgeons at the City Hospital, Los Angeles.——Dr. Ethel L. Leonard, city bacteriologist of Los Angeles, has resigned.——Dr. Warren N. Horton, formerly of St. Louis, has been appointed city bacteriologist of Los Angeles.——Dr. Stewart McL. Doherty has been appointed third assistant physician at the State Hospital. Napa, to succeed Dr. Isadore E. Cohn.——Dr. Thomas M. Hayden has been re-elected city health officer of Fresno, and secretary of the local board of health.——Dr. E. W. Alexander, San Francisco, commander of Camp 30, was presented with a silver loving cup by the residents of the camp, April 15, on the eve of his departure for Europe.

ILLINOIS.

Banquet at New Hospital.—The banquet for the medical staff of the Oak Park Hospital, which was postponed from March 3, on account of the illness of Dr. John W. Tope, chief of staff, was held May 4. Bishop E. J. Dunne, Dallas, Texas, gave the opening address. Dr. William A. Evans, health commissioner of Chicago, was toastmaster. Addresses were made by several physicians of Chicago.

Free Distribution of Antitoxin.—Under the omnibus appropriation bill the State Board of Health will be allowed $15,000 yearly for free distribution of antidiphtheritic serum outside of Chicago. The appropriations of the State Board of Health have been materially increased also, by this bill, the sum of $119,200 having been appropriated for the work of the board, against the sum of $83,320 granted by the General Assembly of 1905.

New Medical Practice Act.—A bill introduced at the instance of the State Board of Health, and now on final passage in the senate, will confer specific authority on the State Board of Health to establish standards of preliminary education and to determine the standing of literary, scientific and medical schools; will provide for reciprocal registration of licenses; will allow the members of the board compensation for their services, and will remedy a defect in the act of 1899 by giving the State Board of Health jurisdiction over all licenses issued since July 1, 1877.

New Sanitary Act.—A bill conferring additional powers on the State Board of Health has passed both houses. It gives the board supreme authority in all matters of quarantine and makes it the duty of all local boards of health to enforce the rules and regulations adopted by the state board. A severe penalty is provided for violation of the regulations of the State Board of Health, which is empowered to enforce health measures in cities and villages when the municipal authorities neglect or refuse to act with sufficient promptness or efficiency, and to collect from the city or village all necessary expenses incurred.

Osteopath Bill Killed.—House bill No. 318, to place an osteopath on the State Board of Health, failed of passage in the house, May 2. Another bill was designed to establish a standard for medical and osteopathic schools, to license osteopaths without examination, and to confer on them "all the rights and privileges which physicians in the state now have." The State Board of Health was characterized as "an arrogant and arbitrary body having absolute power over the standards of medical schools." The bill met with the fate of the several osteopathic bills introduced in the Illinois General Assembly since 1897.

Reciprocity and the State Board of Health.—At a meeting of the Illinois State Board of Health and the officers of the Illinois State Medical Society, the Illinois Homeopathic Medical Association, the Illinois State Eclectic Society and the Illinois Physio-Medical Society, held in Chicago, April 24, the committee on reciprocity appointed at the meeting held April 5, made the following report:

1. After investigation the committee wish to express its hearty approval of the work of the Illinois board in promoting better reciprocal relations between states.
2. We believe the plan of the Illinois board in giving credit to the old practitioner for years of practice is an eminently just and fair one, minimizing, as it does, the inconvenience to older practitioners.
3. We believe that under the present law the board can take no other position regarding the licensing of practitioners from other states.
4. We believe that still better reciprocal relations between Illinois and other states would be possible if the present law could be amended so as to allow the board, at its discretion, to grant licenses without examination, to practitioners from other states who were in practice before the adoption of the present medical practice act in Illinois.

The conference approved the first three sections of the report. After a lengthy discussion, which was participated in by every physician present, the conference, by unanimous vote, rejected the proposed amendment to the law. The committee stated that the recommendation for the plan of reciprocity, suggested in Section 4, was made for the express purpose of learning the views of the representatives present at the meeting, as the State Board of Health had been criticised for not reciprocating in the case of licenses issued on diplomas and without examination.

Chicago.

Personal.—Dr. Emanuel J. Senn returned from Europe, May 5.——Dr. L. Blake Baldwin was appointed city physician, May 6.

Ex-Internes Banquet.—The Society of Ex-Internes of St. Luke's Hospital held its annual meeting and banquet April 27. Dr. James T. Campbell was elected president, and Dr. George E. Baxter, secretary.

Killian to Give Clinic.—Professor Killian of Freiburg, Germany, will give a clinic at Rush Medical College on diseases of the nose and throat, May 15, at 2 p. m., to which the profession of the city is invited.

Mortality to May 1.—During the first four months of 1907 12,075 deaths were reported, an increase of 2,059, or of 17.3 per cent. over the same period of 1906. The increase in mortality was chiefly in diseases of the respiratory tract, chronic affections and acute communicable diseases.

Mortality for the Week.—During the week ended May 4 there were 764 deaths reported, equivalent to an annual rate per 1,000 of 18.90. Pneumonia caused 170 deaths, or 52 more than the preceding week; consumption, 81; nephritis, 59; heart diseases, 58; violence (including suicide), 44; scarlet fever, 16; diphtheria, 11; measles, 9; whooping-cough, 8, and influenza, 4.

April Deaths.—During April there were reported 2,971 deaths, 271 more than for the corresponding period of 1906 and nearly 1,000 less than for March, 1907. As compared with March there were 112 fewer deaths from pneumonia; 47 fewer from consumption; 29 fewer from scarlet fever. Acute intestinal diseases caused 46 more deaths; nervous diseases, 39; nephritis, 22; diphtheria, 22, and measles, 18.

National Guard Changes.—Major Charles Adams has resigned as surgeon of the First Infantry and has been made secretary to the surgeon general.——Captain Samuel C. Stanton has passed his promotional examination, and Dr. Daniel W. Rogers his examination for the medical department, and they will be assigned as major and surgeon and first lieutenant and assistant surgeon, respectively, to the First Infantry.——Dr. Harry D. Orr has passed his examination and will be commissioned first lieutenant and assistant surgeon, and assigned to the First Cavalry.

INDIANA.

Schools Not Closed.—Dr. Edmund S. Imel, secretary of the Petersburg board of health, states that the schools have not been closed and that there has been no scarlet fever in the town within twelve months.

Communicable Diseases.—More than a thousand cases of measles of a mild type are reported in Muncie and Delaware County.——Dr. Edgar C. Loehr, health officer of Hamilton County, reports eight cases of smallpox at Atlanta.

Personal.—Dr. Arthur B. Cray has been appointed health officer of Monticello, vice Dr. Grant Goodwin, resigned.——Dr. Thomas P. Seller, one of the oldest practitioners of Indianapolis, is critically ill.——Dr. Marquis Greenwalt, Fort Wayne, who is seriously ill, has been removed from his residence to Hope Hospital.

Graduation.—The graduation exercises of Indiana Medical College, College of Medicine of Purdue University, Indianapolis, were held May 1 at Lafayette. A class of 70 was presented to the dean, Dr. Henry Jameson. The degrees were conferred by President W. E. Stone of the university, and the address of the day was by President George L. McIntosh of Wabash College on "Artists and Hucksters." The faculty of the college entertained the graduating class at a banquet in Indianapolis, April 27, at which Dr. John H. Oliver acted as toastmaster.

IOWA.

State Society Meeting.—The fifty-sixth annual meeting of the Iowa State Medical Society will be held at Cedar Rapids, May 15 to 17. The headquarters are the Montrose Hotel, and the sessions will be held in the Auditorium.

Cerebrospinal Meningitis.—Meningitis is reported prevalent in the northwestern part of Appanoose County.——There are reported to be more than 20 cases in the village of Mystic and the surrounding mining camps.——Three cases are reported at Ankeny, with one death.

Personal.—Dr. John N. Warren, Sioux City, sailed on the *Deutschland* from New York April 30.——Dr. Herbert M. Decker has been appointed to take charge of the bacteriologic laboratory establishment in Davenport by the State Board of Health.——Dr. Emil O. Ficke, Davenport, has been appointed physician of Scott County, vice Dr. Charles L. Barewald.——Dr. A. Sidney Bowen, Waukon, has been appointed to a position in the medical service of the Canal Zone.——Dr. W. Pitt Norris, Birmingham, was stricken with a cerebral hemorrhage, April 20.——Dr. and Mrs. R. O. Shelton, Bloomfield, left for their future home in San Diego, Cal., April 27.

Alumni Meeting.—The third annual meeting of the medical alumni association of the College of Medicine of the State University of Iowa, Iowa City, was held April 30 and May 1. On the first day an address of welcome was delivered by Dr. James R. Guthrie, Dubuque, dean of the College of Medicine. In the afternoon clinics were held, and in the evening Dr. Mazyck P. Ravenel, Philadelphia, delivered an address, illustrated by lantern slides, demonstrating on "A Modern View of Tuberculosis and the Rôle of Sanatoria." A painting of Dr. Clinton J. Schrader was presented to the university by Dr. James R. Guthrie and was received for the university by President George E. McLean. On the second day Dr. Joseph C. Bloodgood, Baltimore, held a surgical clinic, Dr. Ravenel delivered an address on the histology of tuberculosis, and other demonstrations were held. In the evening the annual banquet was given at the Burkley Imperial.

KENTUCKY.

Personal.—Dr. Martin J. Bartlett, Louisville, is at present in Riverside, Cal.——Dr. Flavius J. Taylor, Glasgow, is reported to be critically ill at his home.

Hospital to be Established.—At the last meeting of the Mercer County Medical Society a movement was inaugurated to establish a hospital at Harrodsburg. A committee was appointed to consider plans and details.

LOUISIANA.

Gift to Infirmary.—Mr. Isidore Newman presented $5,000 to the Touro Infirmary on his seventieth birthday.

Insane Hospital to be Rebuilt.—The estimate of the local contractor as to the damage by the cyclone at the State Insane Hospital, Jackson, is $47,000, and immediate action is to be taken toward restoration of the building.

Medical Society Meeting.—The East Baton Rouge Parish Medical Society, at its annual meeting, held in Baton Rouge, May 14, elected Dr. Charles D. Simmons, president; Dr. John A. Caruthers, vice-president, and Dr. Joseph E. Heidingsfelder, secretary-treasurer.

Tuberculosis Sanatorium.—A sanatorium for the treatment of tuberculosis is soon to be established in St. Tammany Parish. Mr. N. O. Nelson of St. Louis has donated $1,000 for the initial expenses. The institution is to be operated under the auspices of the New Orleans Anti-Tuberculosis League.

Personal.—Dr. Clarence E. Hutchinson has been appointed superintendent of Touro Hospital, New Orleans, vice John E. Ellis, and Dr. Ansell M. Kane has been appointed junior interne to fill vacancy.——Drs. Dominique J. Gragnon and Arthur Gilbeau have been appointed members of the board of health of Breaux Bridge.

MAINE.

Change of Date.—The annual meeting of the Maine Medical Association will be held in Lewiston, June 12-14, instead of June 5-7.

Hospital for Bath.—The business men of Bath plan a city hospital, for which the late Miss Lucinda Bailey left $5,000. A like sum may be needed for equipment.

Son, Not Father, Moved.—The notice in The Journal, April 27, that Dr. Walter L. Hunt had removed from Bangor to Island Falls was incorrect. Dr. H. J. Hunt, a son of Dr. W. L. Hunt, has removed to Island Falls, succeeding to the practice of Dr. Frederick W. Mitchell.

Home for Feeble-Minded.—At the annual meeting of the Rockland Board of Trade resolutions were adopted pledging the board to attempt to secure a location of the Home for the Feeble-Minded at Rockland. It is proposed to secure about 500 acres of land in the western section of the city for this purpose.

MARYLAND.

New Secretary for State Board.—Dr. Marshall L. Price has been elected secretary of the State Board of Health, vice Dr. John S. Fulton, resigned.

Health Report.—Of the 186 deaths in Baltimore during the week ended May 4, 30 were from pneumonia. During the week 113 cases of measles were reported to the health department.

Honor for Carroll.—The University of Maryland will confer the honorary degree of LL.D. on one of its alumni, Major James S. Carroll, United States Army, at the centennial celebration to be held in Baltimore May 30 to June 2.

Society Meeting.—At the annual meeting of the Cecil County Medical Society at Elkton, Dr. Robert M. Black, Cecilton, was elected president; Dr. George S. Dare, Rising

Sun, vice-president; Dr. Howard Bratton, Elkton, secretary and treasurer, and Dr. Theodore A. Worrall, Northeast, censor.

MASSACHUSETTS.

To Lay Dust.—In response to a request from the Brookline Medical Club to allay the nuisance of dust on the streets, the selectmen of that town—"the richest in America"—have experimented with the chlorid of calcium process and have decided to apply it to the 65 miles of macadam roads in the town.

Disease and Death.—There were reported to the Boston board of health for the ten weeks ended May 4, 2,362 deaths, as against 2,384 in the corresponding period in 1906, equivalent to an annual death rate of 20.45 per 1,000. During this time there were 500 cases of diphtheria, with 32 deaths; 480 of scarlet fever, with 9 deaths; 53 of typhoid fever, with 4 deaths; 126 of measles; 524 of tuberculosis, with 257 deaths, and 2 of smallpox. Pneumonia caused 335 deaths; whooping-cough, 7; heart disease, 258; bronchitis, 62; marasmus, 26. Of those who died 383 were under one year old, 523 were under 5 years old, and 591 were over 60 years of age.

MICHIGAN.

Typhoid Fever.—Escanaba is said to be suffering from a heavy epidemic of typhoid fever. There were reported to be at least 150 cases in the city.

Medical Journals Combine.—The *Detroit Medical Journal* has absorbed *Leonard's Illustrated Medical Journal*, Detroit, taking over both the advertising contracts and the circulation list, beginning with the April issue.

Raises Entrance Standard.—The board of regents of the University of Michigan, at its meeting April 19, decreed that: "Beginning with the class to enter in the fall of 1909, every candidate for the degree of M.D., in the College of Medicine and Surgery of the University of Michigan shall show a certificate that he has had two years' work in the literary department of some first-class college."

Personal.—Dr. Berten M. Davey has been elected city physician of Lansing.——Dr. Walter H. Sawyer, Hillsdale, is seriously ill with septicemia.——Dr. Ethan A. De Camp, Bannister, has been appointed health officer for Elba Township, vice Dr. Charles F. Patton.——Dr. Anson A. Smith, Muskegon, has recovered from his recent illness.——Dr. Edward P. Waid, Salem, has been appointed township health officer.——Dr. Frances A. Rutherford, Grand Rapids, returned May 1, after a few months spent in Southern California.

MISSOURI.

Personal.—Dr. Jesse L. Eaton, Bismarck, has been appointed a member of the board of management of the State Sanatorium for Tuberculosis, Mount Vernon.——Dr. Robert M. Cowan, Springfield, has been appointed health commissioner.——Drs. Julius Frischer, Paul Lux, Thomas C. Unthank, William A. Shelton, William L. Gist and Ford B. Rogers have been appointed city physicians, and Dr. Eugene Carbaugh has been appointed quarantine physician of Kansas City.

Cancer Hospital Report.—Since the establishment of the St. Louis Skin and Cancer Hospital in July, 1905, 522 cases have come under the supervision of the institution, 439 of which were hospital cases. In the hospital 151 tissue and 288 organic examinations were made. During the first 18 months $15,323.92 was expended of the $15,605.94 on hand, leaving a cash balance of $283.02. The total amount of subscriptions promised is $46,495.10 and the cash on hand at the end of the fiscal year $8,196.02. The report shows that $12,500 additional is needed to carry out the work for the remaining term of three and one-half years.

NEBRASKA.

Society Meeting.—At the annual meeting of the Republican Valley Medical Society, held in Holdrege, Dr. Elbert E. Cone, Oxford, was elected president; Dr. William A. Schreck, Bertrand, vice-president; Dr. Joseph N. Campbell, Stamford, secretary, and Dr. Peter A. Sundbury, Holdrege, treasurer.——Cass County Medical Society at its annual meeting, held in Louisville, elected Dr. James B. Hungate, Weeping Water, president; Dr. Theodore P. Livingston, Plattsmouth, vice-president; Dr. J. E. Wortham, secretary-treasurer, and Dr. Hungate, delegate to the state society.——At the annual meeting of the Hall County Medical Society, held in Grand Island, Dr. Weiss was elected president; Dr. J. Lue Sutherland, Grand Island, vice-president, and Dr. Benjamin R. McGrath, Grand Island, secretary-treasurer. The society passed resolutions prohibiting the use of members' names in local newspapers in connection with medical or surgical cases.——The Box Butte County Medical Society held its annual meeting at Alliance and elected the following officers: President, Dr. Harvey H. Bellwood; vice-president, Dr. G. W. Mitchell; secretary-treasurer, Dr. John E. Moore, and censors, Drs. Luther W. Bowman, G. W. Mitchell and E. E. Barr, all of Alliance.

NEW YORK.

Smallpox Closes Schools.—The schools of Dundee have been closed indefinitely on account of smallpox.

Signed by the Governor.—Senator Page's bill, amending the charter of the Medical Society of the State of New York relative to defense of actions, has been signed by the governor.

Commencement.—At the commencement exercises of Albany Medical College, May 3, a class of 40 was graduated. The diplomas were conferred by Chancellor Raymond and the address to the graduates was delivered by Joseph A. Lawson of Albany.

Personal.—Dr. Albert Vander Veer of Albany was the guest of honor at a dinner at the Hotel Ten Eyck, given by more than 100 of the students, who have from time to time been his students. A silver loving cup was presented to Dr. Vander Veer.——Dr. John M. Farrington, Binghamton, read a paper before the Broome County Medical Society, April 3, entitled "Fifty Years in the Practice of Medicine," in which he gave reminiscences of his half-century of practice in which he named in chronological order the members of the profession in the city who had died in the last 21 years.——Dr. William W. Carleton has been reappointed health officer of Waterloo.——Dr. Charles W. Pilgrim has resigned as superintendent of the Hudson River State Hospital, Poughkeepsie.——Dr. Warren L. Ayer, Owego, is ill with pneumonia.——Dr. Robert Knight, Seneca Falls, has been appointed city physician.——Dr. Frank W. Sears, Binghamton, has been commissioned assistant surgeon, N. Y. N. G., with the rank of captain, and assigned to duty with the First Infantry.

New York City.

Trachoma in Public Schools.—The oculists of the health department have just completed a special investigation of trachoma among the children in the schools, and the report shows that there are 8,700 cases instead of 10,000 as had been estimated. It was also stated that operative treatment gave better results than non-operative, as 70 per cent. of the cases treated by surgery were cured.

Personal.—Dr. Joseph D. Bryant had the degree of doctor of laws conferred on him at the quarterly meeting of the faculty of Cornell University Medical College, April 27. Dr. Bryant has been connected with the college as professor of anatomy and professor of surgery for 39 years.——Dr. Charles H. Archibald, while in his automobile, collided with a car and was thrown out and cut and bruised about the head.

Contagious Diseases.—For the week ended April 27 there were reported 543 cases of scarlet fever, with 26 deaths; 477 cases of measles, with 17 deaths; 407 cases of tuberculosis, with 227 deaths; 339 cases of diphtheria, with 39 deaths; 100 cases of typhoid fever, with 18 deaths; 60 cases of whooping-cough, with 11 deaths; 20 cases of cerebrospinal meningitis, with 17 deaths; 1 case of smallpox, and 96 cases of varicella, making in all 2,034 cases, with 356 deaths.

Moving Day for Hospitals.—On April 29 the Harlem Hospital moved into its new structure on Lenox Avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets. There is room in the new building for 200 patients. Following this move there will be a change in the district covered by the Harlem ambulances, of which there are five. On the same day the Fordham Hospital moved into new quarters. The new hospital accommodates 150 patients and is located at Southern Boulevard and Crotona Avenue.

A Paying Philanthropy.—As a result of the movement to improve the dwellings of the poor which was started a few years ago, four large groups of houses have been erected accommodating about 2,000 families. The secretary of the association reports that in 1906 there were in these tenements 104 births and 17 deaths. In one group of houses where there were 400 children there were only three deaths during the year. In another group there were no deaths. In addition to the improved condition of the people, these modern tenements have yielded a return of 4 per cent. on the money invested, although the enterprise was not intended as a money-making venture.

Appropriation for Milk Booths.—By a unanimous vote the board of aldermen requested the board of estimate to authorize the issue of $8,000 of special revenue bonds for the erection of stands in the parks for the sale of milk. A personal appeal was sent to each alderman by the Woman's Municipal League asking for the passage of the resolution. The New York City Federation of Woman's Clubs also adopted a resolution calling on the city to provide temporary structures for the distribution of pure milk for the children of the tenements. Nathan Strauss has offered to provide an abundant supply of pasteurized, modified milk, in nursing bottles, and by the glass, in addition to providing competent medical supervision of the work, if these structures are built.

NORTH CAROLINA.

Commencement.—The commencement of the Medical Department of the University of North Carolina, Chapel Hill, was held May 8, when diplomas were awarded to a class of 11.

New Building for North Carolina College.—The University of North Carolina will erect a larger building for the medical department. A committee of the trustees was appointed to arrange for its erection.

State Sanatorium.—Dr. James E. Brooks, Greensboro, has been elected superintendent of the State Sanatorium for Tuberculosis, Jackson Springs. The executive committee has been authorized to erect suitable buildings and to open the sanatorium, as provided for by the state legislature. It is reported that a location has been selected in Moore County.

District Association Meeting.—At a regular meeting of the Tenth Councilor District Medical Society, held at Asheville, April 15, the following officers were elected: President, Dr. Lewis B. McBrayer, Asheville; vice-presidents, Drs. William Redin Kirk, Hendersonville; Sheridan C. Highway, Murphy, and Charles E. Reed, Asheville; and secretary, Dr. Gaillard S. Tennent, Asheville.

OHIO.

Hospital Changes Ownership.—The Seton Hospital, Cincinnati, conducted by the Sisters of Charity, has secured possession of the Presbyterian Hospital property for $50,000. The present hospital will probably be used as a home for the sisters.

Typhoid Fever in Cincinnati.—Nearly 2,200 cases of typhoid fever have been reported in Cincinnati since June 1, 1906. This includes the 24 wards of the city and public institutions, but not the outlying villages. This would seem to be a good argument for the completion of the new waterworks.

Personal.—Dr. O. H. Pinney, Cincinnati, has been appointed by the Presbyterian Board of Foreign Missions a medical missionary to Benito, West Coast of Africa, and leaves for his post of duty in July.——Dr. Lester Keller, Ironton, has been appointed local surgeon for the Detroit, Toledo and Ironton Railway.——Dr. Paul Gillespie has been elected health officer of Wyoming, Cincinnati.——Dr. Anthony G. Kreidler has been made editor, and Dr. George Strobach, managing editor, of the Cincinnati *Lancet-Clinic.*

PENNSYLVANIA.

Typhoid Epidemic.—There is an epidemic of typhoid fever in the vicinity of Bechtelsville, near Reading. Thus far there have been three deaths.

Vivisection Bill Dropped.—Representative Townsend's bill to prohibit vivisection has been dropped from the calendar in the legislature. This action followed an address in opposition to the measure made to fifty members of the house by Dr. S. Weir Mitchell of Philadelphia.

Hospital Overcrowded.—The State Miners' Hospital, Hazelton, is so overcrowded that it has been necessary to install additional beds for the accommodation of patients, of whom 53 are being treated. During the past few months more than the usual number of accidents have occurred in and about the mines, and the daily average of patients has been from 48 to 50.

Philadelphia.

The Meningitis Situation.—Six new cases of cerebrospinal meningitis were reported in the city during the past few days, but the authorities assert that there is no occasion to fear an epidemic.

Will Erect Food Laboratory.—The Philadelphia College of Pharmacy will erect and equip a laboratory for the analysis of foods and drugs by October next, to meet the growing demands for analyses created by the national Food and Drugs Act.

Tuberculous Dispensary Opened.—A free dispensary for the treatment of patients suffering with tuberculosis was opened at the Jewish Hospital May 6. This is the first hospital in the city to establish a separate dispensary of this character. Dr. Wilfred Fetterman of the Henry Phipps Institute has been placed in charge of the work.

Resident Physicians Organize.—Dr. Anthony Harrigan, ex-resident physician to St. Joseph's Hospital, was tendered a reception at the Hotel Majestic by the staff of the hospital, and the Association of Residents and ex-Residents of that institution. Dr. Edward E. Montgomery was chairman of the meeting. At this time a permanent organization of the residents and ex-residents of the hospital was effected.

Personal.—Director Neff has made the following appointment to fill honorary position at the Philadelphia Hospital: Neurologist and consultant, insane department, Dr. Theo. H. Weisenburg, to succeed Dr. William C. Pickett, deceased. Dr. Weisenburg was recently appointed professor of neuro-pathology and assistant professor of neurology at the Medico-Chirurgical College, vice Dr. Pickett.——Dr. W. M. Late Coplin, professor of pathology in Jefferson Medical College, has been appointed medical director of the Jefferson Medical College Hospital, vice Dr. Joseph Neff. Dr. Neff still retains his position as president of the medical staff, and is the newly appointed director of the city's department of health and charities.

Semi-Centennial of Pathological Society.—The semi-centennial of the founding of the Pathological Society of Philadelphia was celebrated May 9 and 10 by a series of entertainments and scientific discussions, and an exhibition of pathologic specimens. These covered a wide field of pathology and were of very great interest. The exhibition was held in the Mütter Museum of the College of Physicians May 9. On May 10 the program consisted of the presentation of the following papers: "The Role of Protozoa in Pathology," by Dr. Frederick G. Novy of the University of Michigan; "The Dynamic Point of View in Pathology," by Prof. Alonzo E. Taylor, University of California; "The Newer Pathology," by Dr. Simon Flexner, Rockefeller Institute, and "Pathology and Practice," by Dr. William Osler, Oxford University, England. A luncheon was given to the members at the University Club, May 10, and on the same evening a banquet was tendered the visiting guests at the Bellevue-Stratford Hotel.

WASHINGTON.

Personal.—Dr. Phillip Frank, North Yakima, has been appointed county physician of Yakima County, vice Dr. Thomas Tetreau, term expired.——Dr. Montgomery Russell, Seattle, is taking a trip to the Atlantic seaboard.

Loses License.—In the case of the State Board of Medical Examiners against James G. Stewart, Seattle, the Supreme Court is reported to have decided in favor of the plaintiff, confirming the original sentence of revocation of license.

The Fight Against Tuberculosis.—The Yakima County Medical Society has undertaken to give a number of lectures in the public schools on the proper treatment of tuberculosis. The lectures will be supplemented with pamphlets on the prevention and treatment of tuberculosis prepared by the Washington Association for the Prevention and Relief of Tuberculosis.——At a recent meeting of the Snohomish County Medical Association it was decided to organize an auxiliary to the Washington Association for the Prevention of Tuberculosis and a committee was appointed to make the necessary arrangements.

Meningitis.—A death from cerebrospinal meningitis was reported April 14 at Gray's Harbor.——During March there were 31 deaths in Seattle from cerebrospinal meningitis, and during the first thirteen days of April 8 deaths occurred.——The Snohomish County Medical Association, at a meeting April 2, decided to advise the health officer to placard for cerebrospinal meninigitis.——Dr. Wilbur N. Hunt, health officer of Bellingham, reports 10 cases of cerebrospinal meningitis, with 5 deaths.——Dr. Rose A. Bebb, city bacteriologist of Tacoma, reports up to April 4, 42 cases of spinal meningitis. The majority of patients were between 10 and 20 years of age and the epidemic is apparently subsiding.

GENERAL.

Personal.—Dr. William Osler, regius professor of medicine at the University of Oxford, England, arrived in New York April 27.

No Liquor for Lepers.—The legislative committee which recently visited the leper settlement at Molokai has reported adversely on the petition that the sale of liquor be permitted in the settlement.

Board of Food and Drug Inspectors Appointed.—The Secretary of Agriculture has created a board of food and drug inspectors, consisting of Dr. Harvey W. Wiley, chief of the Bureau of Chemistry; Dr. Frederick L. Dunlap, associate chemist, and George R. McCabe, solicitor of the Department of Agriculture.

Plague in Hawaii.—Four cases of bubonic plague are reported in Honolulu, with three deaths. All the patients were Japanese and on the same plantation. Samples of imported oriental foods were examined, but no clue to the infection was obtained. Several rats had died on the plantation and their bodies had been burned.

Medical College Association Meeting.—At the annual meeting of the Association of American Medical Colleges at Washington, May 6, Dr. Henry B. Ward, Lincoln, Neb., was elected president, and Dr. Fred C. Zapffe, Chicago, was re-elected secretary-treasurer. A report of the meeting will appear in The Journal later.

American Society of Sanitary and Moral Prophylaxis.—At a meeting held in New York City, April 11, the following officers were elected for the ensuing year: President, Dr. Prince A. Morrow, New York City; vice-presidents, Prof. Edwin R. A. Seligman, Dr. Stephen Smith and Mr. Francis Lynde Stetson; secretary, Dr. Edwarl L. Keyes, Jr.; and treasurer, Dr. Smith Ely Jelliffe, all of New York City.

Mosquito Fighters Meet.—The fourth annual meeting of the American Mosquito Extermination Society was held at the Union League Club, New York City, April 19. Dr. L. O. Howard, Washington, D. C., the government's chief entomologist, was present and told of his work. Dr. E. Porter Felt, the state entomologist, emphasized the need of state appropriation in order to study the habits of the pest.

Health of Canal Zone.—The health conditions of the Canal Zone for March are reported to be excellent. Since August last the number of sick among the employés has steadily decreased, until it is now 19.40 per 1,000, as against 33.72 in August. Among the 4,600 white employés there were only two deaths from disease during the month of March, equivalent to an annual rate of 5.17 per 1,000. Among the 1,200 American women and children living in Canal Commission quarters there were no deaths and little sickness. The mortality from all causes for March was: Negroes, 48.50 per 1,000; white employés, 15.69, and American whites, 10.34 per 1,000.

American Anti-Tuberculosis League.—The American Anti-Tuberculosis League, organized to prevent consumption, to educate the people, to secure state aid and to establish hospitals, etc., will hold its next meeting, June 1 to 4, 1907, at Atlantic City, N. J. Special subjects for discussion will be "Tuberculosis and Milk" and "Tuberculosis in the Negro Race." Hon. Nathan Strauss, New York, who has done so much for the bettering of milk supply, will preside at the meeting which takes up the subject of milk. Further information may be obtained from Dr. George Brown, Atlanta, Ga., president and executive officer.

Carter Suggested for Opium Commission.—In the event of an international conference being called to inquire into the use of, trade in and laws pertaining to opium in eastern countries, it is probable that one of the members of the commission will be a representative of the United States, and for this place the Leavenworth *Times* suggests Major E. Champe Carter, Medical Department, U. S. Army, as the best man, since he was a member of the opium commission appointed by Secretary Taft when governor of the Philippines, as he is said to know more about the opium question than any other man in the United States, and as no representative could be found who is so familiar with the subject and so well able to plan for the elimination of the evils of the opium traffic as he.

The International Congress on Tuberculosis.—The assembling of this congress in Washington during the last ten days of September and the first ten days of October, 1908, will call together a large number of distinguished men from all parts of the world. The National Association for the Study and Prevention of Tuberculosis has chosen the time and place for the congress to suit the pleasure and convenience of the foreign members and delegates, and the officers believe that the congress will be a success and will demonstrate the interest of the American public in the subject of tuberculosis, notwithstanding the fact that the country will be preoccupied at the time with an exciting political campaign. A tuberculosis exhibition, which is expected to surpass anything of the sort ever attempted, is contemplated. In addition to its interest to the medical profession the congress will appeal to public sanitarians and philanthropists, to those interested in social science, and to veterinarians. The various departments of the government have become interested and are making preparations which will ensure the proper representation of the United States. The National Association for the Study and Prevention of Tuberculosis will provide a fund of $100,000 for the expenses and this sum will come chiefly from the private purses of a few wealthy and enlightened men who see in this congress an opportunity to give a tremendous impetus to the movement against tuberculosis.

CANADA.

Army Medical Corps in Winnipeg.—An army medical service corps was organized in Winnipeg, April 16. Dr. William Webster will command the new unit, with rank of major; Dr. Borden will be second in command, with rank of captain, and Drs. D. S. McKay and Boardman will be lieutenants.

Inspection of Schools.—Medical inspection of schools in Montreal for the six months ended March 31, showed that 20,682 pupils were affected. Montreal's medical health officer is urging the council to provide funds for the continuance of this work.

Canadian Wins English Prize.—Dr. Don. Armour, London, England, University of Toronto, 1904; house surgeon in Toronto General Hospital in 1904 and 1905, has been awarded the Jacksonian prize, for 1906, by the Royal College of Surgeons, England. This is the first time the prize has gone to a Canadian. The title of his essay was "Diagnosis and Treatment of Those Diseases and Morbid Growths of the Vertebral Column, Spinal Cord and Canal, Which Are Amenable to Surgical Operation."

Personal.—Dr. Kenneth Panton, Portland, Ore., is passing through Canada *en route* to London, Eng., for graduate work in connection with the Fellowship of the Royal College of Surgeons.——Dr. J. R. Jones, Winnipeg, professor of medicine in the University of Manitoba, who has been recuperating in Toronto from a fractured pelvis received in a runaway accident, is going to England.——Dr. Robert Law has been confirmed as medical health officer of Ottawa.——Dr. Andrew B. Eadie, Toronto, is critically ill.——Dr. Frederick B. Bowman, Kingston, has been appointed assistant in the United States Government Laboratory, Manila, P. I.——Dr. Edwin S. Popham, Winnipeg, has returned home after a few weeks in Chicago.——Dr. William P. Caven, Toronto, is at Atlantic City.——Dr. Harry J. Watson, United States immigration officer at Winnipeg, is recuperating in Toronto after an operation for duodenal ulcer.——Dr. George R. McDonough, Toronto, has returned from Egypt.

FOREIGN.

Venereal Prophylaxis in German Technical Schools.—By a recent ministerial decree the directors of the technical schools are instructed to make provision to have the medical inspectors of the schools give instruction in sexual hygiene at the beginning of the school year.

Postage Stamps to Raise Funds for Public Health Campaign.—A special stamp is now on sale in Germany at a slightly increased price (5 pfennige), the surplus to be devoted to forwarding the movement against infant mortality, tuberculosis and other preventable ills.

Additions to a Scottish University.—On April 23, the Prince of Wales formally opened the new buildings of the Glasgow University. The buildings are for the departments of physiology, materia medica, forensic medicine, public health and natural philosophy, and have cost between $400,000 and $350,000.

Stuttgart to Have a Club House for Physicians.—The will of the late professor of surgery at Stuttgart, Germany, leaves $10,000 toward building a physicians' club house, $5,000 to the medical mutual benefit society, and $2,500 to one of the public hospitals. Prof. v. Burckhardt succumbed to intestinal cancer.

Official Title for von Leyden.—The title of Acting Privy Councilor (Wirkl. Geh.-Rath) has been conferred on Prof. E. von Leyden of Berlin, with the title of "Excellenz." This is the first time that a member of the profession representing internal medicine has had this title conferred on him by the Prussian authorities.

Smallpox Quarantine in France.—A quarantine has been declared against persons entering France from Metz, and they are not allowed to pass unless they submit to vaccination. If the epidemic at Metz continues (7 cases were reported for the last week in March), absolute quarantine measures will be enforced, it is announced.

Recrudescence of Plague in Australia.—For the seventh year in succession Sydney, New South Wales, has been visited with an epidemic of plague. The recurrences each year have varied in severity, but this year the outbreak has been in the heart of the city and has proved a serious one. According to the

Australasian Medical Gazette, there is every prospect of indefinite recurrences. So far 30 cases have occurred, with 8 deaths.

Free Lance Congress of French General Practitioners.—This congress is a remarkable evidence of the active organization of the medical profession now going on in all countries. The general practitioners of France have felt for some time that their practical interests were not sufficiently regarded by the powers that be, not even by the physicians connected with the teaching forces of the universities. They are state institutions in France and as such are liable to the danger of falling into bureaucratic ruts. The protest has been growing more and more general, and on April 13 nearly 1,300 medical men from all over the country gathered at Paris to discuss the two burning subjects, "Reform in Medical Education," and the "Enforcement of the Free Choice of a Physician by the Injured." More bedside instruction was demanded, more teachers, more graduate courses, etc. It was shown that while Berlin has 62 professors and 107 privat docents for 1,192 students, Paris has only 73 professors for 3,000 students, and no privat docents. The subject of "Medical Education in Germany" was presented by Jayle, while Jarvis reviewed the field and present status of medical education in Great Britain, and Koenig described "Medical Education in the United States." The organization of a body of privat docents, outside the official faculty, and remunerated directly by the students, was discussed and steps taken in the matter. While the speakers all held up for admiration the methods of medical education in other countries and pointed out the defects in the present system in France, yet all agreed that clinical instruction in the French schools bears favorable comparison with the best elsewhere in Europe, only there is not enough of it. A number of professors took an active part in the proceedings.

LONDON LETTER.

(*From our Regular Correspondent.*)

London, April 20, 1907.

Conferment of Unusual Honors by the King on His Medical Attendants.

King Edward, whose appreciation of the medical profession is well known, has conferred a most unusual honor on Sir Frederick Treves and Sir Francis Laking in recognition of "their great skill and unremitting attention" during his dangerous illness in 1902, when the former operated on him for appendicitis. He has granted an "honorable augmentation" to their arms, which consists in the addition to their shields of one of the lions of the royal arms. An analogous augmentation of the Prince of Wales' feathers was granted to the late Sir William Gull for his services when the King was Prince of Wales and suffered from a dangerous attack of typhoid fever. But professional services appear never to have been recognized before by the incorporation of the royal arms with those of a physician or surgeon. For an instance of augmentation with the royal arms it is necessary to go back to the time of Charles II, who added certain items to the shields of the Penderells of Boscoble and to the Lanes, because members of these families were instrumental in saving his life after the battle of Worcester.

The Manifesto in Favor of Alcohol.

The controversial storm provoked by the manifesto in favor of the use of alcohol continues. The inner history of the document has been made public, and several of the distinguished signers do not appear to be satisfied with their position. It appears that the manifesto was got up by a Mr. Williams, a barrister and writer on economic subjects, but not in any way connected with the medical profession. Sir William Gowers, whose name added weight to the document, has declared that if it were presented to him to-day he would not sign it. He complains that it has been twisted to justify anything; whereas, the essential point was to justify the use of alcohol in acute disease. He would not have signed it if he had known that it originated with the laity. Mr. Jonathan Hutchinson was under the impression that Mr. Williams was a physician when the manifesto was presented to him. However, it was sufficient for him that it had been signed by Sir William Gowers, Dr. Pye Smith and Sir Dyce Duckworth, and he agreed with them that people are beginning to consider alcohol a poison, which it certainly is not, and that these extravagant views ought to be corrected. Sir Victor Horsley, who is one of the foremost advocates of teetotalism in the profession, speaking at a temperance meeting, said that the medical profession asked four years ago that every child should be taught the principles of health and temperance. When he said the medical profession, he added facetiously, he did not mean "his 16 *bon-vivant* friends" who had signed the manifesto.

The Epidemic of Cerebrospinal Fever.

The epidemic still continues and has appeared in fresh centers and reappeared in places from which it had disappeared. In Belfast during the week ended April 16 there were 27 fresh cases, and 42 patients remained under treatment; the total number of cases now amounts to 283, with 177 deaths. Cases are now being reported from better-class districts hitherto exempt from the disease. The deaths of three adults during the past few days has created a feeling of danger in the community. The first of these deaths was of Nurse McDonnell, who contracted the disease from a patient suppposed to be suffering from pneumonia. Within 24 hours Constable Egan, a robust and athletic man, was stricken, and died after five hours' illness. A few hours later a man named Spence, while walking in the fashionable suburb of Ballynafeigh was taken suddenly ill and died after a few hours while being conveyed home in an ambulance. In Scotland, during the week ended April 30, 30 deaths from the disease were registered in Glasgow, 8 in Edinburgh, 3 in Leith, 2 in Dundee, and one in Greenock. In Glasgow for the week ended April 12 there were 100 patients under treatment. Other cases have occurred in the surrounding towns. In England cases are reported from various parts of the country—Nuneaton in Warwickshire, Leamington and Gateshead in Northumberland, and Leicester.

An Imperial Conference on Hygiene and Temperance.

In order to stimulate general interest in the scientific teaching of hygiene and temperance as an integral basis of national education, and to bring before the country during the visit of the colonial premiers trustworthy information as to what is done in various parts of the empire, a conference will convene on St. George's Day, April 23. Arrangements have been made for appointing educational experts to describe colonial systems of teaching the two subjects. Papers will also be read by continental scientists.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

Vienna, April 13, 1907.

Opening of a Plague Grave.

During the process of laying a new street in the center of the city of Vienna a place was discovered which had apparently been a receptacle for refuse and house waste in olden times. The laborers were, however, rudely frightened by finding underneath the heaps of material several skeletons which were embedded in layers of lime. This at once suggested that the place had been used as a burial pit during the last epidemic of pestilence (1789), when 12 per cent. of the inhabitants of Vienna fell victims to the disease. The epidemic lasted from March to November, and it had become custom to inter the corpses in a layer of lime and clay, with a view of preventing further infection. The reopened pest cave was at once closed, and the men were subjected to an extensive disinfection. For scientific purposes particles of the clothes remnants, the soil and some dust from within the cave were taken, to be examined bacteriologically. Although similar incidents have been reported in other places, there is no instance known that in modern times an outbreak of pest has been traced to this source.

Prophylaxis Against Epidemic Meningitis.

The board of hygiene in Vienna has recently issued an order to all district officers of health, as well as a public notification, dealing with the means of fighting the spread of meningitis, which during the last year has been epidemic throughout the empire. As the best means for prophylactic treatment the instillation of pyocyanase is recommended. This is a serum produced by the action of the bacillus pyocyaneus on certain tissues. Dr. Gehle, an assistant at the pediatric clinic of Vienna, has instituted extensive experiments with this substance and has found that the diplococci or rather meningococci, which are found so often in the mucous secretions of the nose and pharynx of persons suffering from cerebrospinal meningitis are destroyed within 48 hours if a few drops of the pyocyanase are placed on the mucosa of the nose. This new remedy is not an antitoxin, but acts more like a disinfectant, perhaps, by influencing the mucosa in such a way that its secretion becomes antagonistic to the diplococci. In the order issued by the board it is recommended that every physician, nurse, relation or friend of the patient should submit themselves to the prophylactic treatment, which is entirely devoid of danger, and each physician is requested to submit his observations on this point to the board of health. The quantity of pyocyanase at disposal in Vienna is as yet rather small, but in the Children's Hospital a laboratory has been fitted out with all the apparatus necessary for its production.

Pharmacology

Scientific Pharmacy Abroad Worthy of Imitation.

We have before us a pamphlet which we refer to American manufacturers of pharmaceuticals for their careful consideration. The pamphlet is entitled "Directions for the Examination of the Pharmaceutical Specialties. E. Merck, Darmstadt." It has been prepared in response to a request of the German apothecary society, and contains descriptions of Merck's proprietary products. For each product the description states the chemical constitution, the physical properties, and the *tests whereby the identity and purity of the product may be verified.* American manufacturers could well afford to offer similar publications. Since physicians are beginning to realize that many products are not what they pretend to be, reputable manufacturers will no doubt court the investigation of their preparations. They can do this most effectually by placing at the disposal of those interested tests whereby the quality of their product may be verified.

MEDICINAL FOODS.

Report of the Council on Pharmacy and Chemistry of the American Medical Association.

The following report was submitted to the Council by the subcommittee which examined the medicinal foods:

> *To the Council on Pharmacy and Chemistry:*—In order to determine the food value of any food product it is necessary to consider the following points: Chemical composition; available potential energy; absorbability and cost. No attempt is made in this article to discuss each of these features separately, but they are utilized as required.
>
> The ingredients on which the food value of any article of food depends are the proteid substances, carbohydrates, fats, certain inorganic bodies and—under certain conditions—alcohol. The amount of each of these present in a preparation must be established by chemical analysis. From the results thus obtained it is possible to calculate the potential energy represented by a given food product. In this report the potential or food value is expressed in the large or kilocalorie, that is, the amount of heat required to raise the temperature of one kilogram of water one degree centigrade.
>
> Foods are more or less completely absorbed, and the total energy of some of the bodies absorbed is not completely utilized by the animal organism, because the oxidation of certain substances is incomplete. The factors employed in this report for expressing in calories the actual amount of energy utilized by the system are 4.8 for proteid substances, 4.1 for carbohydrates, and 9.2 for fats. Various factors are employed for this purpose, for example, 4.23 for proteids of animal origin and 4.1 for proteids derived from a mixed diet, but the above are satisfactory for all practicable purposes.
>
> The accompanying table embodies the results obtained by submitting all the well-known so-called "predigested foods" to chemical examination. In most cases two samples of the same brand were purchased at an interval of about six months. All the analyses were made before Jan. 1, 1907. Inasmuch as the chief object of this investigation is to ascertain the food value of the products under consideration, the figures represented by the first six columns will be passed over with this comment that some of the preparations contain much glycerin which does not, so far as known at present, possess any recognized food value, although there are a number of experiments on record to indicate that it influences metabolism.
>
> The amount of inorganic material varies materially, from 0.18 to 1.61 per cent. It consists, so far as tested, of salts of sodium, potassium and calcium, and phosphates and chlorids.
>
> The percentage of nitrogen accredited to each of these products represents the total amount of nitrogen, irrespective of the nature of the nitrogenous substances. This basis is giving the several preparations more value as food products than they actually represent, but inasmuch as it is difficult to ascertain how much of each nitrogen bearing substance present will be utilized by the system, the benefit of the doubt is given to the preparations, and the entire percentage of nitrogen present in each is made the basis of proteid contents. The proteid matter present in these foods consists largely of peptones and proteoses. The latter correspond to less advanced stages of hydrolysis than the former, but for dietetic purposes they may be regarded as of equal value.
>
> By multiplying the percentage of nitrogen found by the factor 6.25 we obtain the percentage of nitrogenous matter (proteids) contained in the various preparations. It should be stated in this connection also that the factor 6.25 is probably a little too high. By using this factor the percentage of nitrogenous matter present in the several products investigated varies from the lowest, 0.43 per cent., to the highest, 6.38 per cent. By multiplying the number of grams of nitrogenous matter present in 500 grams of material by the factor 4.8 it is found that the potential energy available by the nitrogenous matter varies from 10.3 calories to 153.1 calories. Five hundred grams of the material is made the basis of calculation, because it approximates a pint, the amount usually believed to

TABULATED RESULTS OF

No.	Name of Preparation.	Name of Manufacturer.	Price per bottle.	No. of Cc. in bottle.	Cost per 500 Cc.	Reaction.	Specific gravity.	Per cent. non-volatile residue.	Glycerine and undetermined matter.
1.	Carpanutrine	John Wyeth & Brother	$1.00	325	$1.54	Acid	1.090	39.00	28.45
2.	Carpanutrine	John Wyeth & Brother	1.00	325	1.54	Acid	1.090	34.40	21.29
3.	Liquid Peptones	Eli Lilly & Company	1.00	450	1.11	Neutral	1.029	15.18	3.63
4.	Liquid Peptones, with Creosote	Eli Lilly & Company	1.00	450	1.11	Neutral	1.052	22.40	4.34
5.	Liquid Peptonoids	Arlington Chemical Company	1.00	425	1.18	Acid	1.047	16.66	0.23
6.	Liquid Peptonoids	Arlington Chemical Company	1.00	425	1.18	Acid	1.049	18.98	2.02
7.	Predigested Beef	H. K. Mulford Company	1.00	475	1.05	Acid	1.010	10.33	3.40
8.	Predigested Beef	H. K. Mulford Company	1.00	475	1.05	Acid	1.011	11.70	4.37
9.	Nutrient Wine of Beef Peptone	Armour & Company	1.00	425	1.18	Acid	1.077	31.27	14.97
10.	Nutrient Wine of Beef Peptone	Armour & Company	1.00	425	1.18	Acid	1.076	30.10	13.70
11.	Nutritive Liquid Peptone	Parke, Davis & Company	1.00	500	1.00	Acid	1.039	16.61	1.02
12.	Nutritive Liquid Peptone	Parke, Davis & Company	1.00	500	1.00	Acid	1.038	17.10	1.95
13.	Panopepton	Fairchild Brothers & Foster	1.00	325	1.54	Acid	1.063	22.00	2.60
14.	Panopepton	Fairchild Brothers & Foster	1.00	325	1.54	Acid	1.023	22.40	4.86
15.	Peptonic Elixir	Wm. Merrell Chemical Company	1.00	475	1.05	Acid	1.050	18.76	3.21
16.	Tonic Beef S. & D.	Sharp & Dohme	1.00	400	1.25	Acid	1.048	20.28	12.91
17.	Tonic Beef S. & D.	Sharp & Dohme	1.00	400	1.25	Acid	1.046	19.67	12 63
18.	Liquid Peptone	Stevenson & Jester Company	1.00	450	1.11	Neutral	1.039	3.67	.44
19.	Cow's milk (3.8 per cent. fat)	....	......	.....	.05	....	1.033	13.00	.....

*Total calories *per diem* dose includes the calories of alcohol in be present in the various trade packages, and because it affords a ready basis of calculation.

There are no fatty substances present in these products; their food value from this point of view is, therefore, *nil.*

Another group of food constituents to be considered in these preparations is the carbohydrates. They are represented by cane sugar, maltose, dextrin and invert sugar. Lactose is probably also present in some, but it is impossible to establish this. The total amount of carbohydrates present is represented by the column headed "after inversion." By referring to these percentages it will be found that the variation ranges from 0.55 to 15.57. By multiplying the number of grams of carbohydrates present in 500 grams of the foods by the factor 4.1 we obtain the potential energy represented by the carbohydrate, which varies from 11.3 to 319.2 calories. By adding together the total calories represented by 500 grams of the foods in question, of both the proteids and carbohydrates, we have a variation ranging from 54.7 to 397.5 calories. The total food value of an equal quantity of milk, including fat, approximates 360 calories.

The value of alcohol in the hands of the physician is recognized by most practitioners and is frequently resorted to in severe cases of illness. Its value as a food product pure and simple in disease is, however, an open question. There is no doubt whatever but that it acts to a certain degree as a food even here, not as a tissue builder, but as a saver of fat and carbohydrate material, and in order to give the preparations in question full value as food products, the calories, represented by the alcohol, are credited to each preparation, as are the proteids and carbohydrates. The factor usually recognized for expressing the calorific value of alcohol is 7. The percentage of alcohol by weight present in the various preparations under consideration, varies from 12.0 to 18.8. By multiplying the number of grams of alcohol present in 500 grams of material by 7, the number of calories varies from 420 to 658.

On looking over the literature and printed matter distributed by some manufacturers, the physician is frequently left under the impression that these preparations contain all the essential constituents necessary for maintaining normal nutrition of the body, as is clearly shown by the following quotation: "Contains sufficient nutritive material to maintain normal nutrition of the body, a valuable food in typhoid fever, pneumonia, tuberculosis, . . . and all the conditions of the system associated with enfeebled digestion and malnutrition."

In order to show the insidiousness of such representations it is only necessary to give the actual food value of the average daily dose (the average amount to be taken for twenty-four hours) recommended by the various manufacturers for their products. The average adult daily dose recommended varies from 50 to 150 c.c. The total available calories per daily dose based on the proteid and carbohydrate bodies varies from 9.8 to 110.5. Adding to these figures the amount of energy represented by the alcohol, in each case, the total available calories varies from 55.0 to 299.5. The number of calories required *per diem* by a man doing very moderate work approximates 3,000. In sickness this amount is not required, but on the average it should not fall much below 1,500 calories during twenty-four hours.

In order to get a fair conception of the actual food value of these various preparations, it is desirable to make some comparison which can be readily comprehended by every physician. The amount of good milk necessary each twenty-four hours to sustain the vitality of a patient during a serious illness is not less than 64 ounces, or approximately 2,000 c.c. The food value in calories represented by this amount of good milk may be placed at 1,430. This includes not only the proteid and carbohydrate matter, but the fat as well. By comparing this available potential energy with the total energy available in the predigested foods under consideration, it can be readily seen that if a physician depends on the representations made by some of the manufacturers, and feeds his patient accordingly, he is resorting to a starvation diet. The largest number of available calories, including alcohol, present in any of the recommended daily doses, is less than one-fifth of the number of calories represented by 2,000 c.c. of milk; and the calories represented by the daily dose of the preparation poorest in food products is only one-twenty-fifth of the amount present in 2,000 c.c. of milk. These figures tell their own story.

Making 2,000 c.c. of milk the basis of calculation, and estimating the amount of the various preparations required to yield this number of calories, it is found that the quantity to be administered daily to supply 1,430 calories, including alcohol, varies from 716.2 to 1506.2 c.c. In other words, it will be necessary, in order to supply 1,430 units of energy *per diem,* to administer the amount of the various products in quantities found within the above limits. In many cases the amount of alcohol exhibited by these quantities would keep the patient in an alcoholic stupor continually. The cost necessary to supply this energy varies from $1.48 down to $3.39. Compare these prices with the cost of two quarts of milk. Is farther comment necessary.

The average number of calories represented by 500

EXAMINATIONS OF MEDICINAL FOODS.

No.	Ash.	Per cent. nitrogen.	Per cent. nitrogenous matter (6.25).	Calories as proteids in 500 grams.	Carbohydrates. Before inversion.	Carbohydrates. After inversion	Calories as carbohydrates in 500 grams.	Calories as proteids and carbohydrates in 500 grams.	Alcohol. By volume.	Alcohol. By weight.	Calories as alcohol in 500 grams.	Average recommended adult dose per diem in Cc.	Calories as proteids and carbohydrates per diem dose.	*Total calories in per diem dose.	No. Cc. required per diem to supply 1430 calories.	Cost per diem to supply 1430 calories.
1.	0.93	0.685	4.28	102.7	4.22	5.34	109.5	212.2	15.5	12.5	437.5	60	25.5	78.0	1100.7	$3.39
2.	1.09	0.999	6.24	149.8	3.73	5.78	118.5	268.3	17.3	14.0	490.0	60	32.2	91.0	942.9	2.91
3.	1.00	0.719	4.50	108.0	0.00	6.05	124.0	232.0	22.0	18.0	630.0	150	69.6	258.6	829.4	1.84
4.	0.75	0.615	3.84	92.2	0.00	13.47	276.1	368.3	22.0	18.0	630.0	150	110.5	299.5	716.2	1.59
5.	0.93	0.789	4.93	118.3	6.56	10.57	216.7	335.0	17.5	14.0	490.0	150	100.5	247.5	866.6	2.06
6.	0.90	0.725	4.53	108.7	6.83	11.53	236.4	345.1	17.8	14.1	493.5	150	103.5	251.5	852.7	2.01
7.	0.18	0.381	2.38	57.1	4.29	4.37	89.6	146.7	19.7	16.0	560.0	150	44.0	212.0	1011.7	2.13
8.	0.19	0.415	2.59	62.2	4.50	4.55	93.3	155.5	19.0	15.5	542.5	150	46.7	209.5	1024.3	2.15
9.	0.23	0.102	0.64	15.4	11.67	15.43	316.3	331.7	21.5	17.5	612.5	100	66.3	188.8	757.4	1.79
10.	0.40	0.069	0.43	10.3	13.10	15.57	319.2	329.5	20.9	17.0	595.0	100	65.9	184.9	773.3	1.82
11.	0.84	0.298	1.86	44.6	12.58	12.89	264.2	308.8	23.0	18.8	658.0	120	74.2	232.1	739.5	1.47
12.	0.80	0.186	1.16	27.8	17.78	13.19	270.4	298.2	21.8	17.7	619.5	120	71.5	220.2	779.2	1.56
13.	1.10	1.020	6.38	153.1	5.76	11.92	244.4	397.5	18.5	15.0	525.0	50	39.8	92.3	775.0	2.39
14.	1.16	1.013	6.33	151.9	5.96	10.05	206.0	357.9	20.9	17.0	595.0	50	35.8	95.3	750.2	2.31
15.	1.55	0.406	2.54	61.0	11.40	11.46	234.9	295.9	18.8	16.5	577.5	90	53.3	157.2	818.6	1.72
16.	1.61	0.544	3.40	81.6	1.48	2.36	48.4	130.0	14.9	12.0	420.0	50	13.0	55.0	1300.0	3.25
17.	1.54	0.524	3.28	78.7	1.49	2.22	45.5	124.2	16.1	13.0	455.0	50	12.4	57.9	1234.4	3.09
18.	0.87	0.288	1.81	43.4	0.55	0.55	11.3	54.7	14.0	12.0	420.0	90	9.8	85.4	1506.8	3.34
19.	0.07	0.560	3.50	84.0	4.80	4.80	98.4	182.4	....	....	.....	2,000	7.3	1429.6	2000.0	0.20

the liquid medicinal foods and the calories of the fat in milk.

grams of these products as proteids and carbohydrates is 260.6. The total average calorific value of the same amount of these foods is 802.4.

The number of calories represented by good brandies or whiskies, containing 45 per cent. of alcohol, is 1,575. In other words, the average calorific value of these preparations is approximately one-half that contained in either good brandy or whisky. From this it must not be concluded, however, that equal quantities of brandy or whisky are twice as valuable as the medicinal food because the medicinal foods contain some material which can be utilized in building tissue, which is not the case with either whisky or brandy.

From the above it can readily be seen that not only is the patient receiving a starvation diet when the physician resorts to these preparations, but that the unfortunate sick are also compelled to pay exorbitant prices for the amount of actual nutritive matter received.

It is urged in justification of the use of preparations of this class that they contain constituents not found in our ordinary foods and in a more perfectly assimilable condition. As pointed out above, these so-called predigested foods contain no fats; the carbohydrates in them are the ordinary sugars present in our common foods, while the proteins belong to the peptone or albumose class. It is for these latter that the greatest claims are made, but even here no value can be pointed out not found in whey, peptonized full milk or peptonized skimmed milk.

There is likewise another point of considerable importance to consider in this connection. The terms *peptone* and *albumose* include bodies of very uncertain composition, and their suitableness as food substances depends largely on how they are prepared. Animal experiments have shown that nitrogen equilibrium may be maintained, for a time at least, by use of enzymic hydrolytic products of the proteins, even where the hydrolysis has been carried far beyond the so-called peptone stage, but it appears to be likewise true that the mixtures secured by acid or high temperature steam hydrolysis have no such value. Some of these, indeed, may exhibit a toxic behavior. This is true in particular of some of the commercial varieties of peptone, and until more is known of the source of the bodies of protein character employed in the make-up of these "predigested" mixtures it is unwise to assume anything concerning the food value of the nitrogen compounds found in them by analysis or even to dignify them by the name of foods.

Your subcommittee makes the following recommendations:

1. No liquid medicinal or predigested food shall be approved by the Council which contains less nutritive value, exclusive of alcohol and glycerin, than milk.
2. At least one-fourth of the nutritive value of the food, exclusive of alcohol and glycerin, shall reside in the nitrogenous matter.
3. The label shall bear a statement whether the peptones and proteoses are produced by enzymes or otherwise.
4. No package or advertising matter of any character shall bear representations which would lead the physician to believe that a food contains more nutrients than it actually does, or that it alone can sustain life for a limited period, if the dose advised contains less than 100 calories, exclusive of alcohol and glycerol, per diem dose.
5. Solid or partially evaporated products shall conform to the above standards when calculated to the water content of milk, viz., 88 per cent.

The report of the subcommittee was adopted by the Council and ordered published. W. A. Puckner, Secretary.

ANASARCIN AND ANEDEMIN.

(Concluded from page 1536.)

ANEDEMIN.

If we are disposed to doubt the vaunted scientific ability of the Anasarcin Company, we are forced to admire their business methods, at least, if there is any truth in the saying that imitation is the seal of success. Anasarcin has had this rather undesirable compliment paid to it, for its native town of Winchester has given birth to another remedy, Anedemin, which looks like a fair-haired twin brother. The Anedemin Company has adopted Anasarcin almost bodily. The name—"opposed to edema"—is about as close as the copyright laws permit. The pharmacologic and therapeutic claims agree almost literally with those of Anasarcin and contain the same exaggerations and dangerous mis-statements. There is the same emphasis on free purgation with Epsom salts. The dose is the same. Both are marketed at two dollars for a box of 100—only the Anedemin people have adopted the prize package device of throwing in 20 or 30 tablets extra, for good measure, and give a discount of 75 cents or so.

In short, the Anedemin Company has appropriated all of Anasarcin which they considered of any value. It is, therefore, rather suggestive that they drew the line at the formula. Anasarcin is said to contain squill, sambucus and oxydendron; Anedemin discards the oxydendron and reinforces the squill with strophanthus and apocynum. Notwithstanding this material change in composition, the actions are described as identical; this is again rather suggestive.

The Anedemin Company, like the Anasarcin Company, scorns crude drugs and claims to use only the isolated principles. It was saved the trouble of discovering active principles for strophanthus and apocynum, for these are known; but it managed to find some scope for its inventive genius, "both drugs being so chemically treated and disposed as to absolutely eliminate all objectionable and disagreeable properties and effects" so as to convert a vasoconstrictor action into a dilator action; so as to render them non-toxic and non-cumulative; so as to deprive apocynum of its characteristic nauseant effect. Who can say that the days of miracles are past? Even this is not the limit of Anedemin alchemy; if we are to believe their claims, they have succeeded in forcing strophanthin, apocynum, scillain, etc., to combine with each other: "It is a *definite chemical compound* of the active principles" of these drugs! This makes the achievements of Emil Fischer in synthesizing sugars and proteids appear as mere child's play.

Laboratory and Warehouse of the Anasarcin Chemical Company, Winchester, Tenn.

Since the formulas were completed, however, clinical reports have been numerous enough—almost too numerous, if we are to believe them. Anedemin has been on the market for less than three years; the circulars emphasize that testimonials and endorsements are not solicited. Nevertheless, we are told that it is "endorsed by over fifty thousand clinicians throughout the United States." Since the total number of physicians in the United States and Canada is only about 128,000, this means that nearly every second physician has endorsed Anedemin. The Anasarcin Company solicits endorsements and they seem to do the larger business. Hence the majority of physicians of the United States must have written an endorsement of either Anedemin or Anasarcin, or both. Or is this statement another "invention?" It is a little peculiar that nearly all the endorsements come from small towns in sparsely settled districts; practically none from the centers of population. Does this mean that dropsy is more common in the rural communities than in the cities?

THE INVENTORS OF ANASARCIN AND ANEDEMIN.

Even the newspapers, when they tax our credulity with pretended scientific "discoveries," feel the moral obligation of justifying themselves by telling us something of the personality and experience of the discoverers. We may ask, therefore, who are these expert pharmaceutic and synthetic chemists, these manufacturers of active principles, these skilled clinicians of wide experience, who have "intelligently built up the formula by wide application?" What are we told of these men who ask us to believe, on their mere assurance, in miracles and feats of magic; who tell us that they have converted neutral principles into alkaloids, that they have effected definite chemical compounds between these neutral principles, that they have discovered principles that do not exist, that they have changed the actions of these principles to suit their wishes, that, in short, they have reversed the laws of Nature?

These companies are located in Winchester, Tenn., a town of about 1,500 inhabitants, situated in an agricultural country. The town boasts of neither scientific schools, colleges, universities nor laboratories. The Anasarcin Company was organized in 1902, the incorporators and directors being Dr. John W. Grisard and his sons, Dr. John P. Grisard, B. A. Grisard, and A. F. Grisard, and Will W. Walker, all of Winchester. Dr. John W. Grisard seems to be the originator and promoter of Anasarcin. W. E. Walker is an insurance solicitor of Winchester and is not actively identified with the business. We are informed that he owns but a single share of stock having a face value of $100, and that he was added to the company in order to comply with the laws of Tennessee, which require five directors for any corporation. Dr. John W. Grisard, the father, has practically retired, but still has a general supervising interest in the business. There is no regularly licensed pharmacist or chemist connected with the company. The office is in the rear of a jewelry store in the business part of Winchester and on the second floor above. According to our reporter, an office force of about ten stenographers and clerks handles the correspondence and labels and sends out the preparation which is made in a crude frame building located on a side street and without laboratory equipment. According to our reporter, the work is done by the Grisards and a colored man.

The Anedemin Chemical Company was organized in 1905 with a capital of $20,000, the incorporators and directors being Dr. T. B. Anderton, Floyd Estill, J. J. Lynch, J. M. Littleton and I. G. Phillips, all residents of Winchester, and all lawyers with the exception of Dr. T. B. Anderton. A Mr. Gordon, a clerical employé of the company, is reported to have active charge of the business, to prepare the medicine and conduct the correspondence. The office headquarters, laboratory and complete outfit of the Anedemin Company comprises two rooms over the law office of Estill and Littleton. No one connected with the company is a regularly licensed pharmacist or graduate chemist.

Of the six physicians located in Winchester, three of them (50 per cent.), are engaged in the dropsical cure business. Poor Winchester! Aside from their connection with these two nostrums, these physicians may be estimable and worthy citizens, but where, pray, did they find the extensive clinical facilities and pharmaceutical knowledge necessary for their wonderful and epoch-making discovery? Were they aided in their scientific work by the four lawyers connected with the Anedemin Company or by the insurance solicitor who is a director of the Anasarcin Company? Did the 1,500 inhabitants of the town furnish the vast clinical material necessary for discovering and working out the formulas of these two preparations? If so, we fear that dropsical affections are much more prevalent in Winchester than in any other known spot on the globe. This matter should be investigated. Without doubt the vital statistics of Franklin County would be most interesting and we commend them to the special attention of the medical profession in Tennessee.

Naming of Carbon Compounds.—Oxy indicates an oxid, thus ether U. S., $CH_3.CH_2.O.CH_2CH_3$, is ethane-oxy-ethane. Often "oxy" is used to indicate hydroxyl, thus phenol is called oxy-benzene, resorcinol of phendiol is called dioxy-benzene, etc.—*Pharm. Rev.*, September, 1906.

Correspondence

The Adaptation of Clinical Methods to the Practicing Physician.

Chicago, April 24, 1907.

To the Editor:—Some years ago I was desirous of studying clinically surgical work on a certain anatomic region of the body. Living in Chicago, where clinics in abundance in this department of practice, as in others, are accessible, the project seemed a very simple one. I tried, and to my surprise, found the plan impracticable. At the clinics attended for this one purpose there was presented a great variety of cases, which, not appealing to me then, merely served to consume my time. Thus I wasted hour on hour in order to get at even one case I wished to see. I gave up the idea then and I should have to give up such a project to-day. It was not at that time and is not now practicable to expect a clinician to keep a score of men in mind and telephone them of the cases to appear at his clinics.

Thinking over the reason for my fruitless experience, I came finally to understand the difficulty. Our clinical methods had their origin in the instruction of undergraduates, and they have never been altered to meet the widely different demands of the physician. The undergraduate knows little or nothing of medicine and, therefore, one case appeals to him with about as much interest as another. And this to a large but lesser extent is true also of those postgraduate students who are attempting to cover a field completely with which they are not familiar. And it is, to be sure, true also to a small extent of all physicians, especially when in a half serious mood. But the present clinical arrangements are such that the advantageous utilization by the mature physician of clinical facilities is almost an utter impossibility. The idea of adapting them to the practicing physician has never been worked out, or apparently never conceived.

What is chiefly needed is that the physician shall be enabled to select out of the whole number of cases to be presented in a particular city each day those capable of appealing to him at that time. This selective need is absolutely fundamental in the best mature study, for each individual mind possesses its own store of knowledge different from that of any other mind, and the need for adding to this store is all the time changing. It is this selective aid which makes the index to periodicals and books so valuable that without it education would, except for unusual minds, hardly advance beyond the rudiments. The failure of clinicians to recognize the fundamental value of this indexing principle is responsible for the comparative uselessness of clinical instruction to the physician. What is needed is that the physician shall be directed by a clinical index exactly where to go to satisfy his clinical needs, precisely as he goes to the book index for direction as to printed knowledge. And the evident fact that such an index could not be so perfect or so complete or so exactly applied as that for periodicals or books, does not practically affect the question. Usefulness, not perfection, is the stamp of practicableness.

This plan calls for the indexing of clinical cases of whatever character occurring in all the medical teaching institutions of each of our cities, especially the large clinical centers. To a certain extent it implies interference with the present strictly institutional plan of postgraduate study. If each postgraduate school be compared to a medical periodical the plan proposes not to confine the physician to one magazine, but to open them all before him and by means of an index allow him to read where he may derive most advantage. It represents a positive advance in our methods of medical study. What a tremendous aid it would be to the out-of-town physician to feel that he could at any time step over to a large clinical center and attend case after case exactly, or nearly exactly, as his needs required, instead, as now, of wasting most of his time on cases which only slightly appeal to him. The usefulness to the home physician of clinical instruction would be still more increased because his needs could be exactly fulfilled at any time. On the whole, attendance would be enormously stimulated. The schools would doubtless adopt a uniform low price for each clinic attended.

It goes almost without saying that each clinical center should publish a permanent, frequently revised, schedule of its fixed clinics. This should be done whether the more important and more far-reaching plan I am proposing is adopted or not. Such a schedule would be of great advantage especially to out-of-town physicians.

Granting it possible to index clinical instruction, what form would such an index assume? This instruction is transient, changing each day and completed each day. It must evidently be indexed daily. Each morning, then, a new index of that day's instruction is required. It must also be made readily and cheaply accessible to every medical man in the city. Is there a practical way of issuing such a daily clinical index? Undoubtedly there is. Two possible courses are available. The first necessity whichever plan is utilized is the establishment of a central editorial bureau to whom clinicians may telephone at the close of each day their clinical plans for the day following, so far as these can be foretold. The information may then be made known to the physicians, either (1) by answering telephonic inquiries only, or (2) by printing the material in the evening or night and either mailing it or distributing it by carrier, on the following morning. The first method is undesirable because its usefulness would be too limited. The second, if the distribution were directly to physicians, would possibly be too expensive to be completely practical. A compromise plan of distributing this daily clinical index to certain central stations easily accessible to all physicians (as for example, either all or certain drug stores), seems practical and easily carried out. Clinical plans which could not be foretold early enough for the publication, if sufficiently important, could be telephoned later, perhaps in the morning, to the editorial bureau, there to be on telephonic demand when requested by physicians.

Who should bear the expense is a matter for consideration. It is possible that most drug stores would be glad to pay a fair subscription price for a periodical attracting physicians to their stores. It is possible also that certain schools might pay a proportion of the expense, at any rate through the way of advertising. It is certain that large numbers of physicians, especially those from out of town, would either buy copies (which should be on sale) as needed, or would subscribe for a longer or shorter period. At any rate, hundreds of physicians would manage to find means to consult such a clinical index if it existed. Advertising would help largely.

It is important that this project should be executed not by private enterprise, but by collective medical effort. In this way only can full cooperation be secured, and, especially, can objectionable advertising of clinicians be avoided. The names of clinicians should not appear in connection with their clinics. Which shall be the first of our cities to take this important advance step? Elmer L. Kenyon, M.D.

The Great American Fraud.

Rogersville, Tenn., April 19, 1907.

To the Editor:—Undoubtedly untold benefit has resulted from the literature exposing the "patent-medicine" fraud and the methods of the advertising quacks, but, unfortunately, the great body of the people who stand most in need of enlightenment have not been reached by these publications. High-priced magazines, like *Collier's Weekly* and the *Ladies' Home Journal*, do not reach those who live in the rural, and especially in the mountain, sections. Residents in the towns and cities buy the cure-alls and patronize the "quack specialist" to some extent, but nothing to compare with the former class. These are a simple people, often remote from capable physicians, they rely on "doctoring" themselves, making their diagnoses from advertising matter of "patent medicines." They see only a small amount of literature aside from the county paper, which comes to them weekly, and the mass of nostrum advertisements brought by the R. F. D. man. All this literature is read with avidity. The weekly paper, filled with fraudulent advertisements, is read from top to bottom, each week going over the same matter, the medicine advertisements are looked on as advice direct from the editor, a man of great veneration and learning. Many of these families are very poor, and often sell the last cow, their chickens and eggs (thus depriving themselves of the only proper food for the sick available to them), to raise money to send for a supply of "Dr. King's New Discovery for Consumption" or some one's "cancer cure."

Out of many cases I have witnessed permit me to mention two which recently came under my observation:

Case 1.—In the latter part of May, 1906, I was sent for to amputate the breast of Mrs. M. T., aged about 55, who resided in this town. I found her in great agony. A cake of absorbent cotton covered the entire left breast, arm, side and back, down to the crest of the ilium. About three months prior to this time she had discovered a small, freely movable tumor about the size of a robin's egg in the left breast; it was not attended with pain or any discomfort. She became somewhat alarmed, and her sister, with whom she lived, found an advertisement in their religious paper of "Dr." D. M. Bye and his "Wonderful Oil Cure for Cancer." For many weeks prior to the time I saw her she had been using the "oil cure," with the result that all the skin and part of the flesh was burned off from the extensive region covered by the absorbent cotton, which had become converted into an extensive scab. (I see from one of his letters to her that the application of cotton was directed, and that in her case the "oil" had been somewhat modified, making it stronger.) The condition was septic in the highest degree, suppuration and absorption going on beneath the cake of cotton. I was able to remove the "dressing" by insinuating peroxid of hydrogen beneath it, the whole coming off in one solid mass. The wound had the appearance of a deep-seated burn. The lump in the breast, I was informed, had undergone no perceptible change. The woman was in a pitiable condition and no operation was considered. She died from sepsis and exhaustion in two days after coming under my observation.

The little tumor, while probably malignant, was not a factor in her taking off, but death, in my opinion, was directly due to the corrosive applications made by direction of "Dr." Bye. It appeared that she had paid the Bye concern $500, and at the time of her death a box of the "treatment" arrived at the express office, for which $50 had been paid. The Bye concern refused to take it back or to allow the sister anything whatever for it, although they had guaranteed a cure. Removal of the growth was the only treatment that should have been considered in this case.

Case 2.—Mrs. B., a widow, with several small children, totally blind from absolute glaucoma, had been told by myself and other physicians that nothing whatever could be done to restore or in any manner to benefit her sight. She was written to by "Dr. Coffee, Eye Specialist," who, without the least idea of the nature of her trouble, undertook to guarantee a perfect cure. The woman was very poor, but she managed to pay him $8 a month for more than two years. When she could no longer raise the necessary amount, he reduced the fee to $5, and this payment was kept up for many months, until it became utterly impossible for her to pay him anything whatever. He used the "absorption" method. His letters to this woman are before me, and are cunning and ingenious. They explain in a graphic manner that a "membrain" has formed over the sight, and just as soon as his medicine "absorbs the groath" her vision will be as good as ever, that "vision would not return as long as there was a vestage of membrain," that the "membrain was growing thinner all the time," and that it would return very suddenly, and that it would be disastrous to give up treatment, that maybe one more application of his absorbent would have been sufficient.

Now, what I propose is that an effort be made to raise a fund sufficient to have the *Collier's Weekly* and *Ladies' Home Journal* articles on "patent medicines" published in cheap pamphlet form for distribution among the people who can not be reached in the ordinary way. This would be the most vital blow that could be given this colossal fraud. Such a pamphlet would be read and passed from house to house. It would open up a side to this subject undreamed of by the people to whom I refer. It is almost a universal belief that these "patent-medicine" establishments are the source of all medical and scientific knowledge, that when medical students and physicians go off to the city to study that Pierce's concern at Buffalo, N. Y., or some other like concern is the great institution of learning the students attend.

Yet it appears somewhat ironical that an organized effort should be necessary to save the fool from the consequences of his folly and to provide protection for the gullibility against which common sense should be a sufficient safeguard.

J. E. Miller, M.D.

[Comment.—"The Great American Fraud" articles are published in pamphlet form by the American Medical Association with permission of *Collier's Weekly*. They make a pamphlet of 146 pages, with 65 illustrations, which is sold at less than cost (see advertising page 39, this issue), the object of the Association being to keep these articles in circulation. In this pamphlet both of the frauds mentioned by our correspondent are exposed.

"Dr." Bye it is who, with the proceeds of his blood money, has established a church in Indianapolis. His "literature" oozes with piety. In it we find that "surely God's blessing attends the oil cure," which for blatant blasphemy would be difficult to equal. He was listed by Adams under the "cancer vampires"—a classification which seems peculiarly appropriate. "Dr." Coffee is also one of the "mail order" specialists. He has illustrated his "literature" with pictures stolen from Haab's "External Diseases of the Eye." These illustrations, with fabricated legends under them, are used to show what miraculous cures are wrought by the "Absorption Treatment as Originated and Perfected by Dr. Coffee." Coffee is strongly endorsed by the editor of his local paper; Mr. Adams wonders whether prompt payment for advertising space enters as an element into the testimonial.

Apropos of the above, we quote the following from the *Ohio State Medical Journal for April*.—Ed.].

"There is little doubt that the most effective weapon, now in possession of the medical profession, with which to fight charlatanry is the reprint from *Collier's Weekly*. Put this little book in the home of every man in the state and the problem of suppressing charlatanry is solved. It impresses every reader with its truthfulness. It is an unanswerable document, showing that this traffic in drugs by pretenders to medical knowledge is, indeed and in fact, the Great American Fraud. What are we going to do about it? Shall we recline supinely and expect the people to run after this information? People are not consumed with anxious desire for this knowledge, but they accept it if it is properly offered. Every society should order enough copies for the use of members and for public and private distribution. Secretaries of county societies should see that booksellers and news stands have them on sale. Libraries should be supplied and the reading public should find easy access to information which can not be obtained in any other way. It is not derogatory to professional dignity to engage in the work of rescue of the deluded and misled people. Members of the state legislature should have information on the questions contained in the reprint. If the profession is as zealous as the charlatans the work will prosper."

Teach the Public that Medical Practice Is More Than Drug-Giving.

Dodge City, Kan., April 23, 1907.

To the Editor:—Will you permit a suggestion with regard to the fight against the nostrum industry? Much good has been done by Mr. Bok and Mr. Adams by their exposure of the consciencecless exploitation, by nostrum vendors, of human suffering. It is to be hoped that much reformation has been accomplished in medical ranks by the Council on Pharmacy and Chemistry and by medical writers on nostrums and the sins of physicians in prescribing nostrums. But in my opinion the keynote to success in the antinostrum fight has not been sounded. So long as we cling to the habit of prescribing something, whether the patient needs any drug or not, for the sake of holding his business, so long are we encouraging the delusion that the real value of the physician lies in the drugs that he gives, regardless of the fact that at least nine-tenths of his professional training is for the purpose of enabling him to ascertain the condition of the patient—to diagnose the case. When the laity realize this fact they will naturally and inevitably doubt their own ability in self-diagnosis, and will cease to buy the ready-made "dope" that now cumbers the druggists' shelves. They will also cease to furnish remunerative employment for the long-distance advertisers, and all the gentry who have a never-failing cure for certain conditions.

Another thing which ought to be strongly impressed on the laity is that there is in every living organism a power that makes for health; that tends to restore the normal condition when it is overthrown—the *vis medicatrix naturæ* of the old writers. A proper appreciation of this fact will deprive the nostrum vendors of a vast amount of undeserved credit for cures. And if it be said that it will also deprive the attending physician of credit which would otherwise be given him, it is admitted. But is it not better to have the just appreciation of intelligent people than the undeserved adulation of the ignorant? The one will remain constant, the other is proverbially fickle. The effect of such teaching on christian science and similar fallacies can easily be foreseen, and requires no comment.

To do this is not a light task, and it is not to be accomplished in a day, but it is necessary to the welfare of the people, and to furnish a proper soil for the development of our profession. How can it best be done?

Is it not naturally the work of the local medical society to educate the people of the neighborhood to a proper appreciation of a profession that concerns them so intimately as does that of medicine, not only individually, but through newspapers and by other printed matter? If it be objected to this that we should be imitating the quacks, I can only answer that as long ago the churches decided that the devil should not have the best music, so now it is surely time that the monopoly by quacks of the best means of disseminating information should cease. "Truth is mighty and must prevail" in a fair field. But if the truth is bottled up and not allowed to get into the open, it is not surprising that falsehood scores a triumph.

Whether or not this public teaching be done, the duty of the physician to his patient is clear: to give him the best service in his power, and then charge him a reasonable fee for it. But to hide a real service under a needless prescription is basely to prostitute the profession, and to perpetuate the mental fog which envelopes the public with reference to the practice of medicine.

W. H. Graves.

The Book on Fractures by Lamb—An Explanation.

Benton Harbor, Mich., April 13, 1907.

To the Editor:—In The Journal of April 13, 1907, p. 1281, appears a letter from D. S. Lamb, Washington, D. C., relative to letters coming to him from various parts of the country requesting copies of "New Methods of Reducing Fractures and Dislocations." I think I may be able to explain where Mr. Lamb's letters came from, and why. A traveling contortionist gave an exhibition in this city about two years ago, and among other things, he told the physicians who were present that if they would write the curator of the National Medical Museum, giving name, they could get gratis a book on new methods of reducing fractures and dislocations, published by the United States government. So far as I know no reply was ever received to the letter written from here.

Fred. R. Belknap.

[Dr. V. M. Griswold, Fredonia, N. Y., sends similar information about the visit of this professional dislocator at Dunkirk, N. Y.—Ed.]

Miscellany

Investigations Concerning Nostrums in Germany.—On several occasions The Journal has referred to the fact that the Pharmaceutical Institute of the University of Berlin is investigating the patented and other medicines exploited over there, in a way similar to the work being done by the Council on Pharmacy and Chemistry. In the *Apotheker Zeitung*, Dec. 22, 1906, are reported the recent investigations by J. Kochs of the Pharmaceutical Institute, which indicate that Isn, which has been advertised as a ferrous saccharate, is in fact a mixture containing ferrous citrate with some ferric salt and sugar. In other words, it is not what it has been advertised to be. Kochs has also investigated grandira, a remedy for syphilis, advertised as containing 30 per cent. of calomel, but actually containing but 9 per cent. F. Zernik investigated aspirophen, found that it is not amidophenacetin, acetyl-salicylate, as claimed, but is a mixture of molecular proportions of free salicylic acid and monoacetylphenocoll. Zernik has also found that formurol is a mixture of about 37.5 per cent. of hexamethylenamin, with 62.5 per cent. of a mixture of neutral and acid sodium citrate. This preparation has been introduced as a remedy for gout and advertised as sodium-hexamethylenamin citrate. The above-named articles, so far as we know, are not yet advertised in this country.

The Doctor.

The following poem was written by James Whitcomb Riley in memoriam of Dr. W. B. Fletcher of Indianapolis, (who died April 25), and was published in the Indianapolis *Morning Star* on the day of the funeral.

THE DOCTOR.

"He took the suffering human race;
He read each wound—each weakness clear—
And struck his finger on the place
And said, 'Thou ailest here—and here.'"
—Matthew Arnold.

We may idealize the chief of men—
Idealize the humblest citizen—
Idealize the ruler in his chair—
The poor man, or the poorer millionaire;
Idealize the soldier—sailor—or
The simple man of peace—at war with war;—
The hero of the sword or fife-and-drum. . . .
Why not idealize the Doctor some?

The Doctor is, by principle, we know,
Opposed to sentiment; he veils all show
Of feeling, and is proudest when he hides
The sympathy which natively abides
Within the stoic precincts of a soul
Which owns strict duty as its first control,
And so must guard the ill, lest worse may come. . . .
Why not idealize the Doctor some?

He is the master of emotions—he
Is likewise, certain of that mastery—
Or dare he face contagion in its ire,
Or scathing fever in its leaping fire?
He needs must smile upon the ghastly face
That yearns up tow'rd him in that warded place
Where even the saint-like Sisters' lips grow dumb.
Why not idealize the Doctor some?

He wisely hides his heart from you and me—
He hath grown tearless, of necessity—
He knows the sight is clearer, being blind;
He knows the cruel knife is very kind;
Ofttimes he must be pitiless, for thought
Of the remembered wife or child he sought
To save through kindness that was overcome.
Why not idealize the Doctor some?

Bear with him, prayerful, in his darkest doubt
Of how the mystery of death comes out;
He knows—he knows—aye, better yet than we,
That out of Time must dawn Eternity;
He knows his own compassion—what he would
Give in relief of all ills, if he could.
We wait alike one Master—He will come.
Do we idealize the Doctor some?
—James Whitcomb Riley.

Home Treatment of Tuberculosis.—B. R. Shurly, Detroit, states, in the *Detroit Medical Journal*, that there are certain fundamental principles in the treatment of tuberculosis at home which must be omnipotent. The care by day and night of the infectious sputum requires the most constant attention to every detail. A newspaper cornucopia pinned to the mattress should receive the sputum rags or papers from the bedridden patient, and a destructible box or cup should be used by the ambulatory individual. If tuberculosis is to be limited the bacilli must be destroyed. Success of our methods requires the eternal vigilance of the attending physician. Among the intelligent the difficulties are appreciated, and the value of sunshine, fresh air and disinfectants are readily understood. Among the uneducated element and in dispensary practice, it is necessary to resort to printed instructions to which frequent attention is called. It is Shurly's plan to place a member of the family in charge of the patient and to make him responsible for the proper management of the five fundamental principles of treatment: First, the destruction of the infective material; second, fresh air and sunshine in abundance; third, rest; fourth, pure food and drink to the limit of digestive capacity; fifth, the use of medicine as directed by the physician and in no other manner. This supervision is supplemented by visits at intervals of a trained nurse, who is especially instructed in the hygiene and care of the consumptive. The ingenuity of the physician alone can direct the proper method of supplying the greatest amount of sunshine and fresh air to the patient. The problems of fresh air supply, diet and rest, especially during fever, must be worked out for the individual along the lines of the fundamental principles and carried out with the persistence of a general. The fight of the consumptive for life is an up-hill battle that requires masterful management and peculiar mental characteristics on the part of the physician. Treatment by suggestion is an extremely important factor in the cure of tuberculosis. Nature has endowed the patient with a great degree of hopefulness. This confidence in the power and judgment of the physician is a valuable factor in treatment. A buoyant spirit of pugnaciousness is an unfailing inspiration that frequently turns the tide of battle.

Treatment of Pseudarthrosis and Tardy Callus Formation by Injection of Blood.—More than two years have elapsed since Bier first called attention to the value of local injection of human venous blood as a means to hasten consolidation. V. Schmieden, assistant at his clinic, reviews the experiences to date with the method in a communication to the *Med. Klinik*, iii, 197, 1907. He remarks that the improvement in late years in the treatment of fractures has rendered pseudarthrosis very rare. This and delayed callus formation are observed only in persons who seem to be incapable of production of callus and in whom fractures seem unable to heal. In such patients the method of local injection of about 25 c.c. of their own or foreign human venous blood seems to have a remarkable stimulating effect. He advises the simple intervention in every case of delay in the production of callus, without waiting for the development of a pseudarthrosis, and relates the histories of a later series of 11 cases which show the prompt benefits derived. A syringe is used that exerts considerable pressure, the piston being moved by a thumb-screw and ratchet. In many instances the benefit was not apparent until after the fifth or sixth injection. He makes an injection every eight or ten days, and then waits to observe the results. Foreign human blood seems to be more efficient than the patient's own blood, and the effect is better when the blood is aspirated into the syringe and injected without further manipulation. A violent reaction ensues, with all the symptoms of acute inflammation, but it soon subsides, generally in the course of a day.

Nervous Phenomena in Children Due to Drinking Too Much Water.—Millon comments on the habit which some children acquire of drinking large amounts of fluids during and between meals and at night. He adds that even in adults this habit of drinking copiously is easily established and soon becomes imperious. A man who is very thirsty during the first hot days of summer and drinks constantly, condemns himself to keep on drinking copiously all through the season. No one notices how much a child drinks, and by the age of 10 or 12 the habit may become actual potomania, causing the ingestion of 5 or 6 quarts of water a day. This excess causes dilatation of the stomach, but there is no vomiting, no eructations nor cutaneous phenomena, the symptoms being generally exclusively of a nervous order. Headaches, restless sleep, bad dreams and even insomnia are frequently encountered in children who overdrink in this way. The child wakes with a frontal headache which may persist at times for days and weeks. The character suffers from the returning headaches and lack of normal sleep. The disturbances may be the result of irritation of the sympathetic from distension of the stomach by the large amounts of fluid ingested. The dilatation of the stomach is not permanent, and all disturbances are soon corrected when the physician and parents succeed in restricting the ingestion of fluids within normal bounds. Millon's article was published in the *Gaz. d. Mal. Infant*, viii, 113, 1906.

Cure of Chronic Albuminuria by Intercurrent Scarlet Fever.—Gillet reports the case of a child of about 8 left with intermittent, orthostatic albuminuria after an attack of acute primary nephritis with anasarca, fever and much albuminuria. After 4 years of this albuminuria, scarlet fever supervened, and the child was kept constantly in bed. On recovery from the scarlet fever the urine was re-examined 109 times in the course of the following five years, but no traces of albumin or other signs of nephritis were ever discovered. Le Gendre, he adds, has reported a similar case, and Siredey one in which the albuminuria vanished after malarial infection. Gillet suggests that these paradoxic cures of albuminuria after an intercurrent infection possibly point the way to a new mode of treatment. His article is published in the *Gaz. d. Mal. Infant*, viii, 33, 1906.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

Pennsylvania Osteopathy Bill Vetoed.

Governor Stuart of Pennsylvania has vetoed the Wickersham bill, which was passed by both houses of the legislature. This bill provided for the organization of a separate board of osteopathic examiners and also for the appointment of an osteopath on the state medical board. Governor Stuart's message should be carefully read, as it contains some eminently sensible and clear-cut statements regarding the recognition of osteopaths. He says:

"That the skilful practice of osteopathy has benefited the afflicted and alleviated human suffering in many instances is an established fact. It can, however, be practiced without violating the present medical practice act. No legislation, therefore, is necessary to permit osteopaths to practice their profession, but there is a broad and clearly defined distinction between practicing medicine and surgery and practicing osteopathy. The state is not concerned with any controversy between the different schools or sects and those who practice the art of healing, but it is interested in protecting the public from incompetent practitioners of every sort. Whether classifying osteopaths, who are not physicians or surgeons, with physicians and surgeons, in legislation originally designed to be applicable only to physicians and surgeons would afford any protection to the public is considered doubtful."

The governor concludes by stating that while the regulation of osteopathy may be desirable it should be provided for by legislation other than amendments to a law intended to apply only to the regulation of the practice of medicine and surgery.

Medical Legislation.

An important amendment to the medical practice act has been adopted in Delaware. The principal feature is the adoption of a definition of medical practice, which includes Eddyism, mental healing, osteopathy and all the latter-day fads. In Texas, after a prolonged struggle, the one board bill has been adopted and signed by the governor. Abstracts of these two laws are presented herewith:

DELAWARE.

The legislature has passed an act amending the medical practice act adopted in 1895 and amended in 1899. The present amendment adds a provision that applicants who graduated prior to July 1, 1901, and who have been in continuous practice for at least five years since graduation may be admitted to examination on evidence of having completed three courses of medical lectures in different calendar years and of a competent academic education according to the requirements of that time. Applicants who graduated prior to July 1, 1896, and who have been in continuous and reputable practice for at least ten years may be admitted to examination on furnishing evidence of having attended two courses of medical lectures in different calendar years and of a competent academic education according to the requirements of the time of graduation. All other applicants must have pursued the study of medicine for at least four years and must present a diploma from some reputable literary or scientific college or a certificate from the faculty of Delaware College saying that the applicant is qualified to enter the freshman class of the Latin scientific course of the college.

Section 14 is amended by adding a provision for a temporary license of not less than two weeks nor more than four months, which may be granted to a resident and legally qualified physician of another state who desires to take charge of the practice of a legally qualified resident physician of Delaware during the latter's temporary illness or absence from the state.

In addition, two new sections are added. Section 20 defines the practice of medicine to be the opening of an office for the purpose of practicing medicine and surgery or the announcing to the public or to any individual in any way of a desire, willingness or readiness to treat the sick and afflicted in any county in the state of Delaware, or to investigate or diagnose or offer to diagnose any physical or mental ailment or disease of any person or to give surgical assistance or to suggest, recommend, prescribe or direct for the use of any person any drug, medicine, appliance or other agency, whether material or not material, for the cure, relief or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture, bodily injury or deformity, or the receiving, either directly or indirectly, of any money, gift or other form of compensation for such services, or the use in connection with one's name of the words or letters "Dr.," "Doctor," "Professor," "M.D.," "M.B.," or "Healer," or any other designation which may imply or designate that the individual is a practitioner of medicine or surgery.

The usual exemptions are added regarding the administration of household or family remedies, dentists or dentistry surgeons, surgeons of government services, or mechanical fitting of glasses, druggists practicing pharmacy, the treatment of corns or bunions, manicuring or massage.

Section 21 provides that any practitioner of osteopathy now engaged in the practice in the State of Delaware, who holds a diploma from a legally chartered school of osteopathy and who has attended at least four terms of instruction of not less than five months each, is exempt from the provisions of the act, but that all other persons shall be examined by the medical council with the assistance of a reputable practitioner of osteopathy.

TEXAS.

The state legislature has passed the one board bill, and it has been signed by the governor, to become effective on July 1. This law provides for the establishment of a board of medical examiners to consist of eleven men, legal and active practitioners of medicine in the state who have practiced medicine under a diploma from a legal and reputable college of medicine for at least three years. No school shall have a majority representation. The board is to be appointed by the governor within ninety days after the act becomes effective and biennially thereafter within ninety days after his inauguration, the term of office to be two years. No member of the board shall be a stockholder, trustee or member of the faculty of any medical school. Certificates issued by the board are to be registered in the district clerk's office of the county in which the physician resides. In case of removal to another county, the individual must register in the office of the county clerk in his new location. District clerks are required to keep a record of all certificates recorded and to furnish a correct list of all the physicians registered in the county on the first day of January of each year. All local practitioners of medicine in the state are required to present to the board of medical examiners evidence to establish their right to practice medicine in the state. All other applicants must pass an examination before the board. Reputable medical schools are defined as those whose restrictions, requirements and courses of instruction are as high as those adopted by the better class of medical schools of the United States, whose courses of instruction comprise not less than four terms of five months each. Examinations shall be conducted on anatomy, physiology, chemistry, histology, pathology, bacteriology, physical diagnosis, surgery, obstetrics, gynecology, hygiene and medical jurisprudence. Dentists, nurses, masseurs, medical officers of government service and physicians of other states called in consultation are exempt. The board is authorized to refuse examination or a certificate for any of the following causes: Presentation of any license, certificate or diploma illegally or fraudulently obtained; fraud or deception in passing examination; conviction of a crime of the grade of a felony or one which involves moral turpitude, procuring, aiding or abetting a criminal abortion; gross unprofessional conduct of a character likely to deceive or defraud the public; habits of intemperance or drug addiction calculated to endanger the lives of patients. The courts are authorized to revoke any license for any of the above reasons. The practice of medicine is defined to be professing to be a physician or surgeon, treating or offering to treat any disease or disorder, mental or physical deformity or injury by any system of medicine, treating or offering to treat any disease or disorder and charging therefor directly or indirectly.

The new law is a great improvement over the old one, in that it provides for a general reregistration of all physicians, a measure greatly needed, owing to the confusion resulting from four successive practice acts in the last twenty years. It also substitutes a single board and a single standard for the triple board system formerly in vogue. This is in line with the present tendency to substitute single, non-sectarian boards for multiple sectarian systems. The provision for an examination in the essential and fundamental subjects to the exclusion of therapeutics is also wise. The sooner the public realizes that a physician's preparation and training are of more importance than the "school" to which he may belong, the better for the public and for the profession as well.

A Timely Criticism.

In the *Journal of the Medical Society of New Jersey* for April appears an article by Dr. Luther Halsey of Williamstown, of more than ordinary interest. One paragraph, in particular, contains both a criticism and a suggestion which is most pertinent at the present time. Speaking of the attitude of the medical profession toward state legislation in the past, Dr. Halsey says:

> Our efforts, however, have been, to a great extent, poorly generaled, disconcerted and spasmodic in character, with no definite plan for action common to any two states and frequently, even in the same state, we find each succeeding legislative committee totally disregarding the work and plans of its predecessor. What the profession needs and what it must have, before there can be uniform ideas regarding medical legislation and concerted, definite plans of action, is a deliberative meeting, at which to discuss and agree on the proper principles underlying the several essential features of a medical law. Such a body should be made up of at least one representative of each state and territory and should hold a session of several days. It takes time and deliberate thought to accomplish anything along these lines, and the sooner the profession realizes the necessity of tackling these problems in the proper manner, the sooner we may expect success to crown our efforts.

Dr. Halsey has described a condition which must be apparent to all who have been working or thinking along these lines. Legislatures have been in session this winter in 36 states. In 26 of these, bills have been introduced which in some manner affect the legal provisions of medical practice. In states which have three examining boards, bills providing for a single board have been introduced. In states which have but one board or in which the board of health is the examining body, efforts are being made to secure the passage of a law establishing more boards. In some states the medical profession is advocating a single board. In other states it is advocating more than one. The experience of physicians who have been successful in obtaining desirable legislation in one state should be utilized by those working for similar legislation in other states. Arguments and methods which have been successfully used to defeat pernicious legislation in one state should be utilized for the same purpose in another. The experience of the profession in one state should be made available in others. The osteopaths are systematically working to secure the adoption of uniform laws in all states. Their success so far is due to the fact that the work has been directed from a central bureau and that all of their experience and influence has been focused on a single state at a time. The organized profession ought to show at least the same amount of shrewdness and sagacity in securing desirable legislation for the good of the public that the Proprietary Association, osteopaths and other private interests show in obtaining legislation for personal reasons.

Insurance Resolutions.

The following societies have adopted resolutions on the insurance question since the last list was published in The Journal:

Fort Wayne (Ind.) Medical Society.
Norfolk South District (Mass.) Medical Society.
Pima County (Ariz.) Medical Society.
Somerset County (Md.) Medical Society.
Medical Society of the City and County of Denver (Colo.).
Fayette County (Tex.) Medical Society.
Kossuth County (Iowa) Medical Society.
Franklin County (Pa.) Medical Society.
Adams County (Miss.) Medical Society.
Washington County (Wis.) Medical Society.
Columbia County (Wis.) Medical Society.
Fairfield County (S. C.) Medical Society.
Scott County (Ind.) Medical Society.
Northwest District (N. D.) Medical Society.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers for the week ending May 4, 1907:

Wilson, James S., asst.-surgeon, granted twenty-five days' leave of absence.

Keller, William L., asst.-surgeon, granted three months' leave of absence with permission to go beyond the sea.

Howard, Deane C., surgeon, promoted to major and surgeon, U. S. Army, to rank as such from April 24, 1907.

Whitmore, Eugene R., asst.-surgeon, granted ten days' leave of absence to take effect on being relieved from duty at Fort Jay, N. Y.

Banister, John M., deputy surgeon general; Gandy, Charles M., professor of military hygiene, and Mason, Charles F., surgeon, appointed members of a board of medical officers to meet at West Point, N. Y., on May 20, 1907, for the purpose of making the physical examination of cadets required by Par. 25 of the General Regulations, as amended by G. O. 74, April 13, 1906, War Department.

Brechemin, Louis, deputy surgeon general, granted three months' leave of absence with permission to go beyond the sea.

Wyeth, M. C., surgeon, ordered to proceed to Hot Springs, Ark., and report in person to the commanding officer, Army and Navy General Hospital, at that place for observation and treatment.

Shaw, Herbert G., asst.-surgeon, relieved from duty at Army General Hospital, Presidio, San Francisco, and ordered to Vancouver Barracks, Wash., for duty.

Gray, William W., deputy surgeon general, granted ten days' leave of absence.

Robbins, Chandler P., asst.-surgeon, granted fourteen days' leave of absence.

Hughes, Leonard S., contract surgeon, relieved from duty at the depot of recruits and casuals, Angel Island, Cal., and ordered to Fort McDowell, Cal., for duty.

Koyle, Fred T., contract surgeon, relieved from duty at Fort McDowell, Cal., and ordered to the Presidio of San Francisco, for duty.

Whitney, Walter, contract surgeon, ordered from Fort Preble, Me., to Fort Wadsworth, N. Y., for temporary duty.

Pinquard, Joseph, contract surgeon, granted sick leave of absence for two months.

Kelly, John P., contract surgeon, ordered to accompany Troop F, Fourteenth Cavalry, to duty in the Sequoia and General Grant National Parks, Cal.

Hereford, John R., contract surgeon, ordered from Fort Dade, Fla., to Fort Fremont, S. C., for temporary duty.

Slater, Ernest F., contract surgeon, returned to duty at Fort Banks, Mass., from leave of absence.

Mount, James R., contract surgeon, ordered to duty with field artillery from Presidio of San Francisco, Cal., on target practice.

Richardson, W. H., contract surgeon, left Fort Sheridan, Ill., with troops for San Francisco.

Woolley, Herbert C., contract surgeon, ordered to Fort Liscum, Alaska, for duty on Delta-Gakona Cut-off, U. S. Military Telegraph Line, and then to duty at Fort Gibbon, Alaska.

Stephenson, Andrew V., contract surgeon, ordered to Presidio of San Francisco for duty.

Bell, Richard P., contract surgeon, relieved from duty on the transport *Kilpatrick* and ordered to duty at Fort Levett, Me.

Wren, Raphael J., contract surgeon, relieved from duty at Fort Totten, N. Y., and ordered to Fort Slocum, N. Y., for duty.

O'Day, Sylvester F., contract surgeon, ordered to Fort Totten, N. Y., for duty.

Wing, Franklin F., dental surgeon, left Fort D. A. Russell, Wyo., for duty at Fort Meade, S. Dak.

Wolven, F. Homer, dental surgeon, relieved from duty at Fort Hamilton, N. Y., and ordered to Fort Niagara, N. Y., for duty.

Millikin, John D., dental surgeon, granted sick leave of absence for two months.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending May 4, 1907:

A. H. Allen, asst.-surgeon, to duty at Lajas, Cuba.

C. H. DeLancy, passed asst.-surgeon, when discharged from treatment at the Naval Medical School Hospital, Washington, D. C., ordered to Navy Yard, Washington, D. C.

T. N. Phillips, pharmacist, detached from the Naval Hospital, New Fort Lyon, Colo., and ordered to the Naval Medical School Hospital, Washington, D. C., for treatment.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioued and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 1, 1907:

Carrington, P. M., surgeon, granted leave of absence for three days from April 29, 1907, under paragraph 189 of the Service Regulations.

Mathewson, H. S., P. A. surgeon, granted leave of absence for fifteen days from April 27, 1907.

Grubbs, S. B., P. A. surgeon, granted one day's leave of absence, May 6, 1907.

Holt, John M., P. A. surgeon, granted leave of absence for two months from June 20, 1907.

Ward, W. K., asst.-surgeon, leave of absence granted for one month on account of sickness, from April 1, 1907, amended to read for twenty-two days only.

Stiles, Charles W., Chief of Division of Zoology, granted leave of absence for five days in April, 1907.

Kastle, J. H., Chief of the Division of Chemistry, granted leave of absence for nine days in April, 1907.

Schwartz, Louis, acting assistant surgeon, granted leave of absence for seven days from May 2, 1907.

Straw, E. E., acting assistant surgeon, granted leave of absence for twenty days from April 15, 1907.

Ryder, L. W., pharmacist, granted leave of absence for seven days from April 27, 1907.

Watters, M. H., pharmacist, leave of absence granted from April 1, 1907, for thirty days amended to read nineteen days from April 4, 1907.

BOARD CONVENED.

A board of medical officers was to meet at Philadelphia April 30, 1907, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon J. M. Gassaway, chairman; Passed Assistant Surgeon T. Clark, Recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 3, 1907:

SMALLPOX—UNITED STATES.

California: San Francisco, April 13-20, 1 case.

Illinois: Belleville, April 13-20, 1 case; Chicago, April 20-27, 1 case.

Kentucky: Louisville, April 18-25, 2 cases.

Massachusetts: Haverhill, March 9-16, 1 case.

Michigan: Detroit, March 20-27, 8 cases.

New Jersey: Hoboken, April 18-25, 1 case.

Ohio: Cincinnati, April 19-26, 1 case.

Texas: Houston, April 13-20, 10 cases.

Washington: Aberdeen, April 17, 4 cases; Spokane, April 13-20, 10 cases; Tacoma, April 13-20, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, March 9-16, 1 case.

SMALLPOX—FOREIGN.

Africa: Algiers, March 1-31, 8 deaths.

Austria: Trieste, March 30-April 6, 2 cases, 1 death.

Brazil: Para, March 30-April 6, 5 cases, 3 deaths.

Canada: Pictou County, April 20, present; Vancouver, April 13-20, 2 cases; Winnipeg, April 13-20, 2 cases.

Chile: Coquimbo, March 30, 6 cases, 3 deaths.

China: Hankow, March 11-25, 3 cases; Shanghai, March 9-23, 24 deaths; Tiensin, March 16-23, 2 cases.

Ecuador: Guayaquil, March 30-April 6, 3 deaths.

Egypt: Cairo, March 31-April 8, 5 cases, 1 death.

France: Nice, March 1-31, 40 cases, 6 deaths; Paris, April 6-13, 16 cases.

Germany: Bremen, March 16-April 6, 7 cases.

India: Calcutta, March 16-23, 86 deaths; Madras, March 23-29, 1 death.

Italy: Turin, March 31-April 7, 2 cases, 1 death.

Madeira: Funchal, April 7-14, 30 cases, 14 deaths.

Mexico: Aguas Calientes, April 13-20, 18 cases; Monterey, April 14-21, 1 death; Tuxpam, April 16-23, 1 death; Vera Cruz, April 13-20, 2 cases.

Portugal: Lisbon, April 6-13, 11 cases.

Russia: Moscow, March 30-April 6, 6 cases, 1 death; Odessa, March 31-April 6, 22 cases, 2 deaths; Riga, March 30-April 13, 10 cases; St. Petersburg, March 23-April 6, 2 cases; Warsaw, March 23-30, 5 deaths.

Spain: Almeria, March 1-30, 13 deaths; Valencia, April 7-14, 4 cases.

Turkey in Asia: Bagdad, March 9-16, present; Damascus, March 16-April 6, present.

YELLOW FEVER.

Brazil: Manao, March 23-April 6, 5 deaths; Para, March 30-April 6, 5 cases, 4 deaths.

Ecuador: Guayaquil, March 30-April 6, 5 deaths.

Java: Batavia, March 16-23, 2 cases.

West Indies: Bridgetown, Barbadoes, April 13-20, 1 case (imported); Port of Spain, Feb. 9-April 13, 8 cases, 4 deaths.

CHOLERA.

India: Calcutta, March 16-23, 49 deaths.

PLAGUE.

Australia: Brisbane, Feb. 8-March 9, 2 cases, 1 death; Ipswich, Feb. 8-16, 1 case; Kempsey, Feb. 8-16, 1 death; Sydney, Feb. 8-March 9, 14 cases, 1 death.

Brazil: Para, March 30-April 6, 6 cases, 3 deaths.

Chile: Antofagasta, March 30, 16 cases, 5. deaths; Iquique, March 30, present; Santiago, March 14, present; Talcahuana, March 14, present.

India: General, March 16-23, 62,155 cases, 53,004 deaths; Calcutta, March 16-23, 94 deaths.

Queries and Minor Notes

"COFFEE ANEMIA" AND DECAYED TEETH AND PNEUMONIA.

Washington, D. C., April 29, 1907.

To the Editor:—In the *Review of Reviews* for April it is stated (p. 435) that a child in a New York public school was found by a medical inspector to be anemic from the excessive use of coffee. 1. What authority is there for the opinion that this beverage could cause anemia and how much would be required to produce the effect? 2. Since the pneumococcus is present in the mouth, why is it not a reasonable supposition that pneumonia may be caused by the pneumococcus entering the lymphatics through decayed teeth? W.

Answer.—1. Authorities on pharmacology and toxicology present no facts to justify the opinion that anemia can be the result of a specific action of coffee. By deranging digestion, favoring intestinal putrefaction, or taking the place of a considerable amount of nutritive food, an excessive use of coffee may contribute to the production of an anemic state.

2. It is generally believed that pneumonia is usually a primary localization of the bacteria in the lung with secondary bacteriemia. It is probable that in some cases the bacteria may gain access to the blood through the lymphatics and settle in the lungs as a secondary localization from the blood. As invasion of the lymphatics through the teeth would be slow, it seems improbable that a general bacteriemia could arise in this way. Virulent pneumococci are pyogenic and would be likely to give rise to purulent lymphadenitis. The suggestion of our correspondent, however, deserves the attention of pathologists.

THE USE OF DENATURED ALCOHOL IN MEDICINE.

Mt. Hope, Wis., May 1, 1907.

To the Editor:—Will you state through your columns the chemical and physiologic properties of denatured alcohol, and also whether it is suitable for the making of tinctures and for other medicinal purposes? D. C. Miller, M.D.

Answer.—For the purpose of denaturing alcohol the law authorizes the addition of various specified substances, the intent being to render the liquid unpalatable and undrinkable. Among these substances are gasoline and methyl alcohol. It is evident that the chemical and physiologic properties of the mixture would vary with the ingredient added. As the ingredients used are generally poisonous, and in some cases more so than ethyl alcohol, the use of denatured alcohol for making tinctures would be not only illegal, but dangerous.

WANTS REPORT OF MIKULICZ'S CLINIC.

Dr. C. E. Purcell, Paducah, Ky., asks for an English translation of the report of Mikulicz's clinic, which was abstracted in The Journal, March 23, 1907, page 1070, paragraph 66. This copy of the *Mitteilungen a. d. Grenzgebieten der Med. u. Chir.*, Jena, costs $10.00 and the article referred to occupies 64 pages, so it will be expensive for Dr. Purcell to pay for having the translation made. Perhaps some of our readers can refer him to a translation.

Association News

ATLANTIC CITY SESSION.

Special Tickets May Be Purchased May 30 in Central Territory.

Last week's issue of The Journal was the Atlantic City Number, giving the programs of the sections, railroad rates, lists of hotels, meeting places and all other obtainable information concerning the approaching fifty-eighth annual session of the American Medical Association, to be held at Atlantic City, N. J., June 4 to 7, 1907.

The dates on which tickets are good for the going trip from Central Passenger Association territory has been enlarged by the addition of Friday, May 30, so that tickets are now sold May 30 to June 3. In New England territory tickets are sold May 31 to June 4. As stated last week, the rate is one fare plus $1 for the round trip. Return may be made from June 4 to 10, or by deposit of ticket, departure may be delayed till June 18. Similar tickets are sold from transcontinental points May 25 to 27 and are good for 90 days. There are other tickets, sold May 20 and 21, from California to the eastern gateways of the transcontinental territory at one fare for the round trip, good for 90 days. Details have been furnished to all ticket agents, who will give further particulars.

A Proposed Exhibition of Official and Open Formula Preparations.

The Philadelphia Branch of the American Pharmaceutical Association has arranged to hold an exhibition of official and open formula preparations in the Exhibit Hall at the coming session of the American Medical Association at Atlantic City. This exhibition is intended to illustrate the resources and the possibilities of official remedies and to show the kind of work and the nature of the preparations that physicians can obtain from pharmacists. The art as well as the science of pharmacy, largely perhaps through our own lack of interest in how we were being served, has been much neglected by far the greater majority of what have become to be known as retail druggists, who, to enlarge on their perhaps meager profits, have helped to develop the "patent medicine" business.

NEW MEMBERS.

List of new members of the American Medical Association for the month of April, 1907:

ALABAMA.

Black, R. E., Tuscaloosa.
Cocke, N. P., Birmingham.
Elrod, W. A., Albertville.
Gaines, V. P., Mobile.
Griffin, R. J., Moundsville.
Hanna, R. C., Marion.
Juat, F. J., Florala.
Matthews, E. A., Clanton.
Ward, J. H., Tuscaloosa.
Williams, W. C., Shelby.

ARIZONA.

Ketcherside, E. B., Yinna.
Mahoney, O. L., Phoenix.
Mahoney, Virginia, Phoenix.
Richards, L. H., Glia Bend.
Richardson, G. B., Paradise.
Wright, F. T., Douglas.

ARKANSAS.

Joyce, M. J. H., Leola.
Mahan, J. M., Bearden.
Stout, T. J., Brinkley.
Vance, J. O., New Edinburg.
Woods, T. J., Evening Shade.

CALIFORNIA.

Bissell, N. C., Marysville.
Dozier, W. E., Chico.
Hogan, J. J., Vallejo.
Jacobs, L. Clive, San Francisco.
Jones, W. F., San Rafael.
Long, S. F., San Francisco.
Pond, C. P., Groveland.
Rethers, Theodore, San Francisco.
Reynolds, H. B., San Francisco.
Reynolds, R. G., Upper Lake.
Seawell, J. W., Healdsburg.
Seymour, Eleanor C., Los Angeles.
Van Voorhees, G. T., Tehachapi.
Wheeler, I. A., Healdsburg.
Yates, H. N., Pacific Grove.

COLORADO.

Lazell, E. W., Denver.
Merrill, Lilburn, Denver.
Onstine, W. A., Weston.

CONNECTICUT.

Hammond, S. M., New Haven.
Hogan, W. J., Torrington.
Stanton, J. G., New London.
Thompson, W. N., Hartford.

DISTRICT OF COLUMBIA.

Phillips, W. F. R., Washington.
Reichelderfer, L. H., Washington.
Thompson, M. F., Washington.
Wall, J. S., Washington.

FLORIDA.

Livingston, J. A., Jacksonville.

GEORGIA.

Allen, H. D., Milledgeville.
Bright, Frank, Dublin.
Hall, J. R., Carnesville P. O.
Hilsman, A. H., Albany.
Jackson, Max, Macon.
Le Conte, J. N., Atlanta.
Maloy, W. C., Rhine.
Rouglin, L. C., Atlanta.
Simmons, A. B., Savannah.
Tarver, H. R., Statesboro.
Thomas, J. M., Griffin.
Westbrook, R. J., Commerce.

IDAHO.

Mason, T. R., Wardner.

ILLINOIS.

Armstrong, J. B., Chicago.
Auld, F. P., Shelbyville.
Bain, P. E., Pleasant Plains.
Beck, F. P., Oakland.
Beveridge, J. M., Oregon.
Bourne, N. L., Decatur.
Burdick, G. G., Rogers Park.
Camp, C. D., Chadwick.
Crawford, L. P., Earlville.
Doyle, T. F., Chicago.
Foster, T. R., Kankakee.
Hendricks, H. P., Chicago.
Hoffman, G. H., Kewanee.
Johnson, Augusta E., Chicago.
Kaley, C. M., Newton.
Kohlenbach, Stephen, Columbia.
Kinnaman, G. C., Chicago.
Lescher, L. J., Mt. Carmel.
Mikkelsen, Agnes, Chicago.
Moss, E. Bruce, Chicago.
Murray, A. N., Chicago.
Nice, D. D., Bowen.
Peterson, C. R., Chicago.
Pickerill, J. T., Chicago.
Rohn, W. C., Chicago.
Roth, H. H., Murphysboro.
Salamson, M. J., Chicago.
Schineck, S. W., Mt. Carmel.
Simpson, E. Grant, Naperville.
Slater, Catherine B., Aurora.
Stubblefield, F. H., Jacksonville.
Svebakken, O. O., Chicago.
Taylor, R. C., Lily Lake.
Wilson, T. H., Chicago.

INDIANA.

Arburn, Charles, Wadesville.
Breaks, L. Z., Terre Haute.
Fleming, C. F., Wabash.
Kern, Aaron, Wabash.
Osborne, H. S., Indianapolis.
Rea, C. G., Muncie.
Shanklin, R. C., So. Bend.
Townsend, R. C., Osgood.
Wollery, Perry, Heltonville.

INDIAN TERRITORY.

Bagby, Louis, Vinita.
Callaway, J. R., Pauls Valley.
Frost, C. E., Duncan.
Lindsey, J. K., Elmore.
Lindsey, N. H., Pauls Valley.
Nesbitt, P. P., Muskogee.
Ramsay, W. G., So. McAlister.
Shuler, J. L., Durant.

IOWA.

Browning, Eli, West Branch.
Case, T. J., Unionville.
Chambers, J. D., Davenport.
Conaway, A. C., Marshalltown.
Dittmer, M. E., Colesberg.
Doidge, R. E., Perry.
Geeseka, O. A., Mt. Pleasant.
Greenleaf, W. S., Massena.
Hauson, E. M., Keokuk.
Harmon, R., Onawa.
Herrick, W. J., Melrose.
Jastram, A. H., Remsen.
Jones, M. M., Ames.
Langenhorst, F. J., Ashton.
Lakin, A. M., Yale.
Lezotte, G. D., Muscatine.
Little, P. A., Akron.
Long, E. C., Williamsburg.
Lowry, J. D., Ft. Dodge.
Meis, E. W., Sioux City.
Nelson, A. E., Centerville.
Pace, A. A., Elberon.
Peacock, A. L., Grimes.
Robb, E. H., Newton.
Roost, F. H., Sioux City.
Sloan, A. N., Sioux City.
Wall, W. R., Council Bluffs.
Weston, R. A., Little Sioux.

KANSAS.

Barker, J. W., Chanute.
Brussler, A. H., Nickerson.
Button, E. C., Great Bend.
Coldren, E. V., Topeka.
Crosier, M. L., Lansing.
Daniels, M. L., Pawnee Rock.
Dierker, O. F., Sylvan Grove.
Finn, B. F., Cedar Vale.
Foltz, J. E., Hutchinson.
Forbes, D. M., Selden.
Graf, J. E., Scottsville.
Greening, W. P., Valley Center.
Hall, George, Baileyville.
Haim, C. J., La Harpe.
Ham, W. E., Beattle.
Hazel, J. A., Freeport.
Heylmun, W. R., Iola.
Higginbotham, T. L., Liberal.
Janes, G. K., Williamsburg.
Lash, A. R., Ellinwood.
Lilly, C. A., Atchison.
Longenecker, O. M., Rosedale.
McCord, F. E., Milford.
McDonald, W. S., Ft. Scott.
McNaughton, W. L., Elgin.
Meyer, A. A., Alma.
Neighbors, C. A., Emporia.
Richmond, Thomas, Kansas City.
Schwartz, C. W., Topeka.
Scoles, J. P., Galena.
Silverthorne, C. R., McFarland.
Simmons, C. L., Westphalia.
Sloan, J. R., Stanley.
Thacher, M. S., Turon.
Troutman, John, Kansas City.

KENTUCKY.

Bleiweiss, M. H., Louisville.
Combs, W. G., Winchester.
Coomer, R. C., Speedwell.
Coomes, M. F., Louisville.
Crabtree, R. F., Gamaliel.
Doherty, W. B., Louisville.
Edwards, Fidella, Edmonton.
Escue, B. E., Sharongrove.
Graveley, W. E., Brodhead.
Green, W. O., Louisville.
Hammond, L. F., Dunnville.
Hendren, G. M., Buckeye.
Koger, R. G., Powersburg.
Lester, C. W., Guthrie.
Menefee, C. A., Napoleon.
Paine, J. R., Pembroke.
Parsons, A. L., Louisville.
Shehan, J. N., Maud.
Simpson, V. E., Louisville.
Smith, B. R., Clay City.
Taylor, H. F., Mintonville.
Warren, Bradford, Bee Lick.
Windell, J. T., Louisville.
Witherspoon, W. H., Harrodsburg.
Yenowine, G. H., Woddy.

LOUISIANA.

Betts, W. R., New Orleans.
Bodenheimer, J. M., Shreveport.
Brock, J. M., Mt. Herman.
Franklin, W. T., Orange.
Harris, C. M., Shreveport.
Jones, W. J., Franklinton.
Le Beuf, L. G., New Orleans.
Lerch, Otto, New Orleans.
Lewis, O. B., Leesville.
Newman, A. J., Hillsdale.
Nichols, J. W., De Ridder.
Perkins, W. P., Leesville.
Pierce, W. B., Lake Providence.
Price, J. A., Lockport.
Sholars, L. A., Opelousas.
Selby, J. A., Shreveport.
Tebo, L. C., Reserve.

MAINE.

Burker, L. G., Waterville.
Burrage, T. J., Portland.
Illes, B. G., Jonesport.
Philoon, C. E., Auburn.
Walker, A. G., Houlton.

MARYLAND.

Arthur, H. H., Baltimore.
Baldwin, Silas, Baltimore.
Bare, S. L., Westminster.
Cannon, T. H., Baltimore.
Cassidy, H. F., Baltimore.
Cathell, D. W., Baltimore.
Dawson, P. M., Baltimore.
Franklin, A. L., Cumberland.
Hughes, S. B., Baltimore.
Jones, G. W., Laurel.
Kerr, Eugene, Baltimore.
Maisch, A. C., Hagerstown.
Riggs, G. H., Ijamsville.
Spencer, Ernest, Bel Alton.

MASSACHUSETTS.

Campbell, M. P., Provincetown.
Cliff, L. A., Boston.
Courtney, J. W., Boston.
Dehn, E. W., New Bedford.
Dow, J. A., Cambridge.
Fahey, J. C., Northampton.
Finegan, D. J., Gloucester.
Fitzgerald, J. J., Haverhill.
Galligan, E. J., Taunton.
Griffin, T. M., Pittsfield.
Harriman, Cora E., Framingham.
Heath, J. W., Wakefield.
Laurence, J. H., Brockton.
Martin, H. C., Springfield.
Murphy, F. P., Lowell.
O'Connor, J. C., Salem.
O'Keefe, D. T., Boston.
Roy, J. N., Webster.
Sanborn, J. W., Roxbury.
Slack, F. H., Boston.
Tyler, W. M., Lexington.
White, C. A., Whatley.

MICHIGAN.

Burwell, A. G., Byron Center.
Clark, J. E., Detroit.
Connor, G. L., Detroit.
Gibson, J. C., New Haven.
Hagerty, H. A., Detroit.
Hardy, P. B., Tecumseh.
Ives, A. W., Detroit.
Levin, Simon, Lake Linden.
Lunn, Wm. B., Marquette.
Martin, E. G., Detroit.
McGarvah, J. A., Detroit.
McGillicuddy, James, Shepardsville.
Mooney, E. W., Detroit.
Moore, G. E., Ironwood.
Paradis, R. A., Bessemer.
Parker, I. E., Dryden.
Pray, G. R., Jackson.
Pullen, C. D., Mt. Pleasant.
Rainie, Frank, Manistique.
Roberts, M. D., Hancock.
Scott, A. H., St. Joseph.
Sprague, W. B., Palmyra.
Thomas, O. J., West Branch.
Wilkinson, C. A., Kendall.
Young, R. K., Detroit.
Zimmer, L. L., Detroit.

MINNESOTA.

Arcy, H. C., Excelsior.
Clark, C. N., St. Charles.
Davis, F. W., Kasson.
Durgin, F. L., Winnebago.
Long, Jesse, Minneapolis.
Mallory, J. N., Emily.
Meckstroth, C. W., Brandon.
McMasters, J. M., Sauk Center.
Mellby, O. F., Argyle.
Moore, J. T., Minneapolis.
Neumann, W. H., Lewiston.
O'Brien, H. J., St. Paul.
Olsen, S. H., Melaca.
Orton, H. N., Minneapolis.
Power, F. W., Barrett.
Ransom, M. L., Hancock.
Savage, F. J., St. Paul.
Seashore, D. E., West Duluth.
Storch, C. M., Grand Rapids.
Williams, U. G., Minneapolis.
Woods, E. A., Clear Lake.

MISSISSIPPI.

Bucey, J. I., Longtown.
Curry, R. S., Columbus.
Dampeer, J. M., Crystal Springs.
Goodman, R. L., New Albany.
Hamilton, H. L., Money.
Heald, R. J., Healds.
Kittrell, J. R., Laurel.
Mayes, H. N., New Albany.
McCarty, J. F., McHenry.
Miller, H. R., Lamont.
Newman, A. J., Bowling Green.
Scales, W. F., Macon.
Sharp, J. Sidney, Grenada.
Smith, J. D., Sandersville.

MISSOURI.

Albers, E. A., Smithton.
Bailey, W. S., Leeper.
Baldwin, Paul, Kennett.
Batdorf, F. P., Farmersville.
Bauman, L. C., St. Joseph.
Beers, E. G., Springfield.
Bell, J. M., St. Joseph.
Billeter, W. J., Bynumville.
Brady, J. M., St. Louis.
Burney, W. S., Miller.
Clark, H. R., Pierce City.
Crockett, J. A., Stanberry.
Culp, J. C., Thayer.
Cummings, C. C., Joplin.
Cuppaidge, G. O., Moberly.
Crane, T. V. B., Springfield.
Davis, J. D., Louisiana.
Davis, R. H., St. Louis.
Dorsett, E. L., St. Louis.
Douglass, W. H., Columbia.
Gaines, E. F., Bates City.
Geeslin, P. A., Luray.
Gilmore, E. E., Adrian.
Goodwin, E. J., St. Louis.
Hutton, W. S., Fernfelt.
Justice, W. F., Lancaster.
Kirkpatrick, H. E., Dalton.

Krimminger, C. E., Independence.
Langan, W. J., St. Louis.
Loer, T. R., Billings.
Lyle, H. M., Kansas City.
Major, H. S., Harden.
McClure, G. W., Carterville.
McCoy, J. H., St. Joseph.
McGaugh, E. T., Richmond.
Mitchell, D. L., Cassville.
Mollison, J. A., Bolckow.
Mook, W. H., St. Louis.
Morris, W. C., Kansas City.
Myers, W. T., Aldrich.
Newman, L. E., St. Louis.
Painter, J. M., Mt. Vernon.
Pare, E. Y., Leeton.
Pittman, W. T., Spickard.
Popejoy, H. R., High Point.
Reynolds, J. B., St. Joseph.
Rienhoff, Wm., Springfield.
Robertson, J. A., Ozark.
Robertson, W. A., Allendale.
Semple, N. M., St. Louis.
Sherer, J. W., Kansas City.
Sluder, Greenfield, St. Louis.
Smith, C. W., Keota.
Temple, C. H., Rockford.
Toöthaker, B. W., St. Joseph.
Walker, G. W., Cape Girardeau.
Weems, D. L., Neosho.
Williamson, Llewellyn, St. Louis.
Wingo, T. B., Dexter.
Yeagle, R. P., Pleasant Hill.

MONTANA.

Atkinson, J. L., Poplar.
Brewer, A. D., Belgrade.
Hathaway, R. E., Glendive.
Leard, S. E., Livingston.
Sullivan, T. J., Butte.

NEBRASKA.

Calkins, F. E., Fremont.
Hawthorne, R. A.; Maywood.
Houser, M. A., Arapahoe.
Loomis, M. M., Omaha.
Muirhead, A. L., Omaha.
Murdoch, R. J., Blair.
Pierce, R. P., Ruskin.
Schultz, H. H., Sutton.
Stokes, A. C., Omaha.
Zoll, F. C., Marquette.

NEVADA.

Gregory, E. B., Reno.

NEW HAMPSHIRE.

Aldrich, L. C., Jefferson.
Carleton, E. H., Hanover.
Clarke, G. H., Concord.

NEW JERSEY.

Atherton, A. L., Atlantic City.
Campbell, W. K., Long Branch.
Cory, H. C., Newark.
Kuehne, Richard, Jersey City.
Ridgway, W. F., Atlantic City.

NEW MEXICO.

Wilson, W. A., Willard.

NEW YORK.

Ackert, W. S., Poughkeepsie.
Andrews, H. I., Ithaca.
Armstrong, D. F., Auburn.
Bang, R. Y., New York.
Barron, W. E., Addison.
Bartlett, W. A., New York.
Beer, Edwin, New York.
Blodgett, F. J., New York.
Bodine, J. A., New York.
Brewer, F. H., Utica.
Brown, W. B., New York.
Caldwell, E. W., New York.
Carr, M. L., New York.
Chase, W. B., Brooklyn.
Conklin, W. L., Dansville.
Comman, L. R., Rochester.
Crim, F. D., Utica.
Davis, A, T., Utica.
Dederick, A. S., Troy.
Drayton, H. S., New York.
Dowd, C. N., New York.
Farrell, B. P., New York.
Fay, A. S., Schenectady.
Fitzgerald, C. F., New York.
Fodder, W. L., Schenectady.
Frankl, Julius, Anamoosa.
Freeman, R. G., New York.
Glass, J. H., Utica.
Goddard, W. W., Schenectady.
Goodman, H. L., New York.
Goodridge, Malcolm, New York.
Gromann, John, Utica.
Hale, H. E., Jr., New York.
Hart, T. S., New York.
Hubby, L. M., New York.
Johnson, J. R., Syracuse.
Keough, M. J., Cohoes.
Kysor, L. M., Hornell.
Laase, C. F., New York.
Lawrey, Nicholas, Brooklyn.
Leadley, F. P., Rochester.
MacFarlane, A., Albany.
MacPhee, J. J., New York.
Maurer, G. E., New York.
McBarron, J. D., New York.
Miller, F. E., New York.
Mittelstaedt, G. B. J., New York.
Mogill, J. W., Rochester.
Norton, N. R., New York.
Peckham, A. L., Poughkeepsie.
Perry, E. C., Avon.
Robinson, A. L., New York.
Rosenberg, Max, New York.
Selbert, August, New York.
Stearns, H. S., New York.
Stoue, W. S., New York.
Sumner, C. W., North Granville.
Taylor, F. L., New York.
Taylor, H. C., New York.
Townsend, T. M., New York.
Travis, A. H., New York.
Ullman, G. L., Albany.
Volkenberg, Albert, New York.
Williams, W. R., New York.
Winne, C. K., Jr., Albany.

NORTH CAROLINA.

Bulluck, D. M., Wilmington.
Highsmith, Seavey, Fayetteville.
MacKeathan, J. A., Fayetteville.
Teague, R. J., Durham.
Wood, E. J., Wilmington.

NORTH DAKOTA.

Greene, Lee Bey, Monango.

OHIO.

Emerson, H. H., Gratis.
Fiser, J. H., Malinta.
Fitton, F. M., Hamilton.
Hoover, D. E., Warren.
Hugg, A. A., Middleport.
Pennock, Frank, Marlboro.
Wiltshire, J. M., Chillicothe.

OKLAHOMA.

Boyle, G. A., Enid.
Lewis, A. R., Ryan.
Logan, W. A., Lehigh.
Rolster, J. B., Oklahoma City.

OREGON.

Jones, N. W., Portland.

PENNSYLVANIA.

Arnold, C. A., Allegheny.
Baldwin, H. L., Tioga.
Beardsley, E. J. G., Philadelphia.
Birchard, F. S., Montrose.
Bitzer, N. E., Lancaster.
Boyle, P. F., South Bethlehem.
Buterbaugh, H. B., Indiana.
Da Costa, John C., Jr., Phila.
Dasher, J. H., Erie.
Duff, R. H., Girard.
Duncan, H. A., Philadelphia.
Fisler, H. C., Easton.
Gayley, W. C., Hazleton.
Henderson, W. B., Philipsburg.
Hermann, M. E., Dushore.
Hines, E. P., Great Bend.
Houghton, C. W., Philadelphia.
Hunter, W. R., Erie.
Kelly, J. A., Carbondale.
Ludlum, S. D., Merion Station.
McKee, F. L., Plymouth.
Miller, C. D., Pottsville.
Reynolds, C. B., Philadelphia.
Richards, E. W., Easton.
Roxby, J. B., Swarthmore.
Schlindwein, G. W., Erie.
Stalberg, Samuel, Philadelphia.
Smith, H. B., Philadelphia.
Smith, L. H., Hazleton.
Stewart, T. S., Philadelphia.
Swan, T. E., Easton.
Swayne, Eugene, Philadelphia.
Wagner, E. E., Wilkes Barre.

RHODE ISLAND.

Pierce, E. E., Providence.

SOUTH CAROLINA.

Dendy, W. R., Pelzer.
Jenkins, E. O., Troy.

SOUTH DAKOTA.

Burnside, I. M., Highmore.
Collisi, N., Vermillion.
Denman, Homer, DeSmet.
Egan, M. H., Sioux Falls.
Wicherski, O. G., Frankfort.

TENNESSEE.

Brush, C. E., Nashville.
Cock, W. S., Bolivar.
De Witt, Paul, Nashville.
Duckworth, W. C., Jackson.
Fleenor, C. W., Holston Valley.
Newman, N. R., Covington.

TEXAS.

Adams, G. E., Fort Worth.
Allison, Hendery, Kingsville.
Balding, W. T., Hamilton.
Brumby, W. M., Austin.
Darnell, C. F., Llano.
Domingues, P. J., Kerrville.
Furman, J. M., Ft. Worth.
Gill, J. M. F., Temple.
Goher, J. M., Beaumont.
Goldblum, Jacob, San Antonio.
Gordan, J. B., Stephenville.
Hodges, O. S., Beaumont.
Hooper, P. L., Fort Worth.
Hull, C. F., Carthage.
Jackson, T. T., San Antonio.
Kemp, Joseph, Walnut Springs.
Link, H. R., Palestine.
Livingston, D. S., Llauo.
Maples, L. E., Morgan.
Martin, B. Z., Leggett.
McCarver, J. W., Brownwood.
Means, E. A., Dallas.
Miller, R. A., Dublin
Morris, H. C., Brownwood
Morris, S. M., Galveston.
Rhu, Hermann S., Llano.
Rowley, Frances, Galveston.
Rulfs, C. H., Nacogdoches.
Russell, W. E., Duffau.
Smith, P. S., Chalk Mountain.
Stafford, P. H., Grapeland.
Wallace, C. H., Cookville.
Warwick, H. L., Fort Worth.
Woodard, F. C., Grapeland.
Worthington, G. W., Lovelady.
York, J. B., Houston.

VERMONT.

Marvin, David, Essex Junction.

VIRGINIA.

Chiles, J. H., Pulaski.
Myers, G. T., Norfolk.
Rawls, J. E., Suffolk.
Trout, H. H., Staunton.

WASHINGTON.

Adams, O. L., Sprague.
Easton, C. E., Seattle.
Teepell, Wm., McMurray.

WEST VIRGINIA.

Benton, G. H., Chester.
Pifer, J. L., Buckhannon.
Stephan, D. E., Fairmont.
Thornton, J. T., Wheeling.

WISCONSIN.

Andrus, A. P., Ashland.
Abraham, H. W., Appleton.
Baker, C. D., Glen Haven.
Callahan, J. L., La Crosse.
Davies, R. E., Waukesha.
Hackett, J. H., Milwaukee.
Kinney, R. H., Lancaster.
McFarland, W. E., Trempeleau.
Minahan, W. E., Fond du Lac.
Rice, E. M., Kewaunee.
Roy, Emile, Fond du Lac.
School, J. G., Oshkosh.
Stormont, C. J., Viola.
Westphal, H. G., Polar.

WYOMING.

Burgess, W. A., Cheynne.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

Oklahoma State Medical Association, Shawnee, May 14-15.
North Dakota State Medical Association, Minot, May 14-15.
Louisiana State Medical Society, New Orleans, May 14-16.
Missouri State Medical Association, Jefferson City, May 14-16.
Arkansas Medical Society, Little Rock, May 15-17.
Iowa State Medical Society, Cedar Rapids, May 15-17.
Maine Med. Assn., Lewiston, June 12-14 (changed from June 5-7).
Michigan State Medical Society, Saginaw, May 15-16.
Montana State Medical Association, Billings, May 15-16.
New Hampshire Medical Society, Concord, May 16-17.
West Virginia State Medical Association, Huntington, May 15-17.
Illinois State Medical Society, Rockford, May 21-23.
Connecticut State Medical Society, Hartford, May 22-23.
Indiana State Medical Association, Indianapolis, May 22-24.
Arizona Medical Association, Bisbee, May 28-29.
South Dakota State Medical Association, Sioux Falls, May 28-30.
Amer. Laryn., Rhin. and Otol. Society, New York, May 30-June 1.
American Academy of Medicine, Atlantic City, N. J., June 1-3.
American Association of Medical Examiners, Atlantic City, June 3.
American Gastro-Enterological Association, Atlantic City, June 3-4.
American Proctologic Society, Atlantic City, June 3-4.
American Urological Association, Atlantic City, June 3-4.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting of the Section on Surgery, held April 5, 1907.

Dr. John F. Erdmann, in the Chair.

Operation for Habitual Dislocation of Patella.

Dr. William C. Lusk presented a man, 41 years old, who, six years previous, while running, slipped on some ice and fell over backward, dislocating both his patellæ outward. Afterward, always on flexion of the legs, the patellæ slipped outward over the external condyles. The right knee was operated on by modification of Krogius' method. Krogius divided the aponeurotic structures down to the capsule of the joint along the outer side of the patella, and the ilio-tibial band above, to relieve the shortened tissues on the outside of the joint. Then making a musculo-aponeurotic flap on the inner side of the joint without entering the joint on this side either, he carried this flap in front of the quadriceps extensor tendon around the upper border of the patella and laid the extremity of it in the wound which had been made in the aponeurotic structures at the outer side of the joint, and sewed it there. Then the edges of the wound at the inner side of the joint, made by the removal of the musculo-aponeurotic flap, were sutured together, thus shortening to this extent the tissues at the inner side of the patella, by the support of which the tendency to outward dislocation would be counteracted. Dr. Lusk carried the incision, at the outer side of the patella, upward and inward through the muscle fibers of the vastus externus to the outer edge of the quadriceps extensor tendon. Finding furthermore, that by Krogius' method only the tip of the musculo-aponeurotic flap would reach into the wound in the divided structures at the outer side of the joint, instead of carrying this flap in front of the quadriceps extensor tendon, he made a blunt dissection beneath the tendon above the subquadricipital bursa and carried the flap through the opening thus made and then laid it in the musculo-aponeurotic wound at the outer side of the knee-joint, which was found to fit accurately from its upper limit down to within half an inch of its lower end. The flap was sutured in place with chromic gut. Operation was performed on January 14. On March 12 the patient gave up the use of his cane. On April 5 he had voluntary flexion of the right leg to 90° and forced flexion of about another 10°.

Fracture of the Patella.

Dr. Clarence A. McWilliams presented a man who fell and fractured his patella in five or six places. He prefers the transverse rather than the vertical incision, because it allows the lateral tears in the vasti expansion to be sutured. Three loose pieces of bone were removed, and a purse-string suture was placed around the remaining fragments. The man made a good recovery.

DISCUSSION.

Dr. Howard Lilienthal said that in the ordinary transverse fractures of the patella he has been in the habit of using the massage treatment. In this non-operative treatment the patient was out of bed, but in splints, on the eighth day, and a cure is accomplished on the forty-eighth day. King Edward's fractured patella was not sutured and yet good results were obtained. In cases of comminuted fracture, however, operation is proper.

Dr. John M. Erdmann asked Dr. Lilienthal what he does to bring the fragments together in this massage treatment.

Dr. Lilienthal replied that he first places an arrangement of tapes above and below the patella, strapping the fragments together, and an ordinary bandage is then applied. During massage, however, everything is removed and the fragments are held in place by an assistant. Massage is given for fifteen minutes morning and night. By the eighth day it is supposed that adhesions have taken place which will hold the fragments together, and then the patient is permitted to get up, but with the splints on.

Drainage in Operations on the Biliary System.

Dr. Howard Lilienthal summed up the vital points as follows: (1) That the scientific and judicious employment of preliminary drainage in obstructive jaundice would probably lessen the dangers of such steps as might be necessary for permanent cure. (2) That the drainage should form the sole object of the surgeon's work until the factor of cholemia had become eliminated. (3) That radical operations should, in most chronic cases be postponed until hepatic engorgement and icterus no longer existed.

Dr. A. V. Moschcowitz said he has never been a believer in hepatic drainage. In all cases requiring drainage, if the common duct is not free, no operation is complete until the duct is made free; if it is free, there is then sufficient drainage into the intestine.

Dr. Lilienthal emphasized the importance of draining the liver through the gall-bladder by a slow method.

New Operation for Cystocele in Women.

Dr. J. Riddle Goffe's plan is to dissect away the bladder, freeing it entirely from all structures, except those above. He then rotates this viscus on its transverse axis, carries it up and stitches it to the uterus. The work is all done per vaginam. He has had from 50 to 60 cases under observation and he had not learned of a recurrence.

Surgical Anatomy of the Esophagus.

Dr. Chas. R. L. Putnam showed how the caliber of the esophagus differs in various parts. He said that the least distensible places were at the beginning and at a point behind the summit of the aortic arch. This point might be pressed on by aneurism of the arch and, therefore, constrictions in this region should have history and physical signs most carefully studied. These narrowings, as shown by the casts, have a surgical significance. They determine the points at which ingested caustic solutions are most apt to be the cause of ulceration and stricture; they might cause an arrest of foreign bodies; where the narrowing in the esophagus is due partly to relations to other organs, changes in the latter might increase the degree of narrowing to the extent of producing a clinical stricture.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

One Hundred and Ninth Annual Meeting, held in Baltimore, April 22-25, 1907.

The President, Dr. Hiram Woods, of Baltimore, in the Chair.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Charles O'Donovan, of Baltimore; vice-presidents, Drs. Roger Brooke, of Montgomery County, and H. A. Naylor and George W. Doblin, of Baltimore; secretary, Dr. John Ruhräh; treasurer, Dr. William S. Gardner; members of council, Drs. Hiram Woods, St. Clair Spruill, Howard Bratton, Lewellys F. Barker; State Board of Medical Examiners, Drs. L. A. Griffith and J. A. Stevens; Committee on Library, Drs. J. Whitridge Williams, Harry Adler, H. Barton Jacobs, Mary Sherwood, T. B. Futcher; Committee on Legislation, Drs. John D. Blake, Herbert Harlan, W. W. Goldsborough; delegate to American Medical Association, Dr. Harry Friedenwald; alternate, Dr. G. Milton Linthicum.

As the result of the organization of the society, there are now 900 members. The library, which formed the principal topic of discussion at the meeting, contains over 16.000 volumes, so that its present quarters are entirely inadequate. A canvass is being made to secure, from the profession and citizens of the state, a fund to purchase suitable grounds and to erect a $100,000 building.

Domination of Therapeutics by Commercialism.

The annual oration was delivered by Dr. George H. Simmons, Chicago, his subject being "The Commercial Domination of Therapeutics and the Movement for Reform." The paper will appear in full in The Journal.

The Medical and Chirurgical Faculty; Its Debt to Itself and the Public.

Dr. Hiram Woods, Baltimore, in summing up his presidential address, said that the society's debt to itself is steady work in component branches to develop their own force. "Self-reliance is the foundation of progress, but it is to be distinguished from self-complacency. One's own limitations should be recognized and help sought if it will be useful. We should develop the spirit of cooperation. Misunderstanding saps strength. Criticism, based on inadequate information, is inconsistent with ordinary fairness. Knowledge can always be obtained by inquiry.

"Our teachers should promote medical organization by instilling into students proper conceptions of their position as members-elect of an honorable profession, and should help young men to apply principles of medical honor to student life. Much worthless and unworthy material will thus be eliminated. By graduation time students should know about the State Faculty and how it can help them. The duty of improving the tone of our profession and eliminating quackery lies at the door of the individual. Legal machinery is adequate; enforcing spirit must come from us. We must develop work among our younger men and make them active factors in the Faculty's life. This should be done through establishing new lines of public usefulness and the study of medico-social questions.

"To the public we owe something more than knowledge of disease. We should take the position of public educators in matters affecting public good and physical well-being. We should secure better relations with the press by giving it, for deliverance to the public, something worth knowing. Legislators should not be left to find information on medical matters where they can get it, but we should take it to them and use our influence as a united body. All this, at least in my opinion, is only the logical sequence of medical organization. It is antagonized by traditional interpretation of medical ethics, to a greater or less degree. But we are living under a new code which puts ethical responsibility on individual honor rather than on arbitrary rules. This must be the basis of medical organization, for if the factors are faulty the whole will be useless."

The Logical Basis of Neurasthenia.

Dr. A. **Kerr Bond** said that "all nerve response is dual; with every nerve impulse is associated its limiting impulse. When nerve force is called into activity, there is evoked likewise its control to restrain it within its proper bounds of area and intensity and duration. With the wakening of any nerve force there is a simultaneous wakening of a definite accompanying force designed to control it. With the neurasthenic we have to deal not only with the cells too fatigued or weak for active impulse, but possibly with cells too fatigued or weak for the twin impulse to restrain. In America we do things to excess in every line of work. In that respect we are a race of neurasthenics."

"Patent" and Proprietary Medicines.

Dr. **Louis B. Henkel, Jr.**, of Annapolis, spoke of cocain in nervines, in salves and plasters, of arsenic in skin-disease remedies, of iodin in rhematism remedies, of opium in soothing syrups, of nostrums containing nitroglycerin; of stomachic and digestion remedies containing alcohol, of headache remedies causing weak heart, of hair dyes and bleaches injuring the hair and producing baldness.

Indications for Operation in Chronic Suppurative Otitis Media.

Dr. **H. O. Reik** explained the pathology of this disease and referred to the various methods of treatment, according to the conditions encountered in different cases. The prognosis of chronic suppurative otitis media was stated to be good if proper methods of treatment were employed, and he expressed the belief that if due care was exercised in diagnosticating the factors accountable for chronicity in each case and conscientious efforts made to remove or overcome them that only a small minority of even the most chronic otorrheas would require the so-called radical operation. He believed that this operation should properly be held in reserve as a last resort for those cases which do not succumb to milder forms of treatment or simpler surgical measures. He offered the following rules for guidance when considering the treatment of persistent chronic suppurative otitis media: 1. Broadly speaking, practically every case of suppurative otitis media is assumed to be susceptible of cure by one means or another. 2. Every case of chronic suppurative otitis media, without symptoms of intracranial invasion, should be treated patiently and persistently for a reasonable length of time, *but not indefinitely*, by well-directed efforts at cleanliness and antisepsis through the external auditory canal. When it becomes evident that these simple measures or minor operations can not cure the disease, tympano-mastoid exenteration should be advised, unless in a given case there exists some special reason to justify delay and the risks of the disease. 3. The possible dangers of the operation are believed to be far less than those of the disease. 4. The patient should be told that not every case is curable, even by an operation (the percentage of cures in the obstinately chronic cases probably approximating 70 per cent.), that the hearing power will probably not be improved and may be somewhat impaired, but that the serious nature of his disease warrants surgical intervention as a prophylactic measure.

Erysipelatous Cellulitis.

Dr. **Harry Friedenwald** reported a case of erysipelatous cellulitis of the eyelids in a child, 2 years of age. Threatened gangrene is believed to have been averted and high fever (104°) was promptly reduced by the use of antistreptococcus serum.

The Present Status of Vaginal Cesarean Section.

Dr. **L. M. Allen** drew the following conclusions: That vaginal Cesarean section has a decided place in the field of operative obstetrics, but that its indications are limited to those cases where the cervix is not dilated by gentle means, and the pregnancy not advanced beyond the thirty-fourth week. That experience and a careful study of the cervix will demonstrate the fact that it is dilatable by gentler means much more frequently than is ordinarily believed, and if this method be persisted in more radical measures will not be so often necessary. That we should not allow the desire to perform this much-talked-of operation to overbalance our better judgment, and that certainly for the average man more conservative obstetrical operations will be attended by better results than the more radical ones.

Appendicitis.

Dr. **Randolph Winslow** reported a case of appendicitis in which the symptoms were so mild that he left the result to Nature. Some days later, while the patient seemed to be convalescing satisfactorily, gangrene set in in the leg and extended up to the knee. The limb was amputated and the patient made a good recovery.

A joint meeting of the society with the Maryland State Conference of Charities and the Maryland State Federation of Women's Clubs was held on the afternoon of April 25. The principal address was made by Dr. Prince A. Morrow, of New York City, on "The Prophylaxis of Social Diseases." Others who addressed a crowded mixed audience on these affections were Dr. Lillian Welsh, Dr. Charles P. Emerson, Dr. Flora Pollack, Dr. Howard A. Kelly and Assistant Commonwealth Attorney Eugene O'Dunne. At the conclusion of this discussion, which created a marked interest, a motion was adopted to organize a Baltimore branch of the American Society of Sanitary and Moral Prophylaxis, and a committee was appointed to carry this motion into execution.

Many other interesting papers were read.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Fifty-ninth Annual Meeting, held in Bennettsville, April 16-18, 1907.

The President, Dr. **T. Prioleau Whaley**, in the Chair.

Since the adoption, two years ago, of the plan of organization suggsted by the American Medical Association, the South Carolina Medical Association has increased in membership from 300 to 735. It is estimated that about 1,100 physicians are in active practice in the state, and earnest efforts are being made, with every hope of success, to bring the majority of those now unaffiliated into the fold.

Officers Elected.

The election of officers for the year resulted as follows: President, Dr. Legrand Guerry, Columbia; vice-presidents, Drs. R. A. Marsh, Edgefield; J. A. Hayne, Greenville; Mary R. Baker, Columbia; secretary, Dr. Walter Cheyne, Sumter; treasurer, Dr. C. P. Aimar, Charleston.

The next meeting will be held in Anderson, April 15-18, 1908.

Sexual Ignorance Versus Sexual Knowledge.

Dr. **Walter Cheyne**, of Sumter, contended that the education of young girls and boys in the proper care of the sexual organs is the only hope for overcoming the disorders incident to certain diseases by preventing the spread of gonorrhea and syphilis. It need not be considered immodest for the mother or father to instruct the child. He recommends the insertion of chapters on sexual hygiene in school physiologies, but not to be studied in mixed classes; proper home instruction, father to son, mother to daughter; greater efforts of the physician for the dissemination of sexual knowledge and its importance among the laity. He also advocated the compulsory examination and legal quarantine of diseased prostitutes.

DISCUSSION.

Dr. **Burdell** thought a marriage license law, requiring physical examination of the applicant for license, should be passed. (There is no provision for marriage license in South Carolina and no divorce law.)

Dr. Robert Wilson thought the registration and segregation of prostitutes might tend to increase immoral practices by holding out a guarantee of immunity from disease, of which there could be no certainty. He also called attention to the fact that the discussion of sexual matters excite certain natures, and advised extreme caution and tact among physicians and parents in carrying out Dr. Cheyne's idea.

The County Society.

Dr. J. W. Jervey, of Greenville, urged on the members the importance of exercising their political influence in matters pertaining to the practice of medicine and the health of the state. He expressed the conviction that the recent defeat of certain candidates for governor and attorney-general was due, in large measure, to their attitude in the general assembly toward matters of legislation suggested by the state association. Certain newspapers of the state misunderstood this reference to politics and warmly scored Dr. Jervey and the profession for political tendencies. Other papers took a broader view of the question and commended the views expressed. The publication of a card of explanation by Dr. Jervey has reversed the attitude of the unfavorable press, and the notoriety given the matter among laymen will undoubtedly strengthen the hands of the medical fraternity in their future efforts for favorable legislation.

Other Papers Read.

The following papers were also read:

"Gallstone Disease," by Dr. John B. Deaver, Philadelphia; "Kidney Surgery," by Dr. C. H. Chetwood, New York; "A Demonstration of Zinc-Mercury Ionization Methods for Treatment of Cancer and Surgical Tuberculosis," by Dr. G. Betton Massey, Philadelphia; "The Effect of Eyestrain on the General Health," by Dr. Charles W. Kollock, Charleston; "Suprapubic Lithotomy: Removal of Stone and Hair Pin from the Bladder," by Dr. D. M. Crosson, Leesville; "Report of Interesting Case of Hæmatocele of Long Standing," by Dr. S. C. Baker, Sumter; "Intestinal Parasites: The Importance of Routine Examination of the Feces," by Dr. J. C. Sosnowski, Charleston; "Cancer of the Uterus," by Dr. A. B. Knowlton, Columbia; "The Pharyngeal Lymphatic Ring," by Dr. E. W. Carpenter, Greenville; "General Paralysis," by Dr. J. J. Watson, Columbia; "Responsibility of the Physician in Cases of Carcinoma of the Cervix and of the Breast," by Dr. LeGrand Guerry, Columbia; "Arteriosclerosis of the Uterine and Pelvic Blood Vessels, with Symptoms of Cancer of the Uterus," by Dr. Charles M. Rees, Charleston; "Typhoid Fever: Symptoms and Treatment," by Dr. William A. Woodruff, Cateechee; "The Origin of Disease," by Dr. Fillmore Moore, Aiken; "Some Reasons Why the Medical Profession Should be Better Paid for its Services," by Dr. H. R. Black, Spartanburg; "Encephalocele, with Report of Case," by Dr. H. L. Shaw, Fountain Inn; "Some Experience with Hyoscin Hydrobromid," by Dr. G. A. Neuffer, Abbeville; "Regarding the Action of Certain Familiar Drugs," by Dr. John Forrest, Charleston; "The Successful Treatment of Apparently Hopeless Blindness. A Preliminary Report," by Dr. W. Peyre Porcher, Charleston; "Infant Feeding," by Dr. W. P. Cornell, Charleston.

MEDICAL ASSOCIATION OF GEORGIA.

Fifty-eighth Annual Session, held at Savannah, April 17-19, 1907.

(Concluded from page 1545.)

Methylene Blue in the Treatment of Cancer.

Dr. Henry R. Slack, La Grange, said that ten years ago he read a paper on this subject, which was published in The Journal, June 27, 1897. In this paper he reported 5 cases, and has since treated 29, but gave only 3, as they are fairly representative. He has selected these 3 cases not because they have given the most brilliant results, but because of their peculiar interest. Case 1 had been pronounced an inoperable carcinoma of the breast over four years ago; had yielded for a time to Roentgen rays, but after several burns tolerance was established and the disease spread, causing much pain and destroying health. On administering and applying the methylene blue, the disease again yielded, and the patient is now enjoying fairly good health and is free from pain. Case 2 was an epithelioma of the left lower lid, which was benefited by Roentgen rays, but the patient did not get well until the methylene blue was used. Case 3 was one of carcinoma of the uterus following laceration of the cervix, which is being arrested by administration of methylene blue alone.

Of the 29 patients treated with Roentgen ray or combined with methylthionin hydrochlorid, 12 have been dismissed as cured, and 5 have gone over three years without recurrence. The other seven, ranging from five to thirty months since dismissal, shows no evidence of return. There are 9 still under observation, 7 of whom are doing fairly well, as the disease is in abeyance. They suffer very little, and are able to attend to their usual duties. Of the 12 patients cured, 8 had epitheliomas, 3 carcinomas and 1 a sarcoma.

His experience with the methylthionin hydrochlorid teaches him to expect the following results: 1. Everything with which it comes in contact is stained a deep blue; the urine soon looks like blue ink, and the practitioner should always tell the patient to expect this. 2. There is surcease from pain. 3. The general health of the patient is improved and years are added to his life.

Cough and Its Treatment in Tuberculosis.

Dr. M. M. Saliba, Savannah, said that in most cases of tuberculosis the cough is due to irritation of the large air tubes, notably the larynx or at the bifurcation of the trachea, and it is usually associated with more or less catarrh. This kind of irritable cough is best treated with inhalations, dry or moist. The moist inhalations consist of steam, impregnated or not with some balsamic or stimulating aromatic substances, or with some more sedative drug. The dry inhalations are more efficacious and are certainly more convenient. When an asthmatic tendency is associated with phthisis, opium or stramonium cigarettes will, perhaps, be found the best remedy for the night cough. When the cough depends on laryngeal disease, the remedies chosen will be determined to a great extent by the conditions of the larynx, and it may be necessary to apply some sedatives, i. e., cocain and morphin, directly with a brush. A simple means of allaying the cough of laryngeal irritation is sipping iced water. When the cough is due to irritation or hypersensitiveness of the pharynx, combined with laryngeal irritability, a good plan is first to wash away the catarrhal secretion by a warm borax gargle, and then brush the mucous membrane of the pharynx and larynx with a sedative solution.

Fracture of Femur.

Dr. Jabez Jones, Savannah, exhibited an apparatus for the treatment of fractured femur. In the operation of wiring a fractured femur he emphasized two points, the first of which is never make an incision until the limb has been rendered bloodless. Hemorrhage is very alarming when a tourniquet is not used. Second, never operate unless assured of as nearly perfect asepsis as surgery gives to-day.

Aneurismorrhaphy.

Dr. Craig Bartow, Savannah, in the past three years has operated on 4 cases, successfully performing two reconstructive endo-aneurismorrhaphies, one obliterative and failing in another.

Multiple Abscess of Pelvis.

Dr. E. C. Davis, Atlanta, said the proper handling of suppurating conditions is one of the most difficult of all surgical problems, and one which taxes the ingenuity and skill to the highest possible degree; when we add to this the liberation of numerous adhesions and devitalization of tissues to such an extent that sloughing ensues, there was materially added to the difficulties of the problem the dangers of the operative procedures. The case he reported accentuated these difficulties markedly. It illustrated several points which he sums up as follows: 1. Is there any correlation between chronic pelvic suppuration and glycosuria? 2. Nature may cast off a large piece of intestine and recovery ensues. 3. Nature endeavors to make an anastomosis, pointing out what the surgeon ought to do. 4. The utilization of suture material in place of mechanical devices to approximate the ends of intestine. Since this report was contemplated, the author has resected the large and small intestines, using the same suture, with perfectly satisfactory results and no leakage.

Suprapubic Prostatectomy.

Dr. E. R. Corson, Savannah, summarized his paper as follows: The suprapubic route is preferable in the majority of cases. The operation is simpler, can be done more quickly, cuts fewer tissues, with much less chance of injuring the rectum or prostatic urethra, and with it the sexual function. This route is even better when the patient's condition demands two stages for the operation. He believes the profession is gradually coming to view the suprapubic route as the better of the two in the majority of cases.

Surgical Anesthesia.

Dr. J. M. Sigman, Savannah, said that no patient should ever be allowed to leave the operating table before being given a stimulant if there is the slightest indication for it. There are more fatalities from neglecting a weak heart in the first two hours after an operation than ever occur while the patient is under anesthesia. A safe anesthetic is dangerous in incompetent hands. A dangerous anesthetic can be given safely by an experienced, competent man. The author thinks that more will depend in many cases on the work of the anesthetist as regards the ultimate recovery of the patient than on the surgeon. Nurses and undergraduates should not be entrusted with a general anesthetic. The anesthetist should be held accountable for the patient's condition while on the table, and to do this legally he must be a licensed physician. All surgeons know that a good anesthetist is almost indispensable, yet there is no class of work given so little encouragement, and few men are willing to follow this line until they become proficient with the first requirements of a good anesthetist.

Rupture of the Uterus.

Dr. A. P. Hanie, Hartwell, reported a case of rupture of the uterus in which the fetus escaped into the abdominal cavity. He operated, removed the fetus, and the patient recovered.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. M. A. Clark, Macon; vice-presidents, Drs. Ralph M. Thompson, Savannah, and E. E. Murphy, Augusta; secretary-treasurer, Dr. Louis H. Jones, Atlanta; delegates to American Medical Association, Drs. George R. White, Savannah, and F. H. Harris, Atlanta.

Fitzgerald was selected as the place for holding the next meeting.

Marriages

George Steurnagel, M.D., to Mrs. Jean L. Haskell, both of Chicago, April 27.

Francis C. Duckwall, M.D., to Miss Alice Brown, both of Scott, Ohio, April 24.

James M. Nealon, M.D., to Miss Margaret Roan, both of Plymouth, Pa., April 18.

Edward W. Banker, M.D., to Miss Lucile A. Donaldson, both of Aurora, Ill., April 24.

Robert H. P. Ellis, M.D., Baltimore, to Mrs. Ida Van Bussum, at Belair, April 30.

Alice Lilienthal, M.D., Brookline, Mass., and D. Walther Hirshberg, of Boston, recently.

Oliver J. Gray, M.D., Wilmington, Del., to Miss Viola Anderson, of Folston, Md., April 17.

Abel J. Baker, M.D., Grand Rapids, Mich., to Miss Jeannette M. Baer, of Portage, Mich., April 17.

Gaylord Crawford Hall, M.D., to Miss Gertrude Dorothy Laib, both of Louisville, Ky., April 25.

Philip Kingsworth Gilman, M.D., Baltimore, to Mrs. Ellen Cary Burbank, at Wilmington, Del., March 2.

Thomas Joseph Gilmore, M.D., Williamsport, Pa., to Miss Mary Lyle Sloan, of Orangeville, Pa., April 20.

William Dick Campbell, M.D., Hagerstown, Md., to Miss Marie Louise Parsons, at Piedmont, W. Va., April 24.

Paul R. Oeser, M.D., Lawrence, Mass., to Miss Grace Davidson of New London, Conn., in New York City, April 30.

David Cushman Twichell, M.D., Saranac Lake, N. Y., to Miss Ella Goodridge Cooke, at Green Spring Valley, Md., May 2.

Edwin E. Straw, M.D., Marshfield, Ore., to Miss Sarah C. Lakeman, of Mountain View, Cal., at Santa Rosa, Cal., April 19

Deaths

George W. Smith, M.D. University of Pennsylvania Department of Medicine, Philadelphia, 1863; a member of the Medical Society of the State of Pennsylvania and for many years president of the Blair County Medical Society; assistant surgeon of the Fifty-fourth Pennsylvania Volunteer Infantry during the Civil War; for more than twenty years United States pension examining surgeon; for many years a member and for ten years president of the Hollidaysburg Board of Health, physician to the Blair County almshouse and Blair County jail, died at his home in Hollidaysburg, April 22, from cerebral hemorrhage, after an invalidism of about five years, aged 72.

Charles Griffith Worthington MacGill, M.D. University of Maryland School of Medicine, Baltimore, 1856; a member of the American Medical Association; surgeon of the Second Virginia Infantry, C. S. A.; for more than thirty years a member of the board of visitors of the Maryland Hospital for the Insane, Catonsville; once a member of the board of school commissioners of Baltimore County; vice-president of the Medical and Chirurgical Society of Maryland, and president of the First National Bank of Catonsville; died at his home in that place, April 28, from heart disease, aged 73.

Wilson Cary Nicholas Randolph, M.D. University of Virginia, Department of Medicine, Charlottesville, 1855; a grandson of Governor Randolph of Virginia and a great-grandson of Thomas Jefferson; surgeon in the Confederate service during the Civil War; for 17 years a member of the board of visitors of the University of Virginia, and for eight years rector of the university, died at his home in Charlottesville, April 26, from pleurisy, after an illness of three days, aged 73.

Flavius J. Taylor, M.D. Kentucky School of Medicine, Louisville, 1865; a member of the Kentucky State Medical Association and secretary of the Barron County Medical Society; formerly a member of the city council; editor of the Glasgow *Republican;* secretary of the board of pension examiners; assistant surgeon in the United States Army during the Civil War; died at his home in Glasgow, April 21, from cerebral hemorrhage, after a long illness, aged 70.

William G. McFadden, M.D. Jefferson Medical College, Philadelphia, 1870; surgeon of the Seventy-ninth Indiana Volunteer Infantry, and later brigade surgeon of the First Brigade, Third Division, Twenty-first Army Corps; captured at Chickamauga and imprisoned in Libby prison, Richmond, for three months; after the Civil War a practitioner of Shelbyville, Ind., died in Daytona, Fla., from heart disease, April 20, aged 73.

George Nichols, M.D. Vermont Medical College, Woodstock, 1851; surgeon of the Thirteenth Vermont Volunteer Infantry in the Civil War; state librarian of Vermont from 1848 to 1853; secretary of state of Vermont from 1865 for several years; president of the Northfield National Bank, died April 27, at his home in Northfield, Vt., from nephritis, aged 79.

Edwin M. Shaw, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1885; a member of the State Medical Association of Texas and the Victoria County Medical Society, died at his home in Victoria, January 1, from angina pectoris and hemorrhage of the lungs, after an illness of three days, aged 49.

Thomas Withers Dresser, M.D. New York University Medical School, New York City, 1864; surgeon in the Confederate service during the Civil War, and for 40 years a practitioner of Springfield, Ill., died at the home of his daughter in East St. Louis, Ill., April 27, from pneumonia, after an illness of nine days, aged 70.

Andrew Thomas Dunn, M.D. University of Buffalo (N. Y.) Medical Department, 1863; Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1864; died at his home in North Augusta, Ont., January 16, after an illness of four or five years, at an advanced age.

F. W. Bernhard von Buest, M.D. University of Leipzig, Germany; during the Civil War brigade surgeon on the staff of Gen. Burnside and Gen. Gordon; some-time member of the New Albany (Ind.) board of health, died at his home in New Albany, Ind., from exhaustion, due to chronic diarrhea, April 3, aged 76.

Winthrop Butler, M.D. Medical School of Harvard University, Boston, 1876; assistant surgeon in the United States Navy during the Civil War; a member of the Massachusetts Medical Society and the Bristol South District Medical Association, died at his home in Vineyard Haven, Mass., April 20, aged 68.

John N. Groves, M.D. Rush Medical College, Chicago, 1866; a member of the Illinois State and Effingham County medical societies; during the Civil War surgeon of the Ninety-eighth Illinois Mounted Infantry and of the Fourth Michigan Cavalry, died at his home in Effingham, April 26, after an illness of five days.

John P. Wilson, M.D. University Medical College of Kansas City, Mo., 1902; of Liberty, Mo.; a member of the Missouri State Medical Association and Clay County Medical Society; coroner of Clay County; was crushed under an overturned wagon, near Randolph, and died April 25, aged 37.

Amos T. Williams, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1900; of Ridgway, Pa.; a member of the Medical Society of the State of Pennsylvania and of the Elk County Medical Society, died at Southern Pines, N. J., February 18, from heart disease, aged 34.

Irene Dupont Young, M.D. Pennsylvania Medical College, Philadelphia, 1848; a member of the Medical Society of New Jersey and Burlington County Medical Society; consulting surgeon at Mercer Hospital, Trenton, N. J., died at his home in Bordentown, N. J., April 26, aged 82.

John Kautz, M.D. Hospital College of Medicine, Louisville, Ky., 1874; a veteran of the Civil War and for many years a practitioner of Dora, Ind., died at the home of his son in Irvington Indianapolis, April 24, from bronchitis, after an illness of a few weeks, aged 72.

Charles Wayne McCoy, M.D. Jefferson Medical College, Philadelphia, 1889; of South Point, Ohio; a member of the Ohio State Medical Association and Lawrence County Medical Society, is reported to have been shot and killed by John Davis, May 2, aged 40.

David Yandell Walsh, M.D. University of Louisville (Ky.) Medical Department, 1897; a member of the Kentucky State and Jefferson County medical societies, died at his home in Louisville, April 28, from pneumonia, after an illness of two weeks, aged 30.

Melvin B. Hubbs, M.D. College of Physicians and Surgeons, Baltimore, 1883; formerly president of the Steuben County (N. Y.) Medical Society and president of the village of Addison, died at his home in that place, April 24, aged 55.

Vandover L. Chester, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880; for many years a practitioner of Carthage, Mo., died at his home in that city, April 24, from diabetes, after an illness of three months, aged 64.

William Huntington Leonard, M.D. Medical Institution of Yale College, New Haven, Conn., 1853; who had practiced medicine in Minneapolis, Minn., for 52 years, died at his home, April 29, after an illness of almost a year, aged 85.

John Lafferty, M.D. Homeopathic Hospital College, Cleveland, 1876; formerly a member of the board of deputy state supervisors of elections, died at his home in Columbus Grove, Ohio, April 11, after an illness of two months, aged 60.

Herbert K. Stiles, M.D. Medical School of Harvard University, Boston, 1895; formerly house surgeon at Carney Hospital, Boston, of Somervile, Mass., died April 27, at Everett, Mass., from pneumonia, after a short illness, aged 38.

Louis J. Schifferstein, M.D. St. Louis (Mo.) Medical College, 1873; a member of the Illinois State and Effingham County medical societies; a practitioner of Effingham for 25 years, died at his home in that city, April 26, aged 57.

Guy C. Holcomb, M.D. Jefferson Medical College, Philadelphia, 1887; a member of the Bradford County Medical Society and formerly coroner of Bradford County, died at his home in Ulster, Pa., from tuberculosis, April 25, aged 41.

Thomas J. Myers, M.D. Philadelphia College of Medicine and Surgery, 1850; a member of the De Soto (Fla.) County Medical Society; formerly surgeon of the Plant System, died at his home in Bowling Green, Fla., April 21, aged 80

A. G. Henderson, M.D. Jefferson Medical College, Philadelphia, 1861; a member of the Medical Society of the State of North Carolina and Rowan County Medical Society, died at his home in Woodleaf, N. C., March 27, aged 74.

Frank P. Webster, M.D. College of Physicians and Surgeons, Baltimore, 1878; Hahnemann Medical College and Hospital, Philadelphia, 1879; died suddenly from heart disease, April 26, at his home in Norfolk, Va., aged 54.

Ed L. Burdick, M.D. College of Physicians and Surgeons, St. Joseph, Mo., 1871; a veteran of the Civil War; later a member of the state legislature of Arizona and county treasurer; died at his home in Azusa, Cal., April 10.

John James Blacklock, M.D. McGill University Medical Faculty, Montreal, 1851; for 40 years coroner of Stormont, Dundas and Glencarry counties, Ont., died at his home in Morrisburg, Ont., recently, aged 83.

Joseph C. Hall, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1873; died at his home in Decatur, Ill., from uremia, April 24, after an illness of several weeks, aged 67.

Isaac T. Lechtman, M.D. University of Kowno, Russia, 1864; some-time surgeon in the Russian army, and president of the Missouri Medical Society in 1893, died at his home in St. Joseph, Mo., April 11.

Claud A. Thixton, M.D. Hospital College of Medicine, Louisville, 1894; of Louisvile, died at his family home, Fairmount, near Louisville, April 27, from typhoid fever, after an illness of eight weeks, aged 37.

Gustave Schoenberg, M.D. University of Berlin, Germany, 1848; surgeon in the Japanese service from 1874 to 1877; died at his home in Philadelphia, April 19, after an illness of seven years, aged 81.

Alfred A. Moors, M.D. Memphis Medical College (Medical Department of Cumberland University, Memphis, Tenn.) 1854; formerly of West Winfield, N. Y., died in Buffalo, N. Y., March 24, aged 75.

Charles D. Mattison, M.D. College of Physicians and Surgeons, Baltimore, Md., 1899, died at his home in Minetto, N. Y., April 22, from the effects of an overdose of chloral, aged 35.

Robert Purdon McCready, M.D. Jefferson Medical College, Philadelphia, 1905; physician to the Maryd (Pa.) Coal Company, died at Tamaqua, Pa., April 28, from peritonitis, aged 29.

Elijah J. Galbraith, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1870; died at his home in Chillicothe, Ohio, April 23, after a long illness, aged 68.

William Gadson Allen, M.D. Maryland Medical College, Baltimore, 1905; died at his home in Surrency, Ga., March 21, from typhoid fever, after an illness of 26 days, aged 27.

Felix Ferriere, M.D. American College of Medicine, Pennsylvania, 1868; died recently at his home in St. Joseph, Mo., from senile debility, and was buried April 29, aged 86.

William H. Morgan, M.D. Rush Medical College, Chicago, 1874; died at his home in Middletown, Ind., April 18, from tuberculosis, after an illness of a year, aged 67.

Benjamin Tomlin, M.D. Cincinnati College of Medicine and Surgery, 1865; died at his home in St. Louis, April 26, from pneumonia, after an illness of ten days, aged 72.

Lorenzo D. Wiggins, M.D. Geneva (N. Y.) Medical College, 1865; a veteran of the Civil War, died at his home in Wayland, Iowa, April 9, from pneumonia, aged 86.

J. Leroy Blakeman, M.D. New York Homeopathic Medical College and Hospital, New York City, 1899; died at his home in New York City, March 29, aged 34.

George Irvin, M.D. Jefferson Medical College, Philadelphia, 1855; died at his home in Aledo, Ill., April 22, from angina pectoris, after a short illness, aged 81.

John Edgar March, M.D. Bellevue Hospital Medical College, New York City, 1879; died at his home in Partridge Island, St. John, N. B., April 3, aged 50.

Andrew Harkness, M.D. McGill University Medical Faculty, Montreal, 1869; died from pneumonia at his home in Lancaster, Ont., February 6, aged 61.

George Leibrock, M.D. Homeopathic Medical College of Missouri, St. Louis, 1878; died at his home in Mascoutah, Ill., January 24, aged 78.

Charles M. Kellogg, M.D. University of Buffalo (N. Y.) Medical Department, 1884; died at his home in Rochester, N. Y., March 29, aged 61.

Eton B. Crowell, M.D. Eclectic Medical Institute, Cincinnati, 1895; died at his home in Minneapolis, Minn., April 15, from nephritis, aged 47.

Sarah M. Leahy, M.D. Northwestern University Woman's Medical School, Chicago, 1895; died at her home in Anaconda, Mont., in March.

Andrew D. Ingleright, M.D. American Health University, Chicago, 1895; died at his home in North Liberty, Ind., April 19, aged 65.

Adam A. Simmons, M.D. Eclectic Medical Institute, Cincinnati, 1865; died at his home in Girard, Ill., April 22, aged about 80.

Esrom Aram Duclos, M.D. McGill University Medical Faculty, Montreal, 1874; died at his home in Fall River, Mass., April 19.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Mississippi State Board of Health, State Capitol, Jackson, May 14. Secretary, Dr. J. F. Hunter, Jackson.

Massachusetts Board of Registration in Medicine, Room 15, State House, Boston, May 14-16. Secretary Dr. E. B. Harvey, Boston.

Florida State Board of Medical Examiners (Regular), Jacksonville, May 15-16. Secretary, Dr. J. D. Fernandez, Jacksonville.

New York State Boards of Medical Examiners, Albany, May 21-24. Chief of Examining Division, Charles F. Wheelock, Albany.

Nebraska State Board of Health, State House, Lincoln, May 28-29. Secretary, Dr. Geo. H. Brash, Beatrice.

Indiana Board of Medical Registration and Examination, Room 120, State House, Indianapolis, May 28-31. Secretary, Dr. W. T. Gott, Indianapolis.

Missouri State Board Questions.—Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, sends us the following list of questions asked at the examinations held in St. Louis and Kansas City, April 16-18, 1907:

BACTERIOLOGY.

1. What is meant by "alexins?" 2. Describe in detail Widal's test. 3. Explain serum therapy, and give two illustrations. 4. Describe a method for distinguishing the typhoid bacillus in a post-typhoid abscess. 5. Give in detail a method of staining tubercle bacilli (a) in fluids, (b) in sections.

JURISPRUDENCE.

1. What is superfetation? 2. What is a hermaphrodite? 3. What is sodomy? 4. What are ptomains? 5. In what food is tyrotoxicon found?

HYGIENE.

1. Mention three diseases in which you would institute quarantine. Give period of incubation, length of quarantine and prophylaxis in each. 2. What do you understand by: (a) antiseptics; (b), disinfectants; (c), deodorants. Name three of each class and method of using them. 3. Mention three chemical agents frequently found in milk, used as preservatives. Give test for two of them. 4. What do you understand by ventilation? How much cubic space should be given a school room containing 100 children to insure fresh air? 5. What do you understand by: (a) toxins; (b), antitoxins; (c), predisposition; (d), immunity.

ANATOMY.

1. Name the cranial nerves in their order and with reference to their function. 2. Name the salivary glands. Give exact location and name of ducts through which they discharge. 3. Give origin, insertion and function of the following muscles: (a) Trapezius, (b) sternomastoid, (c) sartorius, (d) pectoralis major. 4. Describe the shoulder joint. 5. What is: (a) Lymph, (b) cellular tissue, (c) adipose tissue, (d) muscular tissue. 6. Describe femoral artery. Give its branches. 7. Give landmarks for locating the mastoid cells. 8. What is the (a) epiblast, (b) hypoblast, (c) mesoblast, and what anatomic structures are formed by each? 9. Give regions of the abdomen and their contents. 10. Mention all abdominal viscera not completely invested by peritoneum.

PATHOLOGY.

1. Give the pathologic changes in chlorosis. 2. Give the pathologic changes in cirrhosis of the liver. 3. Discuss the process in local infection. 4. Discuss the formation of gallstones. 5. Describe the gross appearance of the kidney in chronic interstitial nephritis.

CHEMISTRY.

1. What is the chemical composition of muscular tissue? 2. Give toxicology of opium and treatment for same. 3. Give test for arsenic, (b) for sulphuric acid, (c) for nitric acid. 4. What are some of the chemical characteristics of the chlorids of mercury? 5. Give chemical changes occurring in food during process of intestinal digestion.

SURGERY.

1. Describe in detail the examination and treatment of a scalp wound inflicted by a blow on the head. 2. Give the symptoms and treatment of a penetrating wound of the trachea. 3. Give the causes, symptoms and treatment of acute infective lymphangitis. 4. What are the causes and symptoms of fracture of the patella, and what is the object to be accomplished in the treatment? 5. Differentiate purulent and sanguineous effusion into the knee-joint and describe the treatment of each condition. 6. Enumerate the symptoms of tetanus, and describe the prophylactic treatment as well as the measures to be instituted after the disease has appeared. 7. By what symptoms would you recognize and how would you treat a penetrating wound of the urinary bladder? 8. Describe the steps to be taken in the first dressing of an open, oblique fracture of the tibia. 9. Describe the amputation at the knee, giving the incisions, the structures divided and the dressing of the stump. 10. Give the symptoms and a method of reducing a subglenoid dislocation of the humerus.

THERAPEUTICS.

1 to 10 give indications for use of aconite, belladonna, gelsemium, echinacea, digitalis, nux vomica, opium, quinin, mercury, veratrum viride.

GYNECOLOGY.

1. Describe ovaritis. Describe ovaralgia. Give treatment of each. 2. Describe endometritis. Give pathology, etiology and treatment. 3. Define vaginismus, giving pathology, etiology and treatment. 4. Define pruritus vulva, giving pathology, etiology and treatment. 5. Define prolapsus uteri, giving pathology, etiology and treatment.

OBSTETRICS.

1. When should chloroform be used in a case of labor? Give its effect on mother and child. When is it contraindicated? 2. Distinguish between adherent and retained placenta. Give manner of treating each. 3. Give cause and treatment of mammary abscess in the puerperal state. 4. Give after treatment of incomplete abortion. Give symptoms and treatment of threatened abortion. 5. Give method of caring for the umbilical cord. Discuss hemorrhage of the cord. Give treatment of each. 6. Distinguish a primipara from a multipara. 7. Give description of the placenta and umbilical cord, giving their origin and function. 8. Distinguish false from true labor pains. What is morning sickness? Give treatment for the same. 9. Give manner in which new born should be washed and dressed first time. 10. Give indications for induction of premature labor with best time for same and prognosis.

PHYSIOLOGY.

1. Describe cerebellum and give its function. 2. Name digestive ferments and give function of each. 3. Describe the heart cycle. 4. Give brief description of special sense of hearing. 5. (a) Describe mammary gland and process of milk secretion. (b) Also causes that lead to variation in quantity and quality of milk. 6. Name ductless glands and give supposed office of each. 7. What do you understand by internal respiration? 8. (a) On what does temperature of human body depend? (b) Why in a healthy individual does it remain practically constant? Given an exposed artery and vein in the living subject, how would you distinguish them without reference to anatomic landmarks? 10. Describe the pneumogastric nerve and give its functions.

PRACTICE.

1. What is dropsy? Give the name or terms by which the various dropsies are known and their location. 2. Give symptoms and treatment of diabetes mellitus. 3. Give the etiology, symptoms and treatment of pericarditis. 4. Give the etiology, symptoms and treatment of cerebrospinal meningitis. 5. Give chief diagnostic symptoms of cancer of stomach. 6. Describe: (a) An irregular pulse; (b) intermittent pulse; (c) dicrotic pulse. 7. What is meant by incubation period? 8. Discuss palpitation of the heart. 9. How would you differentiate a functional derangement from an organic lesion? 10. Give etiology and symptoms of angina pectoris.

Supreme Court Sustains Medical Practice Act.—The United States Supreme Court has entered a decision in the case of the Washington State Medical Examining Board vs. O. V. Lawson of Seattle, confirming the action of the Washington Supreme Court in sustaining the lower court in which Lawson was convicted of practicing medicine illegally and sentenced to three months in the county jail. About two years ago the physicians of Seattle determined to put a stop to the illegal practice of medicine, as carried on in the state. A fund of $2,000 was raised to prosecute illegal practitioners. As a result, a little over a year ago, O. V. Lawson was sentenced to pay a minimum fine and to spend three months in the county jail. At the time of his conviction he was conducting what he called the "State Medical Institute," and was doing an advertising business. He was also proprietor of a concern known as the "Victor Medical Company." After being convicted in the lower court, he appealed to the Superior Court, thence to the Supreme Court of the state, and finally to the United States Supreme Court. The points made by him in his brief before the United States Supreme Court were that he was deprived of his liberty without due process of law, that he was deprived equally of the protection of the law contrary to the fourteenth amendment, and that the medical practice act of the State of Washington is unreasonable, uncertain, indefinite, and therefore void. The decision of the Supreme Court is of importance, not only in this case, but in several others of a similar nature which are pending, awaiting the decision on the Lawson case.

Higher Requirements for Washington University and Sioux City College of Medicine.—Dr. Robert Luedeking, dean of the Medical Department of Washington University, St. Louis, writes to us that, at a recent meeting of the faculty, it was decided to require, besides a four-year high school education, a year devoted to physics, chemistry, biology and one language as an additional entrance prerequisite after Jan. 1, 1910. ——Dr. F. E. Franchere, of the Sioux City College of Medicine, Sioux City, Iowa, writes that a similar requirement has been adopted by that school. There are now 45 schools which, after Jan. 1, 1910, will require one or more years of preliminary work in a college of liberal arts.

Wyoming March Report.—Dr. S. B. Miller, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Laramie, March 13-14, 1907. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per cent.
Gross Med. Coll. Denver	(1896)	80.4
Rush Med. Coll.	(1876) 76.5; (1879)	77.8
University of Vermont	(1869)	75.

Book Notices

Lectures on Diseases of the Lungs. By J. A. Lindsay, M.D., F.R.C.P. Second Edition. Enlarged and Rewritten. Cloth. Pp. 509. Price, $4.00 net. New York: William Wood & Company.

Lindsay presents a clear and concise summary of the various diseases of the lungs from the point of view of their physical signs and diagnosis, with notes on treatment. Unlike many of the texts on physical diagnosis, it is neither too brief nor are the facts obscured by a multitude of words. Each chapter is preceded by a summary of its contents, thus giving at a glance an outline of the subject following. The earlier chapters consider the signs encountered in diseases of the lungs and pleuræ in general, explaining their occurrence as far as possible by reference to the physical conditions of the tissues. The author treats the subject of adventitious sounds simply and avoids the introduction of any new terminology. The chapters on pleurisy, empyema and pneumothorax will prove of particular interest and value to the student. The second portion of the book deals with the more important diseases in which the local process involves chiefly the lungs, including pneumonia and pulmonary tuberculosis. The discussion of pneumonia is not on a par with the standard of excellence set by the remainder of the book, and is evidently based on personal observations of a limited series of cases. The disease is considered almost exclusively from the point of view of the local trouble in the lung, with its accompanying toxemia, and space is unprofitably taken in the attempt to account for metapneumonic conditions which are easily explained if we recognize that in pneumonia we are dealing with a bacteriemia demonstrable by our modern blood-culture methods.

The therapeutic treatment is taken up from a rational point of view, recognizing that no single drug is a panacea, and that the efforts of the physician must be directed toward combating the toxemia and supporting the heart. In this connection it is rather surprising that the author should declare emphatically against the practice of bleeding even in selected cases. Here again it would seem that the limited series of cases may explain the author's uncompromising stand against the "Bloody Moloch." The rather brief discussion of bronchitis, emphysema, bronchiectasis and asthma is followed by several admirable chapters on pulmonary tuberculosis. The section dealing with treatment and prognosis of pulmonary tuberculosis is decidedly hopeful in tone, in keeping with our more recent views that many of the early cases and not a few of those with more advanced lesions not only may improve, but may terminate in cure. A brief review is given of the newer work on the opsonic index in tuberculosis and the therapeutic use of minimal injections of tuberculin.

The book closes with chapters on the rarer forms of disease in the lungs and the special features of pulmonary disease in children. As a whole the book is clear in style, interesting and the arrangement of the subject matter good. It is well worth reading and study by student and practitioner alike.

Anatomic Terminology, with Special Reference to the Basle Anatomic Nomenclature. By Lewellys F. Barker, M.D., Professor of Medicine, Johns Hopkins University, Baltimore. With Vocabularies in Latin and English and Illustrations. Cloth. Pp. 103. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co., 1907.

The BNA system of anatomic nomenclature has already been adopted in several anatomic laboratories and is used by some of the recent atlases and text-books and has attained such importance that a work explaining it, such as the one before us, is very timely. The title in common use—BNA (Basle Anatomic Nomenclature)—is doubtless strange to many, but is as simple as the principles of the system which it denotes. The Basle Anatomic Nomenclature is an attempt to simplify terminology by adopting for each part only one Latin name as short and as simple as possible. The terms are to be merely memory signs and related terms as far as possible are to be similar. Adjectives in general are arranged as opposites—e. g., dexter and sinister, major and minor, etc. After giving some account of the way in which the system was formed, the book answers some of the objections to the plan and makes some suggestion to promote its adoption. Then follows a list of the terms in Latin with English equivalents. It is to be remembered, however, that only the Latin terms are authoritative and the English terms are subject to variation as use may dictate. The systematic terms are not so different from those formerly in vogue as might be supposed, since they are mostly a selection from the terms formerly used. Personal names have been retained in some cases in brackets following the regular name. Thus we have ligamentum inguinale (Pouparti). In time it will be known whether it is to be called ultimately the inguinal ligament or after Poupart's name. The book is of special interest to teachers and students of anatomy and to physicians who wish to understand the advanced system of nomenclature.

Treatment of Diseases of the Digestive System. By R. Saundby, M.D., M.Sc., LL.D., F.R.C.P., Professor of Medicine in the University of Birmingham, etc. Cloth. Pp. 133. Price, $2.75. Philadelphia: J. B. Lippincott Company, 1906.

In this small volume an attempt is made to give the diagnosis and treatment of diseases of the stomach and intestine. Although the author must be given credit for including in a small space the essentials of his subject, the limitations of space have entailed omissions which tend to impair the value of the work and in some instances lay it open to serious misinterpretation by the inexperienced reader. To mention two examples, we find the titration of the gastric juice directed to be carried out on 5 c.c. instead of 10 c.c. as is customary. The statement is then made that the quantities of acid are usually expressed by the number of cubic centimeters of sodium hydrate solution needed to saturate the gastric contents. The reader is not informed whether the amount to be saturated is 5 c.c., as he would naturally infer from the previous directions, or 100 c.c., as is customary. In describing the test for blood in feces both guaiac and aloin are mentioned and the color produced if blood is present is said to be red, with no mention of the blue obtained when guaiac is used. No clinical applications of this test are given and the fallacy arising from the presence of meat in the diet is not mentioned.

The clinical observations and therapeutic advice are good. The author finds little reason to recommend the application of electricity in gastrointestinal diseases. Acids are useful, he states, but the explanation of their value is not in their digestive power, but in their tonic action. The digestive ferments receive little credit, the author calling attention to the fact that even malt preparations are seldom required because the diastase of the saliva is nearly always sufficient.

Histologic Observations on Sleeping Sickness and Other Trypanosome Infections. By F. W. Mott, M.D., F.R.S. (From the Pathologic Laboratory of the London County Asylums). Cloth. Pp. 50. Price, $1.50 net. New York: William Woods & Co., 1907.

It is now admitted that sleeping sickness is caused by the presence of the *Trypanosoma gambiense* in the lymphatic glands and cerebrospinal fluid. The disease is characterized by chronic polyadenitis, which is subsequently followed by a chronic inflammatory change in the lymphatics of the brain and spinal cord characterized by proliferation and overgrowth of the neuroglia cells, especially those which are related to the subarachnoid space and perivascular lymph spaces, with accumulation and probably proliferation of lymphocytes in the mesh work. The histologic changes produced are described in this volume.

The material used was from twenty-four natives and two Europeans with sleeping sickness and from the tissues of various animals infected with trypanosomes. The book is illustrated by a number of colored plates, showing the histologic changes, and must be regarded as an important contribution to the literature of tropical medicine.

Hints on the Management of the Commoner Infections. By R. W. Marsden, M.D., M.R.C.P., D.P.H., Honorary Physician to the Ancoats Hospital, Manchester. Cloth. Pp. 128. Price, $1.50. New York: E. B. Treat & Co., 1907.

This work gives a brief résumé of the principles of treatment to be observed in the management of the commoner diseases due to the action of micro-organisms, either directly or indirectly. Under "General Measures," the author discusses: The indications and contraindications for the application of cold baths in fevers; the importance of rest; ventilation and temperature of the sick room; principles of feeding; limitations of treatment by drugs, including the abuse of purgatives.

Under "Specific Infections" are considered invasion of the body by septic micro-organisms and the various contagious and infectious diseases. There are two appendices; one deals with isolation and the other with disinfection.

Catholic Churchmen in Science. Sketches of the Lives of Ecclesiastics Who Were Among the Great Founders in Science. By James J. Walsh, M.D., Ph.D., LL.D., Professor of Medical History, Fordham University Medical School. Cloth. Pp. 221. Price, $1.00 net. Philadelphia: The Dolphin Press, 1906.

Dr. Walsh has gathered in this neat little volume some biographical essays which he contributed to various Catholic papers. Among the scientists to whom chapters are devoted are several who were either physicians or noteworthy contributors to medicine: Copernicus, the great astronomer; Basil Valentine, founder of pharmacologic chemistry; Linacre, founder of the Royal College of Physicians of London; Steno, for whom Steno's duct is named, and who was a famous geologist; Kircher, who pointed out contagion and presaged the discovery of bacteria; Hauy, the crystallographer, and Mendel, whose name is linked with our knowledge of heredity. Sufficient is given of the life of each individual to give the reader a general knowledge of the man and his work, omitting the unimportant details.

Urinary Analysis and Diagnosis. By Microscopical and Chemical Examination. By L. Heitzmann, M.D. Second Revised and Enlarged Edition. 131 Illustrations. Cloth. Pp. 319. Price, $2.50 net. New York: William Wood & Company.

In this edition great stress has been laid on microscopic examination of urine and especially on microscopic diagnosis, but the chemical examination has not been slighted. The tests given are those which may be made by the practitioner rather than those which require an extensive equipment such as can be found only in the large laboratories. The illustrations are not of the routine character found as a rule in text-books of this kind, but have been drawn by the author from his own specimens.

Practical Dietetics, With Reference to Diet in Disease, by Alida Frances Patee, Late Instructor in Dietetics, Bellevue Training School for Nurses, Bellevue Hospital, New York City. Fourth Edition. Cloth. Pp. 312. Price, $1.00 net. New York: A. F. Pattee.

Nurses and others who prepare food for the sick will appreciate this practical handbook. The recipes are simple and easily understood.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

THE METRIC SYSTEM AND HOW TO USE IT.

W A. Jolley, M.D.

BOULDER, COLO.

The revision of the United States Pharmacopeia, with its numerous changes, the work of the American Medical Association in educating the physicians by its investigations of the proprietary preparations, and the fight against patent medicines, have created an opportune time for physicians to get out of a rut and to take a step forward in therapeutics, the knowledge of which has been badly hampered by ignorance of pharmacy. A glance at the prescription file will show that a deplorable condition exists.

NEED OF A UNIFORM STANDARD.

The first step will be a study of the methods of measurements employed. The standards are governed by custom and the physical characteristics of the substances to be handled. Custom has caused many arbitrary standards to suit specific needs, and, as a result, the same term may have a variety of values. For example, an ounce may mean 437.5 grains in the avoirdupois system of weights, or 480 grains in the apothecaries' weights. The term "drop" is even more uncertain, and yet it is used for fancied precision in handling toxic liquids like the tincture of aconite. The size of a drop is dependent: (1) On the liquid to be selected; a drop of water is almost a minim, but it takes four drops of chloroform to make a minim; (2) on temperature, which affects the size of drops, as one can see in handling hot and cold liquids, like syrups and oils; (3) on the size and shape of the orifice, which has a great influence on the size of the drop.

A drop of water is supposed to be a minim, and to weigh 1 grain. The actual weight is 0.9508 of a grain. The weight of an ounce (480 minims) of water then will be 480 × 0.95 = 456.4 grains. The quantity "grain" is an arbitrary standard obtained by stating that a cubic inch of water weighs 255.33 grains.

HOW THE METRIC SYSTEM WAS ACQUIRED.

Such standards are so complex, cumbersome and inaccurate that scientific advancement required a system which would be suited to universal use and the accuracy which modern science demands. The system is called the metric system, and has been universally adopted by the scientific investigators who have accomplished so much work during the past twenty-five years. These men are on unknown ground, and unhampered by tradition they have been able to use this new system in their work. Advance along the line of scientific medicine has been retarded by the slipshod manner in which drugs have been prescribed.

All progressive physicians keep abreast with the latest theories and principles of diagnosis, yet these men will not exercise the same care in dispensing the toxic agents, which we call medicines, even when they know that life often depends on the accuracy of the dosage. Naturally some difficulty must be expected in changing methods which have been used for many years, but we have been compelled to adopt new theories. We can change to the metric system without danger or friction, but it must be a genuine conversion. We must drop the old and take up the new without any modifications. Do not transpose doses from the one system to the other, but use the metric alone and insist that the druggists do the same. The metric weights and measures are as easily manipulated as the apothecaries'; the difficulty is in computing the proper dosage. The same method should be applied in studying this new system as in acquiring a foreign language. We learn the name of a certain object in the new tongue, use it repeatedly, and in a short time we can associate the two without mental effort. In the metric system we should ascertain the value of a gram or cubic centimeter, then work with it until we are familiar with it. This will be our basis for all computations.

In dispensing many physicians use the familiar old standard of household measurement—a teaspoon. A moment's work with a graduate will show that with this standard we have long erred, for the contents are far above the dram, which we have always used as its equivalent. This error has been introduced into the metric system, for most tables give the equivalent of a teaspoonful as four (4) cubic centimeters. Actual tests will show that the usual teaspoon will hold five (5) cubic centimeters. The larger quantities used in writing prescriptions are multiples of 5, e. g.—50, 100, 250, 500, 1,000.

(This subject will be continued.)

Diarrhea.

Diarrhea is a term loosely though correctly applied to all forms of intestinal disturbance accompanied by the passage of liquid feces. The treatment of each form depends on its cause; diarrhea is not a disease but a symptom.

Treatment of the catarrhal form consists primarily in regulation of the diet, which should be made up chiefly of milk, boiled or predigested, or of milk whey. Castor oil or some other mild purge such as sulphate of magnesium should be administered to sweep out fermenting food or mucus. Enough laudanum should be given with the oil to prevent griping. Hare, in "Practical Therapeutics," states that it is well to add bicarbonate of soda, grains xx to xxx (1.3 to 2.0) to the dose, both to aid the action of the oil and to render the bowel alkaline (normal) in reaction instead of acid, as caused by the fermentation. A mustard plaster or other counterirritant should be applied to the abdomen. Often in the milder forms of mucous diarrhea this is all that is needed, but sometimes it is necessary to follow it by tonics and astringents. The following pills are useful:

℞.	Argenti nitratis	gr. ii		1
	Extracti hyoscyami	gr. v		3

Ft. pil. No. x. Sig.: One pill three times a day.

℞.	Plumbi acetatis			
	Extracti opii, āā	gr. ii		1

Ft. in pil. No. x. Sig.: One pill three times a day.

In diarrhea due to nervous disturbance the treatment is radically different. The measures adopted must aim at contracting the dilated and relaxed blood vessels and at restoration of proper nerve supply to the parts. Opium is a valuable drug in this condition, as it stimulates the inhibitory nerves of peristalsis and diminishes the secretion. In some cases, however, it seems to have no effect, and in such patients bromids are generally of service.

Small doses of volatile oils, camphor and spirit of chloroform may be used. As there is relaxation, astringents are indicated and sulphuric acid is peculiarly serviceable as besides being astringent it is eliminated by the lower bowel. The following prescription is useful:

℞.	Acidi sulphurici arom	fʒiv	15	
	Olei cajuputi	gtt. xl	2	65
	Fluidextracti hæmatoxyli	fʒii	8	
	Spiritus chloroformi	fʒiv	15	
	Syrupi zingiberis q. s. ad	f℥iii	90	

M. Sig.: One teaspoonful in water every two or three hours.

If desired, kino or catechu may be used instead of hematoxylon, or the oil of cloves may be substituted for that of cajuput. Camphor or paregoric may also supplant these drugs.

The following combination has been recommended in acute or obstinate chronic forms:

℞.	Acidi sulphurici arom	m. xlv	2	8
	Tincturæ opii deodorati	fʒss	2	
	Strychninæ sulphatis	gr. ¼		016
	Spiritus lavandulæ	fʒii	8	
	Aquæ camphoræ q. s. ad	f℥iii	90	

M. Sig.: For an adult, one teaspoonful every four hours.

When nausea, vomiting and pain accompany the diarrhea, the following is of value:

℞.	Fluidextracti hæmatoxyli			
	Acidi sulphurici arom., āā	fʒii	8	
	Tincturæ opii camphoratæ q. s. ad	f℥iii	90	

M. Sig.: A teaspoonful every three or four hours.

℞.	Acidi sulphurici arom	fʒiss	6	
	Spiritus chloroformi			
	Tincturæ opii camphoratæ, āā	fʒii	8	
	Syrupi zingiberis q. s. ad	f℥iv	120	

M. Sig.: A dessertspoonful in water every two hours. Or:

℞.	Tincturæ kino			
	Tincturæ gambir comp., āā	f℥i	30	
	Misturæ cretæ	f℥iii	90	
	Aquæ cinnamomi q. s. ad	f℥vi	180	

M. Sig.: Shake well before using. A tablespoonful every three hours.

In some instances these attacks appear to depend on hepatic disorder, and the only cure, aside from partial relief, is obtained by the use of mercury in doses of from 2 to 6 grains (0.1 to 0.4), with chalk (hydrargyrum cum creta), or calomel, given in doses of from 1/6 to 1/2 grain (0.01 to 0.03) until 1 or 2 grains (0.06 to 0.13) have been taken. For the purpose of establishing intestinal antisepsis salol may be given in doses of from 5 to 10 grains (0.32 to 0.65) every two or three hours till the effect is evident.

The following combination has been recommended:

℞.	Salol	ʒi	4	
	Bismuthi subnitratis	ʒii	8	
	Misturæ cretæ q. s. ad	f℥iii	90	

M. Sig.: Two teaspoonfuls every two hours.

To quiet the restlessness present in some cases the following has been recommended:

℞.	Sulphonmethani (sulphonal)	gr. ss		03
	Sodii bromidi	gr. ii		13
	Spiritus menthæ piperitæ	gtt. x		65
	Aquæ camphoræ	fʒi	4	

M. Sig.: Take at one dose and repeat every two or three hours for a few doses, if necessary.

In children with summer diarrhea, who pass fetid "mousy" smelling stools with green spinach-like masses of semi-digested food or distinct lientery, the disorder may be due to deficient glandular action in some part of the alimentary canal. In these cases small doses of pepsin and hydrochloric acid are useful. Podophyllin in doses of from 1/50 to 1/40 of a grain (0.0013 to 0.0016) may be given with milk sugar or in alcoholic solution. Ipecac in powdered form may be used in doses of from 1/4 to 1/2 a grain (0.015 to 0.03) three times a day.

When the stools are green and acid the following is useful:

℞.	Tincturæ opii deodorati	m. x		6
	Bismuthi subcarbonatis	ʒiss	6	
	Syrupi zingiberis	fʒvi	23	
	Misturæ cretæ q. s. ad	f℥iv	120	

M. Sig.: A teaspoonful every two or three hours for a child one year old.

The following is also useful:

℞.	Tincturæ opii camphoratæ			
	Tincturæ gambir comp., āā	fʒiii	12	
	Misturæ cretæ q. s. ad	fʒx	40	

M. Sig.: A teaspoonful four or five times daily for children.

Incompatibles.

REACTION BETWEEN SALTS.

The *Pharmaceutical Journal* calls attention to the fact, well known to students of analytical chemistry, that the production of a precipitate on mixing solutions of two salts is an extremely common occurrence. Sometimes this is intentional, but in dispensing the pharmacist can usually tell what is happening and whether it is intended or not. The following prescription furnishes an example:

Zinci sulphatis	gr. xl	2	60
Liquoris plumbi subacetatis fort	ʒiss	6	
Tincturæ opii	℥ss	15	
Aquæ ad	℥vi	90	

In this lotion the prescriber has evidently overlooked the reaction that will occur between the lead subacetate and the zinc sulphate, all the lead being precipitated as sulphate and thus rendered useless.

The same criticism applies equally to the following example, but here the zinc is precipitated as borate:

Sodii boratis	gr. xx	1	30
Zinci sulphatis	gr. v		30
Aquæ rosæ ad	℥iii	90	

Palatable Medication.

Herman B. Sheffield in the *New York Medical Journal* declares that palatable medication is, to say the least, highly appreciated by sick adults, and is practically indispensable in the management of sick children. The physician who believes in the usefulness of the medicines he prescribes owes it to his patients that they are able to swallow and retain them. As a rule, adults manage, by means of condiments and pleasant beverages, to render drugs disgusting in taste at least acceptable. On the other hand, children are compelled to take the medicine as given to them, and, what is still worse, the more they resist the more they are subjected to anguish and distress, nay, even to corporal punishment which not infrequently borders on actual injury. Indeed, it is not at all rare to find children suffering from acute pneumonia in a state nigh to suffocation from the effects of prolonged and firm compression of the nostrils; and many a child bleeds from gums and lips, and loses a tooth or two through the attempts of the overzealous mother to force down the unfortunate's throat a teaspoonful of a miserable mixture—which was, perhaps, intended only as a placebo.

As most drugs are now obtainable as solid or powdered extracts, adults, whenever possible, should receive their medication in the form of freshly prepared pills or capsules. When it is necessary to administer offensive fluid extracts, tinctures, essential oils and the like, it is best to order them in what Sheffield calls "home-made liquid capsules." The medicine and the empty gelatin capsules are prescribed separately, and the patient is directed, by means of a dropper, to prepare each dose of medicine just before taking it. These capsules are a boon to patients who are averse to taking nauseous mixtures. By means of them tincture of the chlorid of iron or the different hygroscopic medicinal agents, such as the iodids, bromids or chloral can readily be administered.

Medicolegal

Law of Conspiracy Applicable to Abortion Cases.

The Supreme Court of Iowa says, in the case of State vs. Crofford, recently before it on the second appeal, when it affirmed a conviction of murder in the second degree, that one Maude Stone entered the defendant's sanitarium in January, 1901, and remained there until her death, six or seven days later. The charge was that she died as a result of an abortion unnecessarily produced by the defendant. The theory of the state was that this was done in pursuance of a conspiracy between the doctor, one Ira Hammond, and Maude Stone. The defendant insisted that the victim of an abortion can not be a conspirator to commit it.

Section 4759 of the Iowa Code defines the offense by saying that "if any person with intent to produce the miscarriage of any pregnant woman, wilfully administer to her any drug or substance whatever, or, with such intent, use any instrument or other means whatever, unless such miscarriage shall be necessary to save her life," he shall be punished accordingly. This language indicates the design of the lawmakers to treat the woman on whom the act is perpetrated as the victim, and she can not be guilty of this crime. This is in harmony with the conclusion reached by courts generally that she is not to be regarded as an accessory or accomplice. State vs. Smith, 99 Iowa, 26; Moore vs. State, 37 Tex. Cr. R. 552; People vs. McGonegal, 136 N. Y. 62; State vs. Hyer, 39 N. J. Law, 598; Commonwealth vs. Brown, 121 Mass. 69; State vs. Ownes, 22 Minn. 238; Note to Abrams vs. Foshee, 66 Am. Dec. 87. But it does not follow that she may not engage in an unlawful conspiracy with another to perpetrate the offense on herself.

Section 5059 of the Code declares that, if any two or more persons conspire and confederate together to commit a felony, they are guilty of the crime of conspiracy. This offense is distinct from the crime which it is the object of the conspiracy to commit, and the acquittal of one is not a bar to the prosecution of the other. Though she may not be guilty of committing an abortion on herself, it is a crime for another to do so, and, if she conspires with others to perform the act, there is no escape from the conclusion that she is a co-conspirator, and that her declarations in promotion of the common enterprise are admissible in evidence against another conspirator on trial for the commission of the substantive crime. Underhill on Ev. 412. Solander vs. People, 2 Colo. 48.

Furthermore, conspiracy to commit a crime and the crime itself are distinct offenses, and the acquittal of one, as said, is not a bar to the prosecution of the other. So in this case the acquittal of Hammond was not a bar to a trial of him on the charge of having conspired to commit an abortion unnecessarily, and it followed that it furnished no obstacle to an inquiry concerning such conspiracy in the trial of the defendant for murder.

The precise point was determined by the Supreme Court of Indiana in Musser vs. State, 157 Ind. 423; the court saying that "where two or more persons are charged with a substantive offense, not a conspiracy, and it appears that the same was committed in pursuance of a conspiracy, the act and declaration of one shown to have been engaged in the conspiracy to commit such substantive crime are admissible in evidence on the trial of the other defendant, notwithstanding the person whose declarations are sought to be proved had been previously acquitted." And by the Court of Criminal Appeals of Texas, in Holt vs. State, 39 Cr. R. 282. See People vs. Kief, 126 N. Y. 661.

Again, the court says that Hammond was a youth under 20 years of age, and the evidence tended to show that he visited the sanitarium and had a private interview with the defendant on Jan. 12, 1901, and that he was there again about the time Maude Stone arrived and on the 29th, shortly before her death. She reached there on the 22d or 23d of the month, and, as the evidence of the state tended to show, in a normal state of health. This constituted such a prima facie showing of collusion between the defendant and Hammond as justified receiving the declarations of the latter, made in promotion of their common design at any time subsequent to its inception and before its accomplishment.

Maude Stone might have been found to have become an active participant in the conspiracy of Hammond and the defendant, if such there was, from the time she started for the sanitarium. Their design contemplated an abortion on her, and necessarily included either her consent thereto or obtaining control over her person, and her letter to Hammond in connection with his letter to her was admissible as tending to establish her connection with the conspiracy. It was not essential to the admissibility of the evidence that all enter into this unlawful combination at its inception, nor that it be established by direct evidence. If any of them joined therein subsequent to its inception, he thereby adopted the acts of his associates. It was immaterial whether the conspiracy was hatched by Hammond and the defendant, or the former and the deceased.

There always are two things to be considered: First, whether any conspiracy exists, and, next, what share the prisoner had in the conspiracy. But before the evidence of the conspiracy can affect the prisoner materially it is necessary to show that he joined the other therein. The prosecutor may either prove the conspiracy which renders the acts of the conspirators admissible in evidence, or make proof of acts of the different persons and thus prove the conspiracy.

Later Discourtesy not Evidence of Malpractice.

The Supreme Court of Vermont says that in the case of Willard vs. Norcross, brought to recover for alleged malpractice in the treatment of the plaintiff's wrists, there was a charge of intentional injury. To prove the defendant's animus, the trial court received evidence that he treated the plaintiff discourteously after his attendance had ceased. His connection with the case ended in January, and the incidents testified to occurred later than May. The plaintiff's statements, as detailed in the exceptions, were substantially these: She met the defendant once on the overpass, and he turned around and faced her, and acted as though he was going to block her way, and she walked right toward him, and he turned around and went off; nothing being said by either. Another time, she met him on the sidewalk in front of the postoffice, where she considered there was room enough for him to pass, and he ran against her, hitting her shoulder and turning her around, and said nothing by way of excuse or otherwise. On another occasion, he stood on the threshhold of the postoffice, and would not move for her, and she had to squeeze by him. There was nothing else in the case tending to show ill will. The Supreme Court considers that the admission of evidence of this alleged discourteous treatment was error. It says that it is true that evidence having a legitimate tendency to show a defendant's animus in the matter complained of may be found in things subsequently said and done. But the court finds nothing in the cases to indicate that subsequent unconnected expressions of dislike are admissible as proof that an act in itself lawful was improperly done because of malice. It says that there was here nothing more than an opportunity to do a malicious injury in January, and manifestations of ill will commencing five months later. There was nothing in this that tended to show that such improper surgical treatment as there may have been was intentional. The claim of malicious injury was finally waived, but the evidence was prejudicial on the issues submitted.

Places Maintained by Abortionists Are Nuisances.

The First Appellate Division of the Supreme Court of New York had for decision in the case of the People vs. Elsie Hoffman the apparently entirely new question as to a house maintained for the purpose of practicing the vocation of an abortionist constituting a public nuisance. The court holds that such a place does constitute such a nuisance.

The facts set forth in the information and supported by the evidence in this case showed that the defendant advertised in the public newspapers of the city of New York to the effect that she cured "irregularities or no charge; longest cases; ladies boarded; 213 East Seventy-eighth Street;" that she received into the house indicated a large number of women who were with child, and that she used instruments in producing abortions.

The defendant was charged with maintaining a public nuisance under the provision of sections 385 and 387 of the New York Penal Code. The section concerned, so far as it was involved in this appeal, defines a public nuisance to be "a crime against the order and economy of the state, and consists in unlawfully doing an act, or omitting to perform a duty, which act or omission: (1) annoys, injures or endangers the comfort of persons; or (2) offends public decency."

The defendant insisted that no crime under section 385 of the Penal Code was stated in the information, and that, therefore, the motions on the opening and closing of the case and in arrest of judgment should have been granted. There was no attempt to dispute that the defendant made admissions of the character above stated to the witnesses called by the people, but it was urged on the part of the defendant, that as section 294 of the Penal Code makes abortion a crime of a higher character, there was no jurisdiction in the trial court of the offense charged as a public nuisance. Great reliance was placed on the fact in support of this contention, that no adjudicated case had been found in which it has been held that the maintaining of a house for the purpose of practicing the vocation of an abortionist, constitutes a nuisance.

It is true, as a general proposition, the court says, that if a house is so kept that no one outside of its inmates is disturbed, annoyed or corrupted in their morals, it is not in law a disorderly house. The annoyance of corrupting influence must reach beyond the inmates and affect the public peace or morals of the community (1 Bishop on Criminal Law, Sec. 1051); but the same author says that this doctrine should "not be so applied as to exempt any man from indictment, whose house is practically set open to the public, alluring the young and unwary into it for the purpose of their indulging in anything corrupting to their virtue, sobriety or general good morals. If a man would shield himself from indictment when he allows wicked and corrupting practices within his house he should keep his doors, while those practices are carried on, closed to the outer world." (Sec. 1053.) Again, this same learned author says: "If a house is of common resort for the commission of petty offenses against the laws, such as offenses punishable by fine, it is indictable on this ground, though not otherwise disorderly." (Sec. 1053.) In the following section he declares that this principle is as old as the law itself; that "a man who holds out inducements for people to congregate, and together commit violations of a statute, not only lends the concurrence of his will to their wrongful acts, but also does what most powerfully tends to disrobe the body politic of her virtue, and of the drapery of that order which the hand of government has thrown around her." In section 1057 he continues: "To bring a case within this principle, the particular acts must be either indictable, or, in some sense, unlawful. Therefore, the English court quashed an indictment which charged one with converting a house into a hospital for taking in and delivering lewd, idle and disorderly unmarried women, 'who, after their delivery, went away, and deserted their children, whereby the children became chargeable to the parish.' 'By what law,' asked Lord Mansfield, 'is it criminal to deliver a woman when she is with child?'" In this there is a clear intimation that the indictment would have been good had it charged that the house was for the crime of abortion, rather than the lawful delivery of children.

Construing the provisions of the Penal Code under which this charge was made, in the light of the common law, it is only a just construction to hold that the broad language used embraces the offenses of the common law rule. As before seen, the section defines a nuisance to consist in unlawfully doing an act which annoys, injures, endangers the comfort, repose, health or safety of any considerable number of persons, or offends public decency. This surely is as broad and inclusive in terms as the rule of the common law, which has been made the subject of the code provisions. At common law it would have been, and under the code provisions it is, a nuisance for a person, by public advertisement, to invite and receive a class of the public to his premises for the purpose of violating the laws of the state, as was done in this case. This, in the court's opinion, constitutes "crime against the order and economy of the state" by offending "public decency."

It is the duty, therefore, of this court, in accord with law, to sustain this conviction. The offense of abortion is one thing; that of maintaining premises open to the public for the purpose of consummating that crime, is another and separate offense against the peace and good order of the state. It is an inducement to moral laxity and to crime, and is within the letter and spirit of the sections of the Penal Code here under consideration.

Throwing Pepper Not Attempt to Commit Mayhem.

The Supreme Court of Illinois says, in Dahlberg vs. People, that mayhem (violently depriving another of the use of a member used in fighting), under the common law, while less inclusive than under the Illinois statutes, did include the striking out or blinding of an eye. The Illinois statutes provide that, whoever, with malicious intent to maim or disfigure, puts out or destroys an eye, etc., shall be imprisoned, etc. They also provide that whoever attempts to commit any offense prohibited by law, where no express provision is made by law for the punishment of such attempt, shall be punished, etc. The court does not think that an ineffectual effort to throw red pepper into another's eyes is an assault with attempt to commit mayhem. It does not think that the act of throwing red pepper is such a one as in the course of the usual and natural laws would, if uninterrupted, result in the crime of mayhem. But it says that it did not find it necessary to consider the question as to whether the defendant could be convicted of an attempt at mayhem if, when she threw the pepper, she thought she had employed adequate means, and intended to destroy the eyesight, when, in fact, she used inadequate means for this purpose. There was no testimony in the record tending to show that she so believed and intended, and while in criminal cases the criminal intention may be manifested by the circumstances connected with the perpetration of the offense without any positive testimony as to intention, it certainly could not be inferred because the defendant used inadequate means that she intended to use adequate means.

Damages for Pain, Especially from Injury to Toes.

The Supreme Court of Arkansas says, in St. Louis, Iron Mountain & Southern Railway Company vs. Snell, a personal injury case brought by the latter party, that it is difficult for a jury to estimate the amount of compensation to be allowed for pain and suffering. It is an element of damages which is indeterminate in its character, and of which there is no exact standard of admeasurement. Jurors must exercise their judgment and discretion in fixing fair and just compensation for the injury. It is also a matter of great difficulty and of considerable delicacy for a reviewing court to determine whether or not the amount fixed by the jury is excessive. But there is a limit to the power of the jury, and, when the just limit is transcended by fixing an amount which is clearly excessive, the duty of the court is plain.

In this case the toes of the plaintiff, a child 6 years old, were mashed and bruised, and the skin was rubbed or scraped off. On the left foot the flesh was split about a half inch between two of the toes. No bones were broken or injured, and there was complete recovery in a few weeks; no permanent injury resulting. The witnesses testified that the injury was painful, and that the child appeared to suffer much therefrom, especially when the wounds were dressed. She had slight fever for several days, which the attending physician testified probably resulted from the nervous shock. As there was no permanent injury, mutilation or disfigurement of the child's feet, the only element of damages was the pain and suffering resulting from the wounds. The jury returned a verdict in favor of the plaintiff for $1,500 damages.

The court entertains no doubt that the verdict in this case went far beyond the limit of just compensation to the plaintiff for the pain and suffering which she endured, and that the ury either misconceived the proper standard of measuring the damages, or were prompted by sympathy for the plaintiff to prejudice against the defendant. After careful consideration of the evidence it is convinced that it did not warrant a recovery of an amount exceeding $750.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

April 27.

1 Arteriosclerosis. H. N. Heineman, Bad Nauheim, Germany.
2 *Malignant Disease and Malaria. C. F. Kleffer, Fort D. A. Russell, Wyo.
3 Notes on Six Thousand Cases of Neurasthenia. C. D. Cleghorn, New York .
4 Pathology of Gonorrhea in Women. H. C. Coe, New York.
5 Gonorrhea in Women. W. S. Stone, New York.
6 Gonorrhea During Pregnancy. J. C. Edgar, New York.
7 *The Eye and Ear Complications of Influenza. C. Graef, New York.

2. **Malignant Diseases and Malaria.**—Kieffer concludes from his observations of the occurrence of malaria and cancer in Cuba and the Philippines that there is no real antagonism between malaria and malignant disease. Malarial infection supervening on malignant disease does not modify it. Natives of tropical countries have a relative immunity to malignant disease which varies widely. Adoption of civilized ways of life by natives diminishes this immunity.

7. **Eye and Ear Complications of Influenza.**—Graef says that eye complications are comparatively rare in the course of influenza, while ear complications are frequent. The eye complications are conjunctivitis, inflammations of the lachrymal duct, corneal and lid herpes, and aching pains due to swelling of the lining of the frontal sinuses; embolic processes caused by mixed infections, iritis and glaucoma, as well as nervous disorders of vision. Ear troubles are acute middle-ear catarrh and mastoiditis.

New York Medical Journal.

April 27.

8 *Physical Processes of Immunity and Infection. J. Wright, New York.
9 The Milk Problem. H. G. Piffard, New York.
10 Bursting Fracture and Compound Fracture of the Cranial Vault. J. S. Wight, Brooklyn.
11 Traumatic Luxation of the Head of the Fourth Metatarsal. L. D. Frescoln, Philadelphia.
12 Cystoscopy in Tuberculosis of the Urinary Tract. W. Meyer, New York.
13 *Bacteriologic Examination of Blood: An Hermetically Sealed Bouillon Tube for Bedside Use. G. W. McCaskey, Fort Wayne, Ind.
14 *Severe Ocular Pain Associated with Grippe. J. T. Krall, Philadelphia.
15 Infantile Chorea and Tic, Their Symptoms and Treatment. H. Richardson, Baltimore.
16 *An Unusual Symptom in Chorea. G. E. Price, Philadelphia.
17 Roentgen Rays in Dermatology. R. H. Boggs, Pittsburgh.

8: **Immunity and Infection.**—This is the fifth paper by Wright. In it he discusses the evidences of electro-dynamic forces in the intracellular processes of growth and protection.

13. **Bacteriologic Examination of Blood.**—In order to have a permanent preparation of bouillon always at hand in a readily transportable form, McCaskey has had made an hermetically sealed tube, containing 100 c.c. with sufficient air space for agitation. These tubes, which are contained in a small pasteboard box, are permanent, and when desired for use at the bedside the upper end of the hermetically sealed neck is easily fractured at the line of union with the cap, and the blood which should consist of at least 5 cubic centimeters freshly drawn from a superficial vein in a sterile syringe or through a sterile canula instantly thrown into the bouillon and shaken up with it. In this way the bacteriolysins are immediately diluted to such an extent that they will have no effect on the micro-organisms. Even a few minutes' delay may cause failure. Accompanying the bouillon tube is a small hermetically sealed tube, also with a breakable ring, which contains a sterilized rubber stopper which is immediately placed in the neck of the tube so that contamination will not occur in transit. In the bottom of the phial is also a sterilized pledget of cotton which replaces the rubber stopper as soon as the incubator is reached.

14. **Ocular Pain in Influenza.**—Krall finds that there is an increasing number of cases of endemic influenza complicated by a sudden seizure of excruciating pain, located in the eyeball, lasting two or three days, unattended by symptoms of inflammation, while the eyeball and its appendages present a perfectly normal appearance. The diagnosis is neuralgia of the ciliary nerve due to toxins circulating in the blood acting on the nerve centers or fibers.

16. **Unusual Symptom in Chorea.**—Price refers to the excessive secretion of saliva accompanied by drooling, which is not infrequently seen in all diseases characterized by marked motor disturbances.

Boston Medical Journal.

April 25.

18 History and Ethics in Medicine. J. G. Mumford, Boston.
19 *Thrombosis of the Cavernous Sinuses. H. G. Langworthy, Dubuque, Iowa.
20 Case of a Positive Agglutination Reaction in Icterus. H. A. Christian, Boston.
21 Plea for Conservatism in Gynecology. G. W. Kaan, Boston.
22 Successful Reduction of Dislocation of the Neck. F. M. Sherman, West Newton, Mass.

19. **Thrombosis of Cavernous Sinuses.**—Langworthy gives a detailed report of four cases that followed suppurative otitis media. In one case there was mastoiditis and facial paralysis as well as thrombosis of the lateral sinus, both cavernous sinuses and the internal jugular vein. The patient died from pyemia. The second case was complicated by an extradural abscess; the third case by bronchopneumonia, and the fourth case by meningitis. These three patients also died from pyemia. Langworthy urges resorting to immediate drainage in the treatment of these cases.

St. Louis Medical Review.

April 20.

23 Acute Pan-sinusitis as a Complication of Influenza. R. H. Johnston, Baltimore.
24 Prophylaxis and Treatment of Syphilis. A. Ravold, St. Louis.

Chicago Medical Recorder.

March 15.

25 *Sigmoid Sinus Thrombosis Without Conspicuous Mastoiditis. B. Holmes, Chicago.
26 Hypospadia, Epispadia, Vesical Exstrophy, Urethral Atresia, Ectopia Testis, Hydrocele Funiculi, Hermaphroditism, their Embryology and Clinical Importance. F. A. Leusman, Chicago.
27 *Ordinary and Unusual Diphtheria. C. G. Roehr, Chicago.
28 *Management of Scarlet Fever. H. Spalding, Chicago.

25. **Sigmoid Sinus Thrombosis.**—That sinus thrombosis may occur or be present in a patient who does not present the running ear, or the picture of mastoditis, is shown by Holmes, who reports a case of this kind as a sequel of scarlet fever. An operation was done successfully, and the patient made a complete recovery in three weeks.

27. **Diphtheria.**—Roehr advocates the use of the microscope in diagnosticating diphtheria, and advises giving large doses of antitoxin. In order to get rapid absorption and diffusion of the antitoxin, he dilutes it with normal saline solution. He says that 3,000 units in one quart of normal saline solution will give as good results in one-half hour as 20,000 units of undiluted antitoxin will give in six hours. The greater the concentration of the antitoxin the less rapid its absorption and diffusion. The fluid is injected subcutaneously or intravenously. Roehr reports four cases of diphtheria occurring in nurslings, the disease having been contracted from the mother.

28.—See abstract in The Journal, March 16, 1907, page 969.

Cleveland Medical Journal.

March.

29 *Early Diagnosis of Gastric Cancer. W. G. Thompson, New York.
30 *Study of One Hundred Cases of Paresis. H. H. Drysdale, Cleveland.
31 *Mediastinal Tumor. M. J. Lichty, Cleveland.
32 *Immediate Results of Conservative Operative Measures on Tubes and Ovaries. H. Robb, Cleveland.
33 *Direct Transfusion of Blood. G. Crile, Cleveland.

34 Foreign Body in Right Bronchus Removed by Aid of Bronchoscope. S. H. Large, Cleveland.
35 Foreign Body in Esophagus Removed by Aid of Esophagoscope. S. H. Large, Cleveland.

29. **Early Diagnosis of Gastric Cancer.**—Thompson summarizes the conditions which combine to make operation not only justifiable, but desirable, as follows: 1. The patient's age should be within the average cancer-developing period, for gastric cases, i. e., between 40 and 65 years. 2. There should be a rapid and decided loss of weight and strength, without other assignable cause, such as chronic gastric catarrh, neurasthenia, mental strain or worry, or chronic general disease, such as diabetes. 3. There should be evidence of some degree of stagnation of food contents in the stomach. 4. There should be failure to improve in marked degree under treatment, after a few weeks' trial. With these four conditions fulfilled, exploration should be seriously considered, despite the absence of gastric pain or other marked gastric symptoms. 5. A leucocytosis of from 12,000 to 16,000 with polynucleosis and a moderate secondary anemia, with low color index. 6. Decided dilatation of the stomach. With these two additional factors, operation is distinctly indicated. 7. Occasional attacks of vomiting, often without definite relation to food ingestion. 8. Occult or visible blood in the vomitus or stools. 9. Epigastric or right hypogastric rigidity and tenderness on deep pressure. The demonstration of hypoacidity or anacidity and the so-called carcinomatous cachexia are often wanting as early definite appearances, and are not always reliable.

30. **Paresis.**—Drysdale presents a complete study of 100 cases of paresis. It is evident that no two cases present the same clinical phenomena and that there does not exist during the developmental period any symptom that might be considered pathognomonic.

31. **Mediastinal Tumor.**—In the case reported by Lichty, the orthopnea the cyanosis, and the edema of the arms, face and neck, were in marked contrast to the pallor and emaciation of the other parts of the body. The skin on the entire body was rather mottled or purpuric, if not copper colored. It was easily irritated, so that the patient was tempted to scratch it constantly. The diagnosis was somewhat in doubt, although the conviction began to grow as the patient was failing rapidly in strength that sarcoma was the most probable cause of the trouble. At the necrospy there was found a large tumor, weighing perhaps one or two pounds, occupying all of the superior mediastinum, surrounding and compressing the afferent and efferent vessels of the heart and both bronchi. Microscopically, the specimen had the appearance of a round-celled sarcoma.

32.—See abstract in THE JOURNAL, March 23, 1907, page 1064.

33. **Direct Transfusion of Blood.**—Crile reports the results of his observations on the feasibility of direct transfusion of blood in pernicious anemia, leukemia, carcinoma, chronic suppuration, tuberculosis, pathologic hemorrhage accompanying jaundice, chronic hemorrhage from the bowel, surgical shock and a number of other conditions. The therapeutic results are grouped into three classes: positive, negative and undetermined. Among the positive results is transfusion in acute hemorrhage, which is apparently final. In pathologic hemorrhage it has proved positive in improving the patient's immediate condition, and in most instances wholly controlled the hemorrhage itself. In shock its value seems far greater than any other remedy which he has hitherto employed. From the experimental standpoint it seems to be the most effective treatment of illuminating gas poisoning. Among the negative results are transfusion in pernicious anemia, leukemia, carcinoma, strychnin poisoning and diphtheria toxemia. Among the undetermined results may be mentioned chronic suppuration with its attendant debility and anemia, tuberculosis and the acute self-limited infectious diseases.

Of the seventeen clinical cases, all were technically successful. In every instance the donce experienced a heightened vitality, and in the absence of serious organic disease the patient became buoyant, even jocose. Some had chills during transfusion or soon after, and a majority showed some febrile reaction later. In the case of serious disease, such as suppuration, pernicious anemia, leukemia, the improvement in the blood picture was not maintained, as in patients having no serious disease or infection. Preliminary notes on this subject were published in THE JOURNAL, July 21, 1906, page 189, and Nov. 3, 1906, page 1482.

Colorado Medicine, Denver.
March.

36 *Hemorrhagic Pancreatitis. O. P. Johnstone, Boulder.
37 Treatment of Neurasthenia. B. Oettinger, Denver.
38 *Bradycardia in Appendicitis. M. Kahn, Leadville.

36. **Hemorrhagic Pancreatitis.**—Johnstone reports four cases of hemorrhagic pancreatitis in which the common bile duct and the pancreatic ducts had separate openings. All the cases terminated fatally and a complete postmortem was made in each case.

38.—This article appeared in THE JOURNAL, Dec. 15, 1906, page 2011.

New York State Journal of Medicine, Brooklyn.
March.

39 *Vulvovaginitis in Children. J. R. Goffe, New York.
40 *Scratching as a Factor in the Etiology, Symptomatology and Treatment of Skin Diseases. E. W. Ruggles, Rochester.
41 *Radical Treatment of Middle-Ear Caries. G. F. Cott, Buffalo.
42 *Pronation of Foot.. J. M. Berry, Troy.
43 Typhoid: What Are We Going to Do About It. S. H. Adams, New York.
44 Medical Charities of Manhattan and The Bronx. F. L. Lattimore, Philadelphia.
45 History of the Medical Society of the State of New York. J. J. Walsh, New York.

39. **Vulvovaginitis in Children.**—Goffe reviews this subject generally, and urges a campaign of education to prevent the occurrence of this condition.

40. **Scratching in Skin Diseases.**—Ruggles comments on the rôle played by scratching in the production and continuance of skin diseases, and urges that to treat such cases successfully it is necessary to employ measures which will take the patient's mind away from the desire to scratch. That is, abstinence from scratching is the real therapeutic measure; without it the skin disease will persist indefinitely.

41. **Radical Treatment of Middle-Ear Caries.**—Cott urges the institution of radical treatment of caries of the middle ear, and presents a résumé of 62 cases.

42. **Pronation of Foot.**—Berry calls attention to the fact that pronated foot is the first stage of a progressive weakness and deformity; that it is often overlooked or neglected, and that it can readily be relieved by proper treatment. It is necessary, first, to correct the tendency to deformity, and second, to strengthen the foot, thus curing the tendency to deformity. The use of a brace and a well-selected course of gymnastics are the means employed in the treatment.

Yale Medical Journal, New Haven.
March.

46 *Influence of Flesh Eating on Endurance. I. Fisher, New Haven.
47 Lumbar Lordosis. M. S. Marcy, Peoria, Ill.
48 *Liquid Air in Dermatology. J. D. Gold, Bridgeport, Conn.

46. **Influence of Flesh Eating on Endurance.**—Fisher's experiments indicated that the users of low proteid and non-flesh dietaries have far greater endurance than those who are accustomed to the ordinary American diet. Of the three groups compared, the large flesh eaters showed far less endurance than the abstainers, even when the latter were leading sedentary lives.

48. **Liquid Air in Dermatology.**—Gold says that there is no doubt that liquid air is of decided benefit and that a cure with superior cosmetic effects in pigmented nevi, warts and vascular nevi may be affected with less pain and fewer applications than with caustics or electrolysis. In epithelioma it is of doubtful use. In lupus erythematosus the results obtained have been so encouraging, he states, as to warrant a further trial of the agent.

Texas State Journal of Medicine, Fort Worth.
March.

49 Physical Examination of Railway Employés. J. T. Moore, Galveston.
50 *Intussusception. W. W. Lynch, Midland.
51 Traumatic Affections of the Crystalline Lens. J. O. McReynolds, Dallas.

52 *Value of Gastric Analysis in Treatment of Indigestion. W. G. Cook, Fort Worth.
53 *Use of Oxychlorid of Copper by Cataphoresis in Treatment of Granulated Lids. W. B. Anderson, Brownwood.
54 *Case of Hydropyonephrosis Which Required Both Nephrotomy and Nephrectomy. H. A. Barr and L. Goldstein, Beaumont.
55 Resection of Knee Joint With Reports of Cases. F. Paschal, San Antonio.
56 Collargolum. I. L. Van Zandt, Fort Worth.
57 Ideal Cholecystotomy. J. H. Smart, Dallas.
58 President's Address of Dallas County Medical Society. A. W. Carnes, Hutchins.

50. **Intussusception.**—Lynch reports a case of intussusception which illustrates the difficulty of making a correct diagnosis at an hour sufficiently early to overcome a fatal issue. He concludes his paper as follows: 1. In some cases of intussusception pathognomonic signs may not appear until it is too late for a successful result through laparotomy. 2. A laparotomy would be easy if done in the early hours of the disease, before much swelling occurs, adhesions form, or the bowel becomes gangrenous; and that the risk could not be much greater than in an ordinary laparotomy under the same aseptic precautions. 3. Forty-eight hours, or even twenty-four hours, can not with safety be set as a time limit for the beginning of a radical procedure in the face of an improvement, or the failure of relief by other means. 4. The excessively high mortality in intussusception is due, in most part, to late surgical interference. 5. Only low invaginations are likely to be reduced by hydrostatic pressure, and it should only be tried in the very early hours of the disease, and in some invaginations, especially high ones, it may be misleading and harmful in that class of cases in which improvement is apparent; and a second paroxysm is certain if reduction is incomplete. 6. All patients with intussusception should be operated on in the first twelve or sixteen hours of the disease when a diagnosis is possible, and it is not certain that reduction has been accomplished by other means. 7. In any form of obstruction, except fecal impaction, when there is a doubt in diagnosis, an exploratory laparotomy should be advised. 8. In proper hands and with the proper technic an early exploration in the acute obstructions would increase the chances of recovery in all these conditions (except fecal impactions), and reduce the mortality of intussusception to a minimum.

52. **Value of Gastric Analysis.**—Cook says that together with the history, symptoms and physical examination, gastric analysis gives additional information by which we are able to make clear the clinical picture, place the case in its proper class and institute a logical and rational method of treatment.

53. **Oxychlorid of Copper by Cataphoresis.**—Anderson uses this agent in the treatment of granulated lids in lieu of the sulphate of copper pencil. The oxychlorid is liberated by electrolysis in the application to the reverted lid of a copper electrode. It shortens the time of treatment; there is not much loss of epithelium; the intervals between treatments may be greater and the results are more permanent than from the use of the sulphate.

54. **Nephrotomy and Nephrectomy.**—The patient whose case is reported by Barr and Goldstein is alive and well, eighteen months after the operation.

University of Pennsylvania Medical Bulletin.

February.

59 The Making of a Museum of Applied Anatomy. G. G. Davis, Philadelphia.
60 *Comparative Antiseptic Power of Salicylic Acid and Its Salts. H. C. Wood, Jr., Philadelphia.
61 *Studies from the Bacteriologic Laboratory. H. Fox, Philadelphia.
62 *Effect of Light on the Development and Staining of Ova in Eosin Solutions. L. P. Shippen.

60. **Antiseptic Power of Salicylic Acid.**—Wood found that although both the air bacteria and the pure culture of colon bacilli were destroyed after one minute's exposure to a 0.5 per cent. solution of salicylic acid, a 2 per cent. solution of sodium salicylate was ineffectual, even after two minutes' exposure. Strontium salicylate gave the same results as did sodium salicylate. The neutralization of benzoic acid gave the same results as salicylic acid. A 1 per cent. solution of sodium salicylate prevented the development of micro-organisms.

61. **Studies from Bacteriologic Laboratory.**—Fox records some observations made on three members of the Bacterium mucosus capsulatus group, and publishes a brief note on the effect of toxin and antitoxin injections on the phagocytosis of diphtheria bacilli.

62. **Effect of Light on Ova.**—Shippen summarizes his findings as follows: 1. Eosin inhibits the development of ova and injures the motility of gastrulæ and blastulæ, and in time kills them. 2. Light has an additional injurious effect on the development of ova and the motility of larvæ in eosin solutions, and shortens the life of the blastulæ and gastrulæ. 3. Certain parts of living organisms can be stained by eosin. It is very probable that the cells of living organisms which take up eosin are dead or dying. Eosin enables us therefore to recognize dead or dying cells in living organisms. It is, furthermore, of interest that cells which take up eosin may be entirely surrounded by a layer of living cells.

Journal of Infectious Diseases, Chicago.

April.

63 A Spirochete in Primary and Transplanted Carcinoma of the Breast in Mice. H. R. Gaylord, Buffalo. N. Y.
64 A Spirochete in Mouse Cancer. G. N. Calkins, Buffalo.
65 *Purpura Hemorrhagica with Generalized Infection with Bacillus Paratyphosus. E. R. LeCount and A. J. Batty, Chicago.
66 *Systemic Blastomycosis. E. R. LeCount and J. Myers, Chicago.
67 Comparative Study of Four Strains of Organisms Isolated from Four Cases of Generalized Blastomycosis. W. W. Hamburger, Chicago.
68 *Diphtheria. H. Albert, Iowa City, Iowa.
69 The So-called Physical Chemistry of Hemolytic Serum. W. H. Manwaring, Indianapolis, Ind.
70 *Trypanosomes of Mosquitoes and Other Insects. F. G. Novy, W. J. MacNeal and H. N. Torrey, Ann Arbor.
71 *Study of the Nature of Streptolysin. G. F. Ruediger, Chicago.
72 *Substitute for Potato as a Culture Medium. P. G. Heinemann, Chicago.

65. **Purpura Hemorrhagica.**—LeCount and Batty describe the clinical, bacteriologic and anatomic findings in a remarkable case of infection with the paratyphoid bacillus in a woman of 36. The clinical course appears to have run over a period of about two months. A prominent clinical feature was the appearance of bluish and purple blotches on various parts of the body. The autopsy showed hyperplasia of the intestinal lymph structures, mesenteric, retroaortic and iliac lymph glands and of the spleen; hemorrhages in the urinary tract, and in the kidneys large gray and grayish-red areas, especially in the cortex and about the bases of the pyramids. The bacteriologic examination resulted in the isolation of a paratyphoid bacillus. The areas in the kidney and the swelling of the lymphoid structures were found to be due to an accumulation of large endothelial cells, often with more than one nucleus. Accumulations of these cells were also found in various other organs. The process in the kidney resembled the acute interstitial nephritis that occurs in scarlet fever, but did not show the plasma cells characteristic of the latter.

66. **Systemic Blastomycosis.**—LeCount and Myers describe the termination and the postmortem findings of the case of systemic blastomycosis reported by Eisendrath and Ormsby in The Journal A. M. A., Oct. 7, 1905, p. 1045. This case concerns a man of 33, presenting the symptoms of generalized blastomycosis, with most pronounced localization in the skin, subcutaneous tissue and lungs, and in whom there developed, after some time, a gibbus opposite the fourth dorsal veretebra, with subsequent paralysis, death occurring two years and a half from the onset. After death there was found a blastomycotic bronchopneumonia, blastomycosis of the peribronchial lymph nodes, the pleura, retropharyngeal tissue, liver, kidneys, colon, dorsal vertebræ, spinal dura and cerebellum, elbow, knee and ankle joints, and also of the skin and subcutaneous tissue, in which there were ulceration, fistulæ and scars. In the cerebellum there was a conglomerate blastomycotic nodule, in which the organisms, present in large numbers in all the lesions, appeared to be reproducing themselves by sporulation. So far, sporulation has been regarded as not taking place in the tissues in blastomycosis, which differs in this respect from the coccidial disease of California, an outstanding feature of which is the large number of sporulating fungi in the tissues. In this case there was also a definite blastomycotic focus in a peribronchial lymph gland. The colon was the seat of certain remarkable nodules which the authors regard as blastomycotic, in spite of the failure to find in them blastomycetes. The case shows that as the

observations of systemic blastomycosis multiply, new anatomic localizations and other features are constantly being added to those previously recorded.

68. **Diphtheria.**—Albert's article deals with statistics and is not readily abstracted. It will, however, interest health officers, because it describes the method of the Iowa State Board of Health in dealing with the diagnosis and quarantine of diphtheria.

70. **Trypanosomes.**—This is an extensive study of the occurrence of trypanosomes in mosquitoes and other biting insects, the results being of great value in the study of the rôle of these insects as harborers of diseases due to flagellates.

71. **Streptolysin.**—Ruediger here presents additional facts concerning the nature of streptolysin, the complex substance produced by streptococci and able to cause laking of red corpuscles, extending the observations previously made by him. He shows that it is intimately associated with the globulins, from which it has not been separated. Various normal sera have marked antistreptolytic properties, but attempts to produce a specific antistreptolysin did not succeed.

72. **Substitute for Potato as Culture Medium.**—Heinemann's artificial potato medium is made as follows: Fifteen grams of agar are dissolved by heat in about 600 c.c. of water. To this is added 200 c.c. of a watery solution of

Asparagin	5 grams.
Dipotassium hydrogen phosphate	2 grams.
Disodium hydrogen phosphate	2 grams.
Magnesium sulphate	2 grams.
Calcium chlorid	2 grams.
Ammonium lactate	2 grams.

Ten grams of peptone are then added and the mixture filtered after the reaction has been made neutral with phenolphthalein. To this solution is added 30 grams of washed starch in suspension and the mixture heated to near the boiling point. The total should weigh 1,000 grams. The medium is now tubed, sterilized in the autoclave for five minutes at 120 C., and cooled in a slanting position. The advantages of this medium over ordinary potato are: Constant composition, adjustable reaction to suit various purposes, presence of starch and other substances found in potato in highly assimilable form.

International Clinics, Philadelphia.

73 Psychic Treatment of Some of the Functional Neuroses. L. F. Barker, Baltimore.
74 Recent Advances in Prevention and Cure of Tuberculosis. F. P. Gay, Hathorne, Mass.
75 Diagnosis and Treatment of Gastric Ulcer. D. Somerville, London, England.
76 Treatment of Functional Heart Disease. J. J. Walsh, New York.
77 Clinical Diagnosis of Enlargement of the Thymus. A. S. Warthin, Ann Arbor.
78 Functional Capacity of the Heart. G. W. Norris, Philadelphia.
79 Exhaustion and Toxemia as Underlying Factors in the Production of Neurasthenia, Hysteria and Delirium. T. Diller, Pittsburg, Pa.
80 Report of Two Months' Service at Bellevue Hospital. F. S. Dennis, New York City.
81 Neurotic Affections of the Joints. C. A. Morton, Bristol, England.
82 A Surgical Clinic. N. Senn, Chicago.
83 Opening of the Pleural Cavity Without Pneumothorax. T. Tuffier, Paris, France.
84 Disorders of the Umbilicus, with Special Reference to the Newborn and the Infant: Umbilical Infections. A. E. Gallant, New York City.
86 Intraocular Angiosclerosis and Its Prognostic and Diagnostic Significance. G. E. de Schweinitz, Philadelphia.
87 Hysterical Mutism. G. Hudson-Makuen, Philadelphia.
88 Treatment. A. A. Stevens, Philadelphia.
89 Medicine. D. L. Edsall and V. Nisbet, Philadelphia.
90 Surgery. J. C. Bloodgood, Baltimore.

Journal of the South Carolina Medical Association, Greenville.

March.

91 Postoperative Catharsis. A. B. Knowlton, Columbia.
92 Pathology and Therapy of Gallstones. J. A. Hayne, Greenville.
93 Appendicitis. G. R. Dean, Spartanburg.
94 Use of Ergot in Labor. J. H. Allen, Spartanburg.
95 Management of Typhoid. S. F. Blakely, Ora.

The Military Surgeon, Carlisle, Pa.

April.

96 Some Phases of Army Recruiting Work. H. I. Raymond, U. S. A., Columbus Barracks, Ohio.
97 Recent Views on Work of Medical Department in Naval Warfare. J. C. Wise, U. S. N.
98 Economical Plan for Consumptive Sanatorium, with Description of New Tent House. P. M. Carrington and J. R. Thomas, U. S. P. H. & M.-H. Service.
99 Case of Circumcision by a Dog Bite C. R. Browne, Falmouth, England.
100 Surgery at the First-Aid Stations. H. Nimier, French Army.
101 Medical Phases of the Maneuvers of the Ohio National Guard in 1906. E. C. Brush, O. N. G.
102 Sanitary Scuttle-butt. M. F. Gates, U. S. N.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

April 13.

1 *Surgical Forms of Ileocecal Tuberculosis. H. Hartman, Paris.
2 *Treatment of Surgical Tuberculosis. F. J. Steward.
3 *Vaccine Treatment of Tuberculosis in Children. C. Riviere.
4 *Influence of Antituberculosis Serum on the Opsonic Index. W. C. Bosanquet and R. E. French.
5 Relative Opsonic Power of the Mother's Blood Serum and Milk. E. Turton and R. Appleton.

1. **Ileocecal Tuberculosis.**—Hartmann is of the opinion that this form of tuberculosis occurs more frequently than is generally recognized, and that, moreover, when suitable treatment is followed, patients thought to be incurable may be cured. Hartmann has made seven resections for tuberculous disease, with only one fatality, and that occurred before 1900. In the hyperplastic form of cecal tuberculosis he advises resection. In the enteroperitoneal form, or when with a hyperplastic tuberculosis there is an extensive mass of adhesions, he says that the exclusion of the disease is indicated. Usually unilateral exclusion is sufficient. Hartmann reviews 229 cases reported in the literature.

2. **Treatment of Surgical Tuberculosis.**—At the conclusion of this paper, which deals with the subject in the usual manner, Steward reports a case of tuberculous disease of the right kidney and the bladder, in which all the usual methods were tried, without any sign of arresting the progress of the disease, and in which under treatment with tuberculin, apparently complete cure took place.

3. **Vaccine Treatment of Tuberculosis.**—Riviere has treated a number of cases of tuberculosis, such as tuberculous dactylitis, superficial abscess, tuberculous glands, tuberculous joint disease, psoas abscess, abdominal tuberculosis and phthisis, with tuberculin under opsonic determination. He believes that tuberculin is a most valuable remedy for such patients, especially if nutrition is not greatly impaired. With proper dosage a steady improvement occurs both in the local conditions and in the general health. Even the secondary infection lessens severity. He urges, however, that the treatment should be undertaken by none except those who have given it special study.

4. **Influence of Antituberculous Serum on Opsonic Index.**—From an analysis of five cases, Bosanquet and French conclude that a series of daily doses of Marmorek's antituberculous serum will, when administered by rectum, usually produce a rise in the tuberculo-opsonic index. This rise begins after the first three or four doses and soon reaches a maximum, close to which the index remains for three or four weeks, while serum is being given, and does not fall till nearly a week after injections have been omitted. This rise in the opsonic index is coincident in some cases with an improvement in the general condition of the patient and a diminution of the diurnal variation of the temperature. Subcutaneous injections of the serum do not seem to have such a good effect.

The Lancet, London.

April 13.

6 *Increase of Insanity. G. H. Savage.
7 Pathology of Melanotic Growths in Relation to Their Operative Treatment. W. S. Handley.
8 Notes on 130 Consecutive Extractions of Cataract Without a Failure. C. Higgens.
9 *Successful Treatment of Tuberculosis and Leprosy. S. F. Wernich.
10 Five Cases of Inguinal Bubo. G. H. Colt.
11 Treatment of Prostatic Congestion by Electric Methods. J. S. Bolton.
12 Roentgen Rays in the Treatment of Ulcerative Blepharitis. T. L. Bunting.
13 Case of Turpentine Poisoning. G. H. Coltart.

6.—See abstract in The Journal, April 27, 1907, page 1463.

9. **Treatment of Tuberculosis and Leprosy.**—Wernich publishes a preliminary note on the successful treatment of tuberculosis and leprosy by means of an albuminoid metabolic product, chemically altered, of a bacillus, discovered at Boshof,

Orange River Colony, in 1898, as a practically pure growth in an infusion of an herb that was suspected to contain an alkaloid. Thus far three classes of cases have been treated successfully, tuberculosis of the lungs and glands in the neck, tuberculosis of the skin, and leprosy. The material is administered by the mouth, air dried and pulverized, when the stomach is empty, and usually with a little sodium bicarbonate. The method of obtaining the powder used is described in full. The paper is to be continued in the next issue.

Journal of Tropical Medicine and Hygiene, London.

April 1.

14 Differential Leucocyte Count, with Special Reference to Dengue Fever. A. Balfour.
15 *Onyalai, a Disease of Central Africa. A. Y. Massey.

15. **Onyalai.**—This is a disease that occurs among the blacks of Central Africa, and thus far has not been seen in the white race. The face usually is swollen and painful and there is bleeding from the mouth. Situated in the hard palate and buccal mucous membranes are vesicles distended with blood, ranging from a quarter to a half-inch in diameter. Usually, also, there is hematuria. The disease is regarded by the natives as very fatal, but Massey has treated a number of these patients with bicarbonate of soda in large doses, 40 grains, twice a day, and no fatalities have occurred.

Indian Medical Gazette, Calcutta.

March.

16 Cerebrospinal Meningitis. E. H. Brown.
17 Case of Typho-malarial Fever. C. A. Gill.
18 High Rate of Infantile Mortality in the Chingleput District. J. C. Marsden.
19 Albumosuria and Duration of Albuminuria in Cholera. U. N. Brahmachari.
20 Rheumatism. R. P. Banerjee.
21 Unusual Cases of Ovarian Cyst. N. J. Wanless.
22 Transplantation of the Cornea. E. J. O'Meara.
23 Aneurism of the Common Carotid Artery. O. St. J. Moses.
24 Extraperitoneal Transplantation of Ureters into the Rectum. V. T. Armugam.

Glasgow Medical Journal.

April.

25 *Histologic Diagnosis of Endotheliomata. W. S. Lazarus-Barlow.
26 *Blue Pigmentation of the Tympanic Membrane. J. K. Love.
27 Two Cases of Eye Injury Caused by Burning: Result of Operative and Other Treatment. J. Rowan.
28 Value of Tuberculo-Opsonic Index in Diagnosis. E. T. Fraser.
29 Two Cases of Strangulated Ovarian Tumor, with Symptoms Suggestive of Other Conditions. J. Weir.

25. **Endothelioma.**—During a period of four years Lazarus-Barlow examined microscopically a large number of malignant tumors, of which endothelioma consituted 8 per cent. of the malignant diseases of the tongue, 10 per cent. of the uterus, 10 per cent. of the breast, 10 per cent. of the liver and bile passages, and 7 per cent. of the malignant diseases primarily affecting bone.

26. **Blue Pigmentation of Tympanic Membrane.**—Love has seen half a dozen cases in which the tympanic membrane was discolored in the manner so often seen when gunpowder is ingrained into the skin as the result of an explosion. This pigmentation was associated with deafness or tinnitus, and with thickening or alteration in the curve of the drum membrane. The pigment was on the inner side of the membrane and, therefore, must have reached it through the Eustachian tube.

Dublin Journal of Medical Science.

April.

30 Our Debt to Ireland in the Study of the Circulation. G. A. Gibson.
31 Current Theories of Aphasia. F. C. Purser.
32 Color Vision. J. C. Pretorius.

British Journal of Children's Diseases, London.

March.

33 *Protection of Rheumatic Children. C. O. Hawthorne.
34 Ancient and Modern Methods of Treating Infantile Diarrhea. W. Lauzun-Brown.
35 *Occurrence of Goiter in Parent and Child. E. Jones.

33. **Protection of Rheumatic Children.**—According to Hawthorne, the one influence on which we can depend for the prevention of heart disease in rheumatism is absolute rest so long as the rheumatic poison shows signs of activity.

35. **Goiter in Parent and Child.**—The child, in the cases reported by Jones, did not present any evidence of goiter until she was nearly 6 years of age, when the mother noticed a fulness in the neck that had increased fairly rapidly at first and then more slowly. Except that there was no pulsation, the tumor was identical with the goiter of exophthalmic goiter. Under treatment with thyroid extract, the tumor began to shrink, until after about ten weeks, the thyroid became of about normal size, and it has remained so ever since. No other treatment was employed, beyond attending to the general hygiene of the patient. The mother of this patient had had a goitrous swelling, evidently an adenoma, for about eight years.

Gazette des Maladies Infantiles et d'Obstétrique, Paris.

36 (IX, Nos. 1-4, pp. 1-32.) Efficacy of Caffein in Choreiform Crises in a Child. (Crises chor. calmées par la caféine.) Variot.
37 *Incipient Epilepsy in Children. (Epilepsie chez les enfants.) Nageotte.
38 *Dangers of Lack of Sufficient Food for Infants. (Inanition chez les nourrissons.) Variot.
39 *Hypnosis for Onanism in Children. (Onanisme.) Régis.
40 * Antiseptic Measures After Delivery. (Soins antisept. après l'accouchement.) J. Lucas-Championnière.
41 *Training of School Children in Preventive Antisepsis of the Nose and Throat. (Utilité de l'antisepsie préventive.) Weber.
42 Hyperostosis of Lower End of Humerus as Cause of Ankylosis of Elbow. (Ankyloses du coude.) G. Berne.
43 (Nos. 5-6, pp. 33-48.) *Intermittent Albuminuria. (Albuminuries intermittentes.) H. Gillet.
44 *Epistaxis the Clue to a Particularly Insidious Form of Hemorrhagic Purpura. (Maladie de Werlhof.) E. Escat.
45 Treatment of Influenza in Children. (Grippe chez l'enfant.) H. Gillet.

37. **Epilepsy in Children.**—Nageotte describes various manifestations of incipient epilepsy in children. They were observed almost invariably after some severe acute infection which had evidently induced a slight encephalitis. The majority of such children recover completely in time. A child may become an idiot or may present hemichorea after an attack of whooping-cough, and this masked epilepsy belongs in this same category. In one case a child of 5 seemed frequently startled. Whatever she was doing she stopped at times for a moment and then went on. No one noticed this at the time, but gradually epileptic seizures followed. They yielded to doses up to 2 gm. (grains xxx) of bromids, and the child is now well. She had previously passed through several infectious diseases. Another child, a girl, had suffered from enteritis and scarlet fever, and it was noticed that she grew absent-minded at times in her play. An epileptic seizure gave the alarm, and recovery was soon complete under the bromids. In this child the knee jerk was absent, but she was unusually intelligent. A third type of incipient epilepsy assumes the form of spells of anger; the child throws himself on the ground, the eyes open. In one such case, by the end of a week the eyes had a haggard expression and an epileptic seizure occurred. This type, Nageotte states, also subsides as a rule under the bromids. There is no loss of consciousness in these early manifestations of epilepsy, the trouble being more choreiform in character. The fact that the tongue is not bitten does not exclude epilepsy. Incontinence of urine at night may be an accident, but more often it is a nocturnal seizure. Comby believes that essential epilepsy is very rare; as a rule, the trouble can be traced to some preceding acute infection.

38. **Dangers of Insufficient Nourishment for Infants.**—Variot asserts that an infant should take one-seventh of its weight as its daily ration during the first few months. As there is not much difference in the amount of calories in human and cow's milk, the amount of each should be about the same. Defectively developed infants require even more food than the healthy in proportion. He has made a practice of watching the development of infants on a certain ration, and has thus established the average ration of one-seventh of the weight. With less than this the infant suffers from insufficient nourishment. In one case an infant vomited and was losing weight. The mother had very little milk. He gave the child sodium citrate to stop the vomiting and doubled the amount of milk, going from 300 to 600 gm. (9 to 18 ounces), and the child began to thrive at once. Loss of weight and vomiting are among the signs of insufficient nourishment, but this subject of inanition in infants has not yet received the attention it deserves.

39. **Hypnotism in Treatment of Onanism in Children.**—Régis relates 2 cases in children of 6 and 9, both addicted to almost

incessant masturbation for 2 or more years. After failure of all other measures, perseveringly applied, suggestion under hypnosis cured the younger child, a girl, but the boy resisted even this. Mechanical measures had been tried by the parents for a long time, and Régis thinks that these are directly injurious, accentuating the tendency and rendering it more chronic.

40. **Antisepsis After Accouchement.** — Lucas-Championnière orders that the vulva should be bathed with a hot and strong solution of 50 gm. (℥iss) carbolic acid, with the same amount of glycerin, in a liter of boiled water. In case of any excoriation the following salve is applied: 100 gm. (℥iii) vaselin; 10 gm. (ʒiiss) boric acid, and 1 gm. (15 grains) balsam of Peru. The vulva is then covered with a compress dipped in a weak solution of carbolic acid, and wrung nearly dry. The toilet is repeated morning and evening with this hot, weak carbolic acid solution except in case of severe vulvar lesions, when a small quantity of a stronger solution can be used.

41. **Systematic Preventive Antisepsis for School Children.**—Weber states that for some time he has been applying the principle of preventive antisepsis of the nose and mouth as a routine measure in his private practice. He here advocates it on a large scale for children in school, saying that the benefits in private practice have been established beyond discussion. He reviews the arguments in favor of the assumption that all the acute eruptive fevers are essentially a lymphangitis. Glandular affections in the neck can often be traced to an apparently insignificant follicular tonsillitis, and the mouth of Stenson's duct shows a reddish circle in case of mumps, resembling the aspect of a stitch-hole abscess, and having the same significance. "How frequently," he remarks, "do we observe an ordinary cold develop; then comes sore throat, followed by a tracheo-bronchitis, and, later, a tuberculous process in the lung." "Daily antisepsis of the upper air passages may ward off all these bacillary infections." He, therefore, urges study of the most practical means to accomplish this end, suggesting that great benefit would certainly follow if school children were trained to wash their hands with soap before taking their places in school, as the hands are the usual vehicle of the "living dust." Each child should also be trained to introduce into each nostril a small amount of some antiseptic salve, and also to gargle with some good antiseptic or to suck an antiseptic tablet, possibly with sulphur for the base.

43. **Intermittent Albuminuria.**—Gillet discusses the albuminuria observed without other signs of nephritis. It may be the result of some lesion in the kidney, but the prognosis, he states, is essentially favorable. The absence of tube casts and of arterial hypertension is a special feature of this form of albuminuria. The unimpaired permeability of the kidney and the arterial hypotension are prominent characteristics of this form, as likewise, although less important, the orthostatic and intermittent character of the albuminuria.

44. **Epistaxis as First Sign of Hemorrhagic Purpura.**—Escat describes 4 cases of hemorrhagic purpura which developed with a peculiarly insidious chronic and latent course, recurring epistaxis being the only sign to attract attention. This should always compel examination of the body of a child in search for ecchymoses, as the purpura is liable to develop unsuspected. In the cases of death from recurring epistaxis on record, many of the children may have been affected with this unsuspected form of this disease. In one of the 4 cases described the patient was a lad of 15 who had had severe epistaxis several times a day for a month. The physician had tamponed the nose and a rhinologist had cauterized the nasal mucosa, but no one had made a general examination. Escat found the body covered with "bruises," as the boy called the numerous ecchymoses observed for several weeks. He was small for his age and intensely anemic, the skin was shiny, with a grayish pallor and greenish reflections, but the boy had no fever or other general symptoms. Long cotton wicks, dipped in 1/5,000 adrenalin were inserted in each nostril and renewed every 12 hours, while 2 gm. (30 grains) of calcium chlorid was given internally. The patient soon recovered under this treatment. The history of another case in a girl of 10 was about the same. The third patient was a child of 3, and epistaxis had recurred two or three times every day, as a rule, during 15 months. The petechiæ observed occasionally were attributed by the parents to bruises. The fourth patient was a child of 6 with recurring severe epistaxis; the mother stated that for three years she had noticed a tendency to extensive ecchymosis on the slightest contusions. The child had an extraordinary appetite, and the mother stated that during her childhood she had been subject to the same tendency to ecchymosis on the slightest provocation. Escat suggests that the chronic character of the purpura in these cases seems to show a close connection between hemorrhagic purpura and hemophilia. Further research will throw light on the question, especially if greater attention is paid to the latent and "walking" forms of hemorrhagic purpura. Rhinologists, especially, should be on the alert to detect it when consulted for recurring epistaxis.

Presse Médicale, Paris.

46 (XV, No. 22, pp. 169-184.) Legislation in Regard to Reform of Medical Education. (Documents officiels.)
47 Technic of Total Vulvo-perineal Colpo-hysterectomy. (Op. de Schuchardt-Schauta.) R. Proust.
48 Clinical Examination of Scapular Region. (Régions scap.) P. Desfosses.
49 Mercurial Stomatitis. (Stom. merc.) M. Letulle.
50 (No. 23, pp. 185-192.) *Cancer of the Pancreas and Diabetes. (Cancer massif du pancréas et diab.) A. Brault and P. Ameuille.
51 *Electric Ionization in Sclerosis and Ankylosis. (Sclérolyse ionique.) P. Desfosses and A. Martinet.
52 Cause of Error in Tests for Albumin. (Recherche de l'albumine.) L. Deval.
53 (No. 24, pp. 193-200.) Surgical Treatment of Fractures of Lower End of Humerus. (Fract. de l'extrémité inf. de l'humérus.) J. Huchet.
54 Prophylaxis of Intestinal Trouble in Infants. (Elévage au biberon.) P. Londe.
55 Diet in Measles. (Régime dans la rougeole.) L. Ramus.
56 (No. 25, pp. 201-208.) Medical Notes from the Battle of Mukden. (Guerre Russo-Jap.) J. J. Matignon.
57 Intoxication from Sodium Salicylate in Children. (Intox. par le salicylate de soude.) A. Martinet.

50. **Cancer of the Pancreas and Diabetes.**—Brault reports a case in which the diagnosis wavered between total cancerous degeneration of the pancreas with symptomatic glycosuria, and cancer with coexisting or preceding diabetes. Autopsy showed that the first assumption was probably correct. The amount of sugar in the urine ranged from 115 gm. to 340 gm., but averaged 150 gm. toward the last, finally subsiding gradually to zero just before death. The patient was a hearty eater, and this is the probable explanation of the glycosuria observed.

51. **Ionization in Treatment of Ankylosis and Sclerosis.**—Desfosses has had much success in the treatment of ankylosed joints by means of electric ionization. His experience confirms that of other workers in this line, demonstrating the superiority of the method to massage and other measures in respect to the resolution of ankyloses. The most efficient substances to date in his experience have been a 2 per cent. solution of sodium chlorid or sodium salicylate. The best results have been obtained with electrodes covering a space of 100 or 200 sq. cm. with a current ranging from 50 to 80 milliamperes, and the sitting lasting for half an hour to an hour. The ankylosis seems to be most readily influenced when of traumatic origin; next in order come the post-infectious ankyloses and last the post-rheumatic. The cathode is applied to the part to be treated. He adds further that cicatrices from burns are effectually influenced by ionization and that the pain of a sprain is reduced.

Archiv. f. Kinderheilkunde, Stuttgart.

58 (XLV, Nos. 1-2, pp. 1-160.) Roentgenoscopy of Bone Affections in Infants with Inherited Syphilis. (Roentgenoscopie von Knochenaffectionen.) O. Reinach.
59 Bacteria Most Frequently Normally Encountered in Child's Mouth, and the Changes Induced by Them. (Bact. in der Mundhöhle des Kindes.) T. Oshima.
60 *Water Treatment of Membranous Croup. (Hydriatik des Croup.) J. Sadger.
61 (Nos. 3-4, pp. 161-320.) *Rational Feeding of Children from Birth to Age of 2 Years. (Rationelle Kinderernährung.) H. Klose.
62 Expert Report on Milk Treated with Trypsin and Lab. (Ueber "Backhausmilch.") Landmann.
63 (Nos. 5-6, pp. 321-484.) *Gastrointestinal Hemorrhage in the New Born. (Melaena neonatorum.) W. P. Shukowsky.
64 Herpes Zoster in the Eyes of a Child. (Herpes zoster ophthalmicus.) J. M. Rachmaninow.
65 *Deaths in Chorea. (Todesfälle bei Chorea.) Id.
66 *Tumors in Cerebellum in Children. (Kleinhirngeschwülste.) T. Oshima.

67 Albumin Content of Infants' Stools. (Eiweissgehalt.) Id.
68 *Functional Disturbances of the Heart in Scarlet Fever. (Functions-Störungen des Herzens bei Scharlach.) J. W. Troitzky.

60. **Water Treatment of Membranous Croup.**—Sadger reviews he history of hydrotherapy of membranous croup, many reiarkable cures having been reported by various writers, comiencing with Harder in 1821. The aim seems to be to induce owerful revulsion by sudden douches with cold water, and he rges the revival of the method. Winternitz believes that there ; a paresis of the posterior crico-arytenoid muscles which can e conquered by a powerful reflex thermic and mechanical timulus affecting the respiration center. He reports 4 cases n which this treatment was successfully applied. The body vas rubbed with sponges dripping with water at 10 C. (50 F.) or 6 minutes. While this was being done the head and back f the neck were repeatedly douched with cold water from a eight, with packs in the interim, until pulse and temperature vere nearly or quite normal. Bartels of Kiel has applied the vater treatment in a number of severe cases with great benet, as an adjuvant to intubation or tracheotomy. In case the emperature is low, the child is placed in a warm bath before eing given the cold douche. In the cases reported large mounts of the false membrane were coughed up and expelled hrough the tracheotomy opening. Sadger in conclusion quotes 'riessnitz' saying that "water treatment takes character." 'his applies to the physician as well as to the patient, and alf-hearted measures do more harm than good. One writer eported that in 10 years of experience with water treatment ll his 28 little patients with membranous croup recovered under t. He repeats the douche whenever the breathing becomes ifficult and the croupy cough recurs. In the severest cases, vith much fever, he cools off the body by sponging before he ttempts the douche. The latter can then be applied without ear, he says. The cold water must be douched suddenly over he head, then over the back of the neck. This causes such a hock that the child takes sudden, deep inspirations and struggles. At first he repeated the douches every hour, in very evere cases, leaving the child in the water for 10 minutes durng the first 2 or 3 douches. After the fifth or sixth douche he child is generally so much improved that it asks for food. After each douche the child generally falls into a refreshing leep. The full details of the older writers on this subject are given *in extenso*, and Sadger adds that the re-introduction of ıydrotherapy in the treatment of croup will certainly increase he proportion of recoveries.

61. **Rational Feeding of the Child from Birth to Two Years Old.**—Klose's article won the prize presented by the Soc. Scienifique d'Hygiène Alimentaire et de l'Alimentation rationelle de 'Homme à Paris. It presents in detail and in tabulated form he principles of infant feeding followed in Koht's service at he clinic for children's diseases at Strasburg, and the results bserved. He compares them with those obtained elsewhere. The Theinhardt and Biedert mixtures are used as adjuvants to nother's milk in some cases. The infant mortality at Strasurg is about 19 per cent.

63. **Gastrointestinal Hemorrhage in the New Born.**—Shukowky has observed 29 cases in his own practice. He reviews he history of the subject and states that in 18 of his cases he hemorrhage was rapidly fatal. Gelatin proved promptly uccessful in certain cases, but it failed completely in the cases f acute hemorrhagic gastroenteritis and of syphilitic dyscrasia. Even the apparently most desperate cases may suddenly take turn for the better. Mercurial treatment is indicated on susicion of syphilis. He has witnessed recoveries under chlorid f iron, one drop in a teaspoonful of gruel, milk or sweetened vater. Some authorities give it every half-hour, others give ne-fourth or one-half drop in water every five minutes. In ne case a well-developed child, free from trauma or syphilis, assed bloody stools and vomited blood. The abdomen was loated, the temperature high. Gelatin was administered withut effect, and lavage of the stomach was then resorted to. The stomach was rinsed out with cool physiologic salt soluion (54 F.) three times, with a few minutes' interval. The effect was astonishing in this as in a second similar case. Vomiting ceased at once and the children went to sleep and did not wake for twelve or fourteen hours. The stomach was rinsed out again when they woke, and the intestines were flushed with the cool salt solution at each lavage. He had been impressed with the idea of a possible gastrointestinal infection in such cases by the discovery of acute hemorrhagic enteritis in some of the children who had previously succumbed. The coolness of the fluid used in the lavage has a tendency to reduce the supply of blood in the parts. The remarkable promptness of the effect in both these severe cases was impressive. It removed from the gastrointestinal tract the decomposing masses of blood and the bacteria and toxins contained in them. The discovery of severe inflammatory gastrointestinal processes as a not infrequent finding in infants only a few days old justifies prompt lavage of the stomach and intestines in severe cases of melena in the new-born. Autopsy of 4 of the infants revealed extensive hemorrhages elsewhere, but none in the stomach or intestines, although a quantity of blood had been swallowed. In the 14 other fatal cases, autopsy in 12 revealed syphilis, tumor formation, hemorrhagic pneumonia, or hemorrhagic inflammatory processes in the stomach and intestines. Examination of the clots obtained by lavage in the 2 cases mentioned showed staphylococci and streptococci besides other micro-organisms. No medical measures were attempted in one of these cases beyond the lavage.

65. **Two Fatal Cases of Chorea.**—The 2 patients were girls of about 12, and the disease came on abruptly, with extremely violent motor agitation, high fever with unconsciousness, hemiplegia and death in 6 and 13 days. In both cases there were evidences of recent endocarditis and acute enlargement of the spleen, tending to show that death was due to some general infection. Opportunity for infection was obvious in numerous erosions observed on the body. The 2 cases occurred within five months of each other, and were the only fatal cases of chorea known in 175 cases of chorea observed at Moscow for many years. The brain substance was soft, scattered with drops of blood, but no inflammatory focus could be detected.

66. **Tumor in Cerebellum in a Child.**—Oshima's patient was a girl of 6 who gradually exhibited symptoms of a tumor in the brain, pain in the back of the head, accompanied by vomiting, evening and morning, such as is frequently observed with tuberculous meningitis. Loss of consciousness, disturbance in vision to actual blindness, grinding of the teeth, uncertain gait, apathy, loss of appetite and emaciation were the principal manifestations. A large tubercle was found in the cerebellum, with two smaller ones in the cerebrum.

68. **The Heart in Scarlet Fever and Under Serum Treatment.**—Troitzky accepts as established the theory that the heart is affected constantly in case of scarlet fever, feeling the influence of the scarlet fever sepsis or of its products from the first rise in temperature until convalescence passes into complete recovery. The intensity of the epidemic and the severity of the disease do not seem to have any direct, immediate influence on the intensity of the functional disturbance. Although these functional disturbances are not directly dangerous, yet in time they are liable to induce in the child's organism such deviations from the normal as to interfere decidedly with physiologic, physical and mental development. The murmur at the apex and arrhythmia of various kinds are the signs of the functional disturbances most commonly observed. Subcutaneous administration of serum induces abrupt changes in the sphygmographic tracings showing unmistakable changes in the action of the vascular system. Only 23 of the 43 patients in his service recovered in the last epidemic. The ages of the patients ranged from 9 months to 13 years. In the fatal cases arrhythmia was pronounced, the pulse being highly irregular and thready. The signs of congestion in the skin and mucosæ grew more and more pronounced, and the children died in coma. Study of the cases with a favorable termination showed that the pulse was monocrotic, sometimes dicrotic or hyperdicrotic, the arterial pressure corresponding to the age of the child. After injection of serum, the pulse was always monocrotic, irregular, uneven and the blood pressure rose a little. He regards this as indicative of acute transient relaxation of the vessel walls. After the serum has been absorbed the pulse returns to its previous condition, but with low waves, and the blood pressure remains high.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed, page 1386.

69 (XXXI, No. 7, pp. 201-232). *Cure of Melena in a New-Born Infant under Gelatin. (Melaena neonatorum.) G. Schubert.
70 Reply to Kock's Article in No. 50 on Development of Sexual Organs. (Reste des Wolff'schen Ganges beim Weibe.) R. Meyer.
71 Cysts of Gartner's Duct. (Cysten des G. 'schen Ganges.) L. Tarsia.
72 *Bumm's Operating Table. (Op.-Tisch.) W. Liepmann.
73 (No. 8, pp. 233-256.) Decidual Reaction of Maternal Connective Tissue and Vessels in Case of Tubal Pregnancy. (Deciduale Reaktion des müt. Bindegewebes und der Gefässe.) O. v. Franqué.
74 Three Operations for Atresia of the Vagina with Cesarean Section in the Last Interval. (1, Atresia vaginæ; 2, künstliche Bildung der Scheide; Schwangerschaft; konservativer Kaiserschnitt; 3, Herstellung der Scheide sub partu.) A. A. Muratow.
75 (No. 9, pp. 257-280.) Pyometra in the Congenitally Closed Half of a Double Uterus. (Uterus duplex.) M. v. Holst.
76 Extrauterine Pregnancy Simulating Tuberculosis of Peritoneum and Adnexa. (Extra-uterin-Gravidität.) K. Lassaud and A. Wertheim.
77 *Suggestion to Make an Artificial Vagina Out of Lowest Part of Ileum Still Connected with Its Mesentery, but Otherwise Isolated. (Op. bei völligem Mangel der Scheide.) Häberlin.
78 Intrauterine Cry. (Intraut. Kindesschrei.) R. Blumm.
79 (No. 10, pp. 281-304.) *Classification of Contracted Pelves and Prognosis in the Different Forms. (Einteilung des engen Beckens.) K. Baisch.
80 *Prophylaxis and Treatment of Headache after Spinal Anesthesia. (Kopfschmerz nach lumbaler An.) Offergeld.

69. **Gelatin Treatment of Melena in Infants.**—The mother of the infant in the case reported was a primipara with moderately contracted pelvis. The child, a male, was delivered with forceps after 36 hours of labor. He was asphyxiated, but soon revived, and seemed to be perfectly healthy until the fourth day, when slight icterus developed, and he vomited fluid and coagulated blood twice. Ten c.c. of a 2 per cent. solution of gelatin was injected under the skin on each side of the back. The child vomited blood again and passed blood in its stool and the same injection was repeated toward night. The next day there was no vomiting, but the stools were blackish, and 10 c.c. of the gelatin solution was injected again about noon on the fifth day, after which the child developed and nursed normally. During the period of melena he was kept in an incubator as his temperature was subnormal. He weighed 2,770 gm. at birth, and 2,860 gm. by the twenty-sixth day.

72. **Operating Table.**—Bumm's table is distinguished by its simplicity. The end of the table is raised or lowered by means of an oil pump worked by a pedal. The piston of the pump and a single leg at the head of the table are its only supports. Its chief advantage is claimed to be that the field of operation can always be adjusted at the same level.

77. **Artificial Vagina Made from Loop of Ileum.**—Häberlin discusses the present measures for making an artificial vagina in case of complete absence of a normal vagina, and describes a case in which the best efforts failed to produce a permanent vagina and in which a wife was divorced on this account. As cases of the kind are rare, he urges those who have the opportunity to try a new technic which he suggests, and presents a number of arguments that theoretically establish its usefulness. A recess is made in the perineum for the new vagina. The abdomen is then opened and a piece of the lower part of the ileum was resected for about 15 or 20 cm. (8 or 9 inches). The intestine is then reunited. The central end of the resected portion is then sutured, the distal end is closed with a clamp, and the whole is pushed down past the bladder until it emerges in the opening in the perineum. The cervix is implanted in a side opening into the resected intestine. In case of total absence of the uterus the resected portion is merely drawn down into the recess made for it and is sutured to the outer opening. The abdomen is then sutured and the new vagina drained. In experiments on the cadaver and in other operations in the clinic, Häberlin has tested the stretching power of the mesentery of this part of the intestine, and has found that it will stand extreme traction without interference with its vitality.

79. **Classification of Contracted Pelves.**—Baisch writes from Döderlein's clinic to urge classification according to the size of the true conjugate diameter, not according to the shape of the pelvis. The size of the true conjugate is what determines the prognosis. He regards 7 and 7.5 cm. as the limit for a viable child at term, calling this the second degree of contracted pelvis. The first degree includes all down to 8 cm. and the third degree all between 7 and 5 cm. The children are usually smaller with generally contracted pelvis than with flat pelvis.

80. **Prophylaxis and Treatment of Headache After Spinal Anesthesia.**—Offergeld has applied this method of anesthesia in 40 maternity cases, and 22 of the patients suffered from more or less severe headache afterward. He found it possible to arrest the headache almost immediately by withdrawing a little of the cerebrospinal fluid by lumbar puncture. This clinical experience was explained by experiments on rabbits. The findings demonstrated beyond question that the headache is the result of increased pressure in the spinal canal. By allowing the escape of 1 or 2 c.c. of the fluid before making the injection, and restricting the amount of fluid injected to the minimum, it is possible, he thinks, to obviate all trouble from this source. In case the headache develops, it is possible to cure it at once by lumbar puncture, thus relieving the pressure. This measure never failed in his experience, all headache vanishing in from 30 to 40 minutes at latest.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed, page 912.

81 (LXXXIII, Nos. 5-6, pp. 401-590.) Fracture of the Neck of the Femur and Healing Process. (Schenkelhalsfrakturen.) P. Frangenheim.
82 Peritonitis of Obscure Origin. (Perit. mit schwer erkennbarem Ausgangspunkt.) R. Oppenheimer.
83 Isolated Fracture of Great Trochanter. (Is. Frakt. des Tr. major.) Kruger.
84 *Opening Esophagus through the Neck to Remove a Foreign Body. (Oesophagotomia cervicalis externa.) Naumann.
85 *Cicatrix-forming Action of Sections of Thyroid Gland after Suturing the Esophagus. (Narbenbildende Wirkung von Schilddrüsenschnitten.) D. v. Navratil.
86 *Gastroenterostomy. (Beitrag zur Gast.) L. Delaloye.
87 Dislocation of Interarticular Fibrocartilage in Knee. (Men.-Luxation im Kniegelenk.) Bergmann.
88 Irreducible Dislocation of Knee. (Irreponiblen Kniegelenksluxationen.) E. Ruppanner.
89 Two Cases of Carcinoma of Small Intestine. (Jejunum, Ileumcarcinome.) J. Finsterer.
90 *Treatment of Fracture of Calcaneus. (Fersenbeinbrüche.) E. Becker.
91 Retroperitoneal Cysts or Gravity Abscess? (Cysten oder Senkungsabszesse?) H. Minssen and Weydemann.

84. **External Esophagotomy for Removal of Foreign Bodies.**—Naumann adds 28 new cases to the list of 326 cases collected by Balacescu in 1903, with a further list of 12 similar operations performed in his service at Zwickau.

85. **Cicatrix-Forming Action of Slices of Thyroid Gland.**—Navratil's article issues from Dollinger's clinic at Budapest, and supplements his communication of a year ago relating the remarkable action of the thyroid gland which he had sutured over an opening in the esophagus first closed with a tobacco-pouch suture. The upper pole of the thyroid gland was not disturbed, but the lower pole was drawn slightly to one side to fit over the sutured wound. The thyroid tissue displayed such marked clinging and cicatrix-forming properties in this case that he has since experimented with isolated slices of thyroid gland, and found that they are equally efficient in this respect, growing intimately into the tissues in a very short time and retaining their vitality indefinitely. His experiments were made on dogs.

86. **Gastroenterostomy.**—Delaloye reviews the experiences with this operation at Feurer's clinic at St. Gallen, a total of 117 cases. The number of gastroenterostomies for cancer is growing constantly less, as the conditions are so much better after resection of the pylorus that this is preferred whenever possible. The mortality after resection has been only 16.66 per cent. of 42 cases, and zero in the last series of 20. The mortality of the gastroenterostomies was 25.64 per cent. The cause of death was the vicious circle in 4 cases; pulmonary edema in 1; hemorrhage from gastric ulcer in 1; pneumonia in 5; peritonitis in 8, and marasmus in 10 cases. The peritonitis was due in 4 instances to gaping of the wound.

90. **Treatment of Fracture of the Calcaneus.**—Ideal functional results are reported by Becker in a case of fracture of the calcaneus treated by repose and ice for ten days, after which the fracture was reduced by means of an elevator driven perpendicularly straight across the bone, close to its

der surface, toward the inner margin of the foot. The ndle of the elevator was then lowered, thus bringing the int close under the internal malleolus, where it emerged rough a small incision. With traction on the handle and on e point of the elevator, the fractured bone was brought into ace, and while an assistant held the parts in this position ecker introduced a drill from behind, passing upward through in and bone along the median plane of the calcaneus. The act distance had been calculated with the Roentgen rays forehand and marked on the drill, so that it stopped just ort of the extreme end of the bone, thus not emerging into e joint. He left the drill quietly in place as a support for e parts and did not remove it for six weeks, when, after iseling off a projecting piece of bone from the lower surface the calcaneus, conditions were apparently restored to ormal.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed, page 1306.

2 (LXV. No. 3, pp. 263-392.) *Alimentary Intoxication. (Intoxikation im Verlaufe der Ernährungsstörungen.) H. Finkelstein.
3 Intestinal Putrefaction with Different Kinds of Infant Food. (Darmfäulnis im Säuglingsalter.) N. Soldin.
4 Intubation at Munich. (15 Jahre Intubation.) P. Reich.

92. **Alimentary Intoxication.**—Finkelstein continues his tudy of this subject; his previous communication was summarized in The Journal, April 13, 1907, page 1306. The evience which he presents establishes for the first time, he says, hat the food—without the cooperation of bacteria—can become n active poison in the organism. He preaches that the sympoms of intoxication in the course of disturbances of nutrition re of an alimentary nature. They result from the fact that a rger quantity of certain elements of the food are ingested han the organism can dispose of. Fat and sugar are mainly esponsible, while albumin can not be incriminated, and the articipation of the salts is still a question. Nothing definite, e states, is known in regard to the nature of the poisons; here are objections to the assumption of acidosis. The fundaental importance of these facts for the comprehension of onditions of this kind in infants and for their treatment is eyond question, he believes. The insight thus obtained into he processes in the child will be found instructive also for any questions of general pathology. The symptom-complex n the adult which we call autointoxication and ascribe to inestinal toxins may be due in reality to this pathologic fate of ertain elements of the food in the intermediate metabolism. or the first time, he continues, the long-sought evidence is orthcoming that there is such a thing as "alimentary fever." e believes that careful observation of adult patients, similar o his research on infants, will reveal many important findings. he food does not become a poison except when it is taken into n organism in which the metabolism is more or less morbid. he indispensable prerequisite for the "intoxication" is the xistence of a peculiar general insufficiency of the functions onnected with nutrition. This is the real trouble, while the intoxication" is only a transient symptom. He gives a numer of typical tracings and clinical histories to show the imortance of the therapeutic results obtained by treatment of nfants on these principles. The tracings show the influence f systematically planned changes in the diet. The "intoxicaion" could be made to appear, vanish and reappear at will by hanging the diet, demonstrating the unmistakable connection etween the food and the syndrome observed. The symptoms f intoxication appear as a regular reaction on the part of the ody to certain changes in the kind and amount of the food. He deplores that lack of comprehension of these principles has esulted in injury to some of the infants in his charge in former years. Supposing, as he had been taught, that all febrile isturbances accompanied by serious general symptoms could be only the work of bacteria, and that the body required mple nourishment to support it in its struggle against the acterial invasion, he plied the infants with even more food than usual, until convinced by the concurrent testimony of his racings in numerous cases that the restriction of food or withdrawal of all food is the only route to safety. His experience teaches that certain febrile conditions, suggesting typhoid and cholera, are solely and exclusively dependent on alimentary influences, and can be arrested at any time by regulating the diet. The intoxication results when too much food in general or too much of certain ingredients is given, beyond what the organism can assimilate. These elements have an abnormal fate in the intermediate metabolism, and the "intoxication" is the result.

Zeitschrift f. Geb. und Gyn., Stuttgart.

Last indexed, page 1223.

95 (LIX, No. 2, pp. 205-384.) *More Active Tendency in Obstetrics. (Berechtigung einer aktiveren Richtung in der geb. Ther.) M. Hofmeier.
96 Lithopedion in a Woman of 85. (Lithopädion.) J. Wallart.
97 Gartner's Duct; Congenital Malformations and Cancer. (Gartn. Gang beim Menschen.) R. Meyer.
98 *Changes in Placenta, Cord and Membranes in Syphilis, and Their Relations to Pale Spirochete. (Veränderungen, etc., bei Syph.) F. Mohn.
99 *Adhesions in Abdominal Cavity Result of Infectious Processes. (Adhäsionsbildung.) F. Fromme.
100 *Bladder Stone Obstructing Delivery. (Geburtshindernis.) G. A. Wagner.

95. **Tendency to More Active Obstetric Measures.**—Hofmeier tabulates the results of prophylactic and active obstetric measures in his clinic and compares them with those of others. In 104 cases requiring prophylactic intervention, such as forceps, version or premature delivery, 26 of the children died during delivery, but all the mothers recovered. On the other hand, all but one left the maternity alive of 27 children delivered by Cesarean section, pubiotomy or symphyseotomy, but 3 of the mothers died, all otherwise healthy women in the prime of life. It was found that 29 per cent. of the children in this last group had died before the end of the first year. He thinks that these figures speak for themselves, and that medical students will get a confused notion of obstetrics as they see that they are taught one kind of obstetrics for their practice while an entirely different kind is practiced in the clinics. He believes on the whole that obstetric interventions might be more frequent, especially forceps operations, in the interests of the children. But the all-around benefits of more extensive operations, especially the outcome for the mother, should be well studied, not merely whether a few more dozens are to be added every year to the 2,025,847 infants born annually in the German empire, especially as only 70 per cent. of the dozens thus saved live to be a year old.

98. **Syphilitic Changes in Placenta, Cord and Membranes, and the Pale Spirochete.**—When Mohn commenced his research on this subject two years ago the *Spirochæta pallida* had not been discovered, but its discovery explained later many of his findings. The presence of the pale spirochete in more than 50 per cent. of the umbilical cords examined and in almost 70 per cent. of the afterbirths, confirms its specific importance, he thinks. The absence of nerves in the placenta shows that the spirochetes found can not be explained away as "silver-stained nerve fibrils" as some have asserted in respect to other tissues. The fact that the placenta and membranes are free from external infection also excludes error from this source. Spirochetes were never found in the decidua nor intervillous spaces, but they swarmed in the fetal villi and in the umbilical cord when the fetus exhibited signs of syphilis—not otherwise. He thinks that all this shows that the fetus, and not the mother, is the main source of the infection in such cases. The parasites find their way into the ovum from the mother or in the spermatic fluid, or pass from the mother to the fetus later. They proliferate in the fetus, acquiring new virulence, and pass thence into the placental circulation.

99. **How Adhesions Form in Abdominal Cavity.**—Fromme relates extensive experiments on animals, injecting blood into the abdominal cavity, with or without injury of the serosa, and with or without the presence of germs. The results demonstrated conclusively that blood and serum, even with extensive defects in the serosa, are unable to induce the formation of adhesions in the absence of germs. But as soon as the accumulation of blood becomes infected, a circumscribed infectious process results, with more or less paralysis of the adjoining intestine, and subsequent development of adhesions. Accumulated blood can thus be left in the abdominal cavity without fear if it is not infected. The blood around the field of operation is always more or less infected, and should be scrupu-

lously removed. This should be done especially in case of ruptured tubal pregnancy. But it is unwise to try to remove all the blood which has settled at inaccessible parts of the abdominal cavity. This would spread germs throughout the cavity and, by the longer time required, would bring new germs to the spot. The trifling advantage that the body is spared the absorption of the blood would be far outweighed by the disadvantages of spreading infection to blood in remote nooks. The clots, therefore, which are not in contact with the field of operation in case of a ruptured tubal pregnancy should, he states, be left undisturbed.

100. **Bladder Stone Obstructing Childbirth.**—Wagner gives a skiagram of the stone in his case, and describes the details of this and 46 other cases of the kind on record. Delivery was prevented by a stone in the bladder, fully 2x4x6 cm., impacted between the symphysis and the head of the child. The nature of the obstruction was not recognized until after 4 days of labor, when it proved possible to reduce the stone under chloroform. The child was then extracted, showing incipient maceration. The patient had suffered from bladder disturbances for several months, urination at times being abruptly arrested but returning if she reclined. There were also cramp-like pains in the bladder region. Eight years previously she had had about the same symptoms for a time, terminating with the expulsion of a bladder stone the size of a bean. The experiences related demonstrate the advisability of removing a bladder stone before a childbirth, as it is almost certain to cause severe injury of the wall of the bladder or vagina or of the sphincter during delivery, besides offering a mechanical obstacle to the childbirth. The operations *sub partu* show as good results on the whole as when the stone was reduced, far better than when the delivery proceeded without regard to the stone. Colpocystotomy proved most successful, especially when the bladder wall was sutured at once. This should be the routine technic if it proves impossible to reduce the stone under general anesthesia.

Brazil Medico, Rio de Janeiro.

Last indexed, XLVI, page 393.

101 (XIX, Nos. 9-15, pp. 81-150.) Treatment of Edema. (Edemas.) P. Guimaraes.
102 *Balsam of Peru in Treatment of Wounds. (Feridas.) Id.
103 Hysteria. (Hysteria.) A. Austregesilo.
104 *Tropical Ulceration. (Existe a Verruga do Peru no Estado do Rio Grande do Sul?) E. v. Bassewitz and Unna.
105 Infection with Ankylostomiasis through the Skin. (Infestaçao da ank. pela pelle.) A. Austregesilo.
106 Frequency of Dermatoses Among Infants at Rio. (Frequencia das dermatoses infantis.) Moncorvo Filho.
107 Brain Tumors. (Tumores cerebraes.) Brant Paes Leme.
108 (Nos. 16-20, pp. 151-200.) Pityriasis with Keratinization of Epidermis. (Pityriasis rubra pilaris.) F. Terra.
109 Benefit from Brewer's Yeast in Case of Multiple Glandular Suppuration. (Abcessos lymphaticos e levedura de cerveja.) A. de Mello.

102. **Balsam of Peru in Treatment of Wounds.**—Guimaraes describes a few cases of wounds treated with balsam of Peru after cleansing with boiled water. The balsam was applied for about 10 days and the results were highly satisfactory in each case. The injuries were mostly on the hand or foot and caused by machinery. In some cases the balsam was applied to a burn of the second degree, or in case of compound fracture. The urine was normal under this treatment in the cases in which it was examined for possible injurious action of the balsam on the kidneys.

104. **Tropical Groin Ulceration.**—Bassewitz remarks that Peruvian verruga is the most perfect type known of an affection limited to a certain geographical region, within the degrees of 75 and 81 longitude, and 8 and 16 latitude. It reigns in a limited number of valleys at an altitude of from 1,500 to 6,000 feet above the sea. The prevalence of a groin ulceration in his part of Brazil led to the suspicion that the affection might be an attenuated form of Peruvian verruga, imported from Peru, but the evidence is against this. He regards the affection in question as "granuloma telangiectodes." Unna examined some specimens of the lesions sent to him and says that they suggest a circumscribed angiofibroma of the skin. The epidemic and autoinoculable character of the groin ulceration suggests a possible venereal origin, and the description was first published with the title "Granuloma Venerea."

Book Notices

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

MODERN MEDICINE, ITS THEORY AND PRACTICE in Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England, assisted by Thomas McCrae, M.D. Volume I.—Evolution of Internal Medicine—Predisposition and Immunity, etc. Illustrated. Cloth. Pp. 937. Price, $6.00 net. Philadelphia and New York: Lea Bros. & Co., 1907.

GENERAL SURGERY, of the Practical Medicine Series, Under the General Editorial Charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. II, Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in Rush Medical College. Series 1907. Cloth. Pp. 608. Price, $2.00 per volume. Chicago: Year Book Publishers.

UEBER ELEKTRISCHE ENTLADUNGEN IM LUFTVERDÜNNTEN RAUM. Geisslerlicht, Kathoden—und Kanalstrahlen, von Prof. Dr. Ernst Sommer, Experimentalvortrag, gehalten in der Naturwissenschaftlichen Gesellschaft der Stadt Winterthur. Paper. Pp. 18. Price, .75 mk. Munich: Verlag der Aerztlichen Rundschau.

MUTTERSORGEN UND MUTTERFREUDEN Wie erhalten wir unsere kleinen Kinder gesund? Ratschläge fur die junge Frau von Dr. med. Eugen Neter, in Mannheim. Paper. Pp. 77. Price, 1.20 mk. Munich: Verlag der Aerztlichen Rundschau.

CENTRAL INDIANA HOSPITAL FOR THE INSANE, Indianapolis. Fifty-eighth Annual Report of the Board of Trustees and Superintendent. For the Fiscal Year Ending Oct. 31, 1906. Paper. Pp. 120. Indianapolis: W. B. Burford, 1906.

ANESTHETICS, Their Uses and Administration, by D. W. Buxton, M.D., B.S., Member of the Royal College of Physicians. Fourth Edition. Cloth. Pp. 415. Price, $2.50 net. Philadelphia: P. Blakiston's Son & Co., 1907.

THIRTY-FIRST ANNUAL REPORT of the Ladies' Union Charitable Society Conducting the Lawrence (Mass.) General Hospital and Children's Home, for the Year Ending Sept. 30, 1906. Paper. Pp. 69.

CATALOGUE OF THE OFFICERS AND GRADUATES OF COLUMBIA UNIVERSITY in the City of New York, From the Foundation of King's College in 1754. Cloth. Pp. 921. Printed for the University, 1906.

TENTH ANNUAL REPORT of the Loomis Sanatorium and Annex for the Treatment of Tuberculosis. Liberty, Sullivan County, New York, With Medical Supplement. October 31, 1906. Paper. Pp. 49.

NEUGALENISMUS eine auf biologischen Anschauungen aufgebaute Krankheitslehre, von Kreisarzt Dr. Bachmann. Paper. Pp. 18. Price, .75 mk. Munich: Verlag der Aerztlichen Rundschau.

STUDIES IN EXPERIMENTAL ALCOHOLISM. Hygienic Laboratory Bulletin No. 33, by Reid Hunt; M. J. Rosenau, Director. Paper. Pp. 43. Washington: Government Printing Office, 1907.

CREIGHTON MEMORIAL, ST. JOSEPH'S HOSPITAL, Omaha, Neb., Twenty-seventh Annual Report, for the Year Ending Dec. 31, 1906. Paper. Pp. 42. Omaha: Burkley Printing Co.

ANNUAL REPORT OF THE ASYLUM FOR THE CHRONIC INSANE of Milwaukee County, for the Year Ending Sept. 30, 1906. Paper. Pp. 56. Milwaukee: Edw. Keogh Press, 1907.

MONTHLY SUMMARY OF COMMERCE AND FINANCE OF THE UNITED STATES for February, 1907. Paper. Pp. 255. Washington: Government Printing Office, 1907.

TWENTY-SECOND ANNUAL REPORT of the Adirondack Cottage Sanitarium, Saranac Lake, N. Y., November, 1906. With Medical Supplement. Paper. Pp. 16.

TWENTY-SECOND ANNUAL REPORT of the Board of Health of the City of Altoona, for the Year 1906. Paper. Pp. 13.

NEW PATENTS.

Recent patents of interest to physicians:

848458.	Clinical thermometer. Walter P. Grafton, Old Charlton, England.
848032.	Douche-cot. James H. Herman, Ambridge, Pa.
848173.	Fracture apparatus. Samuel G. Hubbell, Milwaukee, Wis.
848126.	Anastomotic clamp. Giles F. Roosevelt, Denver.
848579.	Inhaler. Gustav A. Thiede, Baltimore, Md.
848518.	Electrical medical apparatus. Carlos Van Bergh, Winnipeg, Manitoba, Canada.
848423.	Surgical table top. Marshal I. Young, Fort Dodge, Iowa.
849353.	Electric ear-phone. Lewis F. Clarke, Boston.
849018.	Making camphor from isoborneol. Curt Philipp, Dresden, Germany.
848856.	Osteopathic table. Henry T. Root, Kirksville, Mo.
849344.	Illuminable speculum. R. H. Wappler, New York.
849529.	Massage device. Forest S. Cartwright, Chicago.
849368.	Electrically-heated hot-water bottle. Herbert W. Christian, Toledo, Ohio.
849725.	Catamenial bandage. Mary A. Cook, Bridgeport, Conn.
849471.	Abdominal guard and supporter. John Gamble, Philadelphia.
849472.	Bed-pan. Heiman Gold, New York.
849841.	Physiographical instrument. John P. Goode, Chicago.
849844.	Vibrator. J. S. C. Laureuce, Oakland, Cal.
849815.	Producing formaldehyd preparations. Paul Rosenberg, Berlin, Germany.
849924.	Massage instrument. Wm. G. Shelton, Chicago.
850416.	Means for purifying and sterilizing water by ozonized air. James H. Bridge, Philadelphia.
850624.	Apparatus for lifting invalids. Wm. B. Closson, Magnolia, Mass.
850298.	Suspensory. Frank E. De Mars, New York.
850849.	Disinfecting tablet. W. H. Power, London, England.
850281.	Bandage. Jeanne Walter, New York.

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Address

THE COMMERCIAL DOMINATION OF THERAPEUTICS AND THE MOVEMENT FOR REFORM.*

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CHICAGO.

PROPRIETARY MEDICINE A RECENT DEVELOPMENT.

The proprietary medicine business as we know it is a development of only a little over a generation. In 1875, Lawrence, of *Medical Brief* fame (?), and his junta of nostrum makers, whose output and that of their offshoots alone have run into the hundreds, were unknown. Thirty years ago the so-called German synthetic chemicals were unheard of as medicines; now, if we include the true and the false, there are thousands of them. Including the typical nostrums, the more or less legitimate proprietary mixtures and the synthetic compounds, the number of proprietary medicines has become so vast that no one is rash enough to attempt to estimate it. A few of these, we may admit, have a distinct value; they represent original work and are worthy of recognition as remedial agents. The vast majority, however, are but the simplest of mixtures or are well-known drugs put out under fanciful names, with no advantage whatever; or are absolute frauds and swindles. Some of these remedies are made by manufacturing pharmaceutical and chemical houses of greater or less repute; the majority by men —or "companies"—who know nothing about medicine, pharmacy or chemistry, and who have gone into the business as they might have gone into any other get-rich-quick enterprise.

This business has been growing more rapidly than ever during recent years, and the statement made here in Baltimore last December that the use of this class of preparations has doubled during the last decade is probably true. But worse than the increase in number is the development in the advertising literature of unblushing falsehood and palpable deception. Conditions in this regard had become so disgraceful—I put this in the past tense because there has been a change since the Council began its work—that there seemed to be no statement too silly, no claim too extravagant, and no falsehood too brazen for use by those who wrote the advertising literature that physicians were asked to read and to believe. It was, therefore, not only the character of the preparations, but the methods of exploitation that had become unbearable and a disgrace to the profession that tolerated it. In brief, this business, the annual profits of which run into the millions, has grown until the use of proprietary medicines by many physicians has almost displaced the use of the individual official drug. It has checked advance in scientific methods of treatment, inhibited intelligent clinical observation and developed an optimism that is unwarranted by facts—an optimism that is more fatal than the most radical therapeutic nihilism. But above and worse than all, this commercialized materia medica has blighted our literature by debauching our medical journals and even by tainting our text-books.

And whose is the fault? That the business has developed in this country to such extent, with scarcely a protest on the part of our profession, is a reflection on the common sense and intelligence of the physicians of the United States. We, as well as manufacturers, are at fault. We must assume the blame for becoming such easy dupes to their enterprise and sagacity.

But a change is taking place; a halt has been called, and our profession is awakening to the disgrace of it all. It is about the movement for ridding our profession of this disgrace that I want to speak to-night.

NO PROTECTION IN THE PAST.

We have long suffered from a want of governmental or other supervision over the manufacture of medicines. In no other country has the standard and quality of drugs been left entirely to the manufacturer's honor. From time to time the medical profession has made spasmodic, but weak, efforts to remedy the condition: we find records of this even as early as the beginning of the nineteenth century.

The agitation of those early days resulted in the adoption of a Pharmacopeia, the first issue of which was published in 1820. This standard, by the way, was the work of physicians and was gotten out by them for the guidance of pharmacists, who, however, had nothing to do with its preparation. It is to be regretted that conditions have changed, and that, while the physicians then were the ones interested, for the last fifty years they have left it practically to the pharmacists. While the Pharmacopeia furnishes standards which were accepted by a few as authoritative, it was, after all, but an advisory instrument, and was followed or ignored as suited the manufacturer.

The Pharmacopeia only partially improved matters, and society transactions continued to contain records of criticisms of the prevailing conditions. So it went on until the organization of the American Medical Association. At its first meeting resolutions were adopted indicating that the question was still a vital one. So, again, in 1849, 1850 and every year or two thereafter this subject was discussed. Then, however, the unreliability of drugs was the source of irritation, the proprietary medicine abuse not yet being so much in evidence. In 1879 we first find the Association recognizing that incipient evil which has since developed into the modern curse—proprietary medicines. In the Transactions for that year we find the following:

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*The Annual Oration before the Medical and Chirurgical Faculty of Maryland, April 24, 1907.

Whereas, Of late years many drugs and combinations of drugs bearing copyright names have been placed on the market and especially introduced to the notice of physicians, and

Whereas, Such drugs and combinations of drugs, having copyrighted names, are advocated in the medical journals of the country, be it

Resolved, That the use of articles thus protected by copyright and the promoting of their use by advertising them in medical journals is a distinct violation of Section 4, Article 1, of that portion of the Code of Ethics treating on the duties of physicians to each other and to the profession at large, and also of Section 4, Article 1, of that portion of the Code of Ethics treating on the duties of the profession to the public and of the obligations of the public to the profession. (Transactions, vol. xxx, 1879, p. 45.)

From this time on scarcely a year passed that the Association did not take action regarding the proprietary-medicine problem, and finally when The Journal took the place of the annual Transactions it became, on account of the advertisements, a very practical question. It is worth recording here that there was a time when our profession opposed proprietaryship in medicines, recently, however, this seems to be accepted as a necessary evil.

IMPOSSIBLE TO DEFINE AN "ETHICAL" PROPRIETARY.

It is unnecessary to give in detail the difficulties connected with this question, or to explain how absolutely impossible it has been to decide what is and what is not an ethical[1] proprietary preparation. It certainly has been a trying question for those editors who have honestly striven to have their advertising pages clean and free from fraud. But long ago it was realized that the problem is one that the physician can not solve by himself. A physician is not supposed to be an authority on pharmacy and chemistry; he is expected to know the physiologic and therapeutic actions of drugs, but not the details of their chemical action or the intricacies of their compounding. This requires a special training and a technical knowledge entirely different from that required for prescribing for the sick.

The pharmaceutical profession bears the same relation to the medical profession that the ordnance department does to the army in the field. The fighting force is not expected to know how to make a rifle, or to have a practical understanding of the manufacture of powder and shot. The men on the firing line know how to use, but not how to make the ammunition. But nevertheless the efficiency of the men at the front is largely dependent on the integrity and honesty of the supplies of the ordnance department.

The trouble has been that the sister professions of medicine and pharmacy have not been cooperating; rather they have been drifting apart.

It was in recognition of this principle that, in 1900, there was published in The Journal a series of articles, written by a pharmacist well qualified for the purpose, on "The Relation of Pharmacy to the Medical Profession." Their object was to enlighten the profession regarding the conditions with the purpose of leading up to the suggestion of a remedy. As may be remembered, the remedy suggested was the creation of a body of pharmacists, chemists and pharmacologists who should act for the profession and examine the products on the market, or at least take up the subject from a practical standpoint. These articles appeared just before the first Atlantic City session, and some of us had a vague idea of proposing such a board to the general meeting, but the psychologic moment did not seem to have arrived and the matter, for the time being, was dropped.

And so time went on, the subject receiving more or less attention in the Section on Pharmacology and Therapeutics at each annual session, till at the Atlantic city session, in 1904, the delegates from Michigan presented to the House of Delegates a preamble and resolutions that had been adopted by their state society, which read as follows:

Whereas, An exact knowledge of the composition and properties of substances used in the management of disease is essential to a physician's best success:

Whereas, Commercial push, by advertisement and drummers, persuades many physicians (often the very elect), to use and commend drugs, mineral waters, artificial foods, etc., etc., of unknown composition and effects:

Whereas, As it is impossible for the individual physician to verify the statements of sales agents, to separate fact from fancy, he often uses substances quite unlike those indicated, to the discredit of himself and his art:

Whereas, The American Medical Association was organized to promote the exact knowledge and intelligent practice of its members:

Resolved, That the Board of Trustees, American Medical Association, is hereby requested to provide for the analysis of medicinal substances of unknown composition and undetermined effects, and to publish promptly the results in the Association Journal:

Resolved, That the Board of Trustees be requested to appoint a "Journal Clearing House Commission," three in number, to serve without salary, with authority to have analyses made in reliable laboratories, by experts of recognized ability, or to equip a suitable laboratory and employ one or more competent experts, at a yearly expense not to exceed five thousand dollars.

THE COUNCIL CREATED.

While these resolutions were not finally acted on, some of us realized that the time had at last arrived for something to be done, and for materializing the idea of a board of control. During the next eight months the general plan was discussed with many physicians and with such chemists and pharmacists as Professors Long, Stieglitz, Puckner, Hallberg and others of Chicago, Professor Cushny of Ann Arbor (now of London), Professor Abel of Johns Hopkins, Dr. Wiley and some of his staff at Washington, Professor Remington, Professor Sadtler, Mr. Wilbert of Philadelphia, Dr. Sollmann of Cleveland, and others. Several meetings were held, at which a few gathered and the general plan and scope of the work was outlined and discussed in all its phases. The matter was presented in detail to the Board of Trustees at its meeting in February, 1905. After discussing the matter fully the trustees authorized the creation of the board, and specified that it be known as the Council on Pharmacy and Chemistry.

Thus it is that the profession now has at its service a group of men who, for this work, possess special training and technical knowledge. Their energies are devoted to the thankless task of winnowing from the chaff of dishonesty the occasional grain of honesty.

The first meeting of the Council was held in Pittsburg, Feb. 11, 1905. This meeting was an interesting one. To me it was not only interesting, but profitable, for my eyes were opened to conditions the very existence of which I had not before realized. Among those present were practical pharmacists, practical chemists, well-trained pharmacologists and physicians. Each group saw things from its own viewpoint, compared notes and exchanged views. As I say, the result was interesting and the revelations both instructive and—humiliating.

The work to be accomplished at this meeting was to lay down certain fundamental principles that should govern the Council in its labors, to devise methods of procedure, etc. The most serious and important phase of the work was the adoption of the rules or principles which should govern the Council in deciding whether or not a preparation should be accepted.

The first thing an intelligent physician does when he is called to treat a patient is to make a diagnosis of the disease, learn its cause, and remove it if possible. On this principle the Council attacked the problem.

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[1] I am well aware that we should not apply the word "ethical" to an inanimate object. I use it because it seems to be necessary.

RULE 4.—INDIRECT ADVERTISING TO THE PUBLIC.

It was recognized at the outset that the first objection to proprietary medicines is that the prescribing of such preparations is apt to lead to self-medication by the public and the manifest evils which this entails. The fact that physicians themselves are responsible for at least some of the "patent medicine" business is well known to every pharmacist and to every physician who has given the matter thought. A physician writes a prescription for a proprietary preparation that has a catchy, easily remembered name, and thinks that the matter ends there, but the manufacturer knows better; the patient gets the medicine, and with it all kinds of information regarding its virtues. The physician may instruct that the label, circulars, etc., be removed, but in many cases this is not done, and usually no such instruction is given. The patient learns from the printed matter that that particular medicine is good not only for the disease for which the doctor prescribed it, but for every other real or imaginary ailment with which he may be afflicted. In this way there has been introduced to the public a host of "patent medicines" without a cent of cost for advertising, except that to physicians.

The full directions for use which accompany these medicines are, in part at least, responsible for counter-prescribing by druggists. There is a peculiar fascination—at least to the average pharmaceutical tyro—in posing as a prescriber, exemplifying the old saying: "A little knowledge is a dangerous thing." The "proprietary" nostrum vendors give him the "little knowledge," sufficient, that is, to sell their preparations. He soon becomes familiar with the reading matter and he is impressed, or pretends to be, with the wonderful properties of the preparation as described in the circulars. He adds his recommendation to those of the doctors whose testimonials he shows to the customers on the other side of the counter.

This indirect advertising to the public was the first evil to be overcome, and the first principle adopted by the Council is incorporated in what is now known as Rule 4. It is as follows:

> No article will be admitted whose label, package or circular accompanying the package contains the names of diseases in the treatment of which the article is indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to literature distributed solely to physicians, to advertising in medical journals, or to vaccines and antitoxins.)

It is this rule that has met with opposition from those who are not satisfied with the doctors' patronage, but want that of the public also. It is this rule that is of most importance to the physician, for its enforcement will check one of the worst evils connected with the proprietary medicine business—that which makes the doctor an advertising medium to the public.

Certain manufacturers oppose it because, they say, the doctor needs the information and the instruction that is given on the labels and in the circulars. The reply is that it is not necessary for the doctor to go to the drug store to learn what a remedy is good for, even though he is one of those who depend on the manufacturer for his knowledge. If a doctor dispenses his own medicine and has to depend on the manufacturer for information regarding its use, let that information be given in the literature not attached to the package.

Medicines manufactured solely for physicians' use, such as the official preparations and those of the National Formulary, are not accompanied with circulars or advertising matter and there is no valid reason why proprietary medicines should be. If the manufacturer wants to enlighten the doctor regarding the value of his preparation, let him advertise in the medical journals; let him send the circulars, or his detail man, to the doctor direct; in any event, there are many ways of letting the doctor know in what diseases the medicine is indicated without putting it on the bottle. It will be noticed that Rule 4 permits therapeutic properties and doses to be given in the literature accompanying the package. Many believe, and with good reason, I think, that the Council has been too liberal in this, that no such information is necessary in that connection.

It has become a recognized fact in the "patent-medicine" field that the easiest and cheapest way of reaching the public is by advertising through the doctor. Let me quote a paragraph that appeared in *Printers' Ink*, an advertising journal, some two or three years ago. The words are those of a "patent medicine" man and, of course, were not directed to physicians.

> But the patent medicine of the future is the one that will be advertised only to doctors. Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies. The general public never hears of them through the daily press. All their publicity is secured through the medical press, by means of the manufacturer's literature, sometimes gotten out in the shape of a medical journal, and through samples to doctors. For one physician capable of prescribing the precise medicinal agents needed by each individual patient there are at least five who prescribe these proprietaries. They are the chief standby of the country practitioner. . . . Three-fourths of all the prescriptions received are for these proprietary remedies, and the pharmacist simply opens the package and writes a label, "A teaspoonful three times a day before meals." . . . The original bottle is given to the patient. He sees that the remedy does him good, and when he feels a trifle run down again he goes to a drug store and buys another bottle, not troubling the doctor. He meets a friend on the street who is not looking well. "I know exactly how you feel," he says. "Now, just go and buy a bottle of ———. Best thing in the world. My doctor prescribed it for me, so it isn't a 'patent medicine.'" In this way the name of the remedies advertised only to physicians get abroad to the general public. . . . The proprietary medicine of the future, though, will be advertised through these channels. The medical papers will reap the harvest, and the physician himself, always so loud in the denunciation of "patent medicines," will be the most important medium of advertising at the command of the proprietary manufacturer. In fact, he is that to-day.

Have you ever seen an arraignment of this evil by its enemies which equals this cynical statement of its friends?

Is it necessary to say more on this point? In fact, can anything more be said? What I have just quoted should be read by every nostrum-prescribing doctor in the country, and, having read it, he should go to some quiet corner and kneel down and pray the Lord to give him a little common sense.

Now, while I am quoting, let me quote something else. This is from a book written by Mr. George P. Rowell, entitled "Forty Years an Advertising Agent." Mr. Rowell, as some of you may know, dabbled somewhat in the "patent medicine" business himself. He is the one who created Ripans Tabules. In this book, by the way, he tells how he came to put this preparation on the market. In the chapter from which I shall quote he described the "patent medicine" business in an interesting way, and tells of the fortunes that have been made and also lost. He has this to say about an "ethical" proprietary that some of you may have heard about:

> We had a successful advertiser in Halifax, N. S., who sold a medicine known as Fellows' Hypophosphites, that proved so

good that some shrewd business men in the medicine trade, who knew about it, bought the trade-mark, incorporated a company with a capital of $100,000, retained the original owner as manager, stopped all advertising except in medical journals, and thereafter pushed the sale only through the medical profession. I had information at one time of a young man who was heir to an uncle, recently deceased, and had come into possession of a certificate of stock of this company, of the face value of $6,000, and made up his mind that, shrewd as the old gentleman was, he had, without doubt, acquired trash in this instance; and I heard further, that the young man began to think better of the doubtful asset, when one day a dividend check came; and when, at the end of the year, he realized that within the twelvemonth that $6,000 certificate had brought him $9,000 in dividends, he began to revise his estimate of his deceased uncle's prescience in making investments.

As a "patent medicine" it was not a success, but as an "ethical proprietary" it has been proving a gold mine. So, since that time this medicine has not been advertised except to doctors through medical journals, has it? Look at the wrapper around the bottle, read the label on the bottle, notice the name blown into the bottle, and then will you doubt the statement of the average druggist when he says that nine-tenths of Fellows' Hypophosphites is sold over the counter direct to the public and that the doctors are responsible? What better method of advertising? And how easy! Newspaper advertising is expensive! It is cheaper to use the doctor.

The principle incorporated in Rule 4 is one of the most important principles adopted by the Council. It threw out at once three-fourths of the proprietary medicines on the market. For is it to be supposed that the promoters of Fellows' Hypophosphites, Gray's Glycerine Tonic, Glycothymoline, Antikamnia, Antiphlogistine, Phenalgin, Santal Midy, and most of the self-styled "ethical" proprietaries would conform to Rule 4? From their standpoint the proposal is absurd.

RULE 1.—NON-SECRECY.

Everybody, that is, *nearly* everybody, agrees that a physician should know what he prescribes. Some intimate that he has no moral right to give a medicine unless he knows what he is giving. A few emphatically express the view that it should be made a criminal offense for a physician to give a patient a medicine when he does not know exactly what it contains. I must acknowledge that I am much tempted to side with the latter. In any event, after agreeing on Rule 4, the Council again went back to general principles, and adopted the following, which is known as Rule 1:

> No article shall be admitted unless its active medicinal ingredients and the amounts of such ingredients in a given quantity of the article be furnished for publication. The general composition of the vehicle, its alcoholic percentage, if any, and the identity of other preservatives, if present, must be furnished.

There was little discussion when this rule was under consideration. Even the verbiage was soon agreed to. It is so palpably consistent, so absolutely fair and just that one would have imagined that it would receive universal approval. But do you remember the protests of certain medical journals when the first announcement was made and these rules published? It was simply outrageous, we were told, that enterprising firms which had spent money and time in getting up a fine combination should be asked to state what the combination contained. One New York medical journal even went so far as to send a circular letter to the manufacturers offering them space in its columns for an expression of their views in regard to the outrageous attempt that was about to be made to injure their business. Certainly, this attack on vested interests was scandalous, and it was a good thing that the proprietary people were so well guarded by a journal that is published in the interests of physicians.

But the proprietary gentlemen were too wise: they did not accept the offer, since nothing appeared from them. In fact, the majority of the nostrum men have said that they always have been, still are, and always will be willing to tell physicians what their preparations contain. They agree that physicians should know what they are prescribing, that it is very necessary they should know. It would be wrong, indeed. if physicians should prescribe without knowing what they are prescribing, say these gentlemen. Surely! And the more quackish the preparation and the "company" that exploits it, the more willing they are to give a formula. Mind you, I say "a" formula.

When some twelve years ago the Board of Trustees ordered that no proprietary should be advertised in The Journal, unless the advertisement was accompanied with a formula sufficiently often to let the reader know of what the preparation consisted, they imagined that they had done away with the evil—secrecy. And this has been the cry since—publish the formula and the preparation becomes ethical. It did not seem to dawn on those who were especially interested in this subject that connected with the exploitation of the proprietaries were most extravagant claims as to their therapeutic value, and that those who would make misstatements regarding the therapeutic action of their preparations would not hesitate to stretch the truth when they made statements as to the composition. The formula was the thing. If the formula was forthcoming, the preparation was ethical. But it has developed that the more fakish the nostrum the more willingly was the formula furnished. So it is not strange that there were admitted to the advertising pages of The Journal such fakes as Ammonol, Phenalgin, Labordine, Campho-Phenique, Salacetin, Hagee's Cordial of Cod Liver Oil Compound and Tyree's Antiseptic Powder.

The idea that the publication of a formula will make a preparation ethical has been harped on and emphasized until many believe it. Now the fact is most of the proprietary mixtures are simple combinations of well-known drugs that any pharmacist, or even an average physician, could compound if the active ingredients were known. Therefore, would not the makers of such preparations be very foolish to give the correct formula even as to the active ingredients? Surely they would be, and the average nostrum maker is not a fool.

I presume it is unnecessary to say that the Council is not satisfied with "a" formula, but demands "the" formula.

RULE 6.—EXTRAVAGANT THERAPEUTIC CLAIMS.

The man who has something to sell naturally wants to impress the prospective buyer with all its good qualities. This is business—honorable business. Incidentally, in the business world it is expected that the seller, while emphasizing all the good qualities, will tell the truth. An exception to this rule may be made to the horse-trader. He, proverbially at least, is expected to overstep the bounds of truth in his comments on the quality of his animal. But the other gentleman knows this and discounts his statements accordingly. He examines the animal, or if he thinks himself deficient in the necessary knowledge to pass judgment on the value of a piece of horse flesh he gets the advice of a friend who has this knowledge.

I admit it is rather far-fetched to compare horse-trading with a proprietary medicine business, but there does seem to be a similarity—and also a difference. The seller in both instances is given to a slight exaggeration as to what the respective articles will do in their respective spheres of action, but in one case the buyer, at least as a rule, takes it for granted that the seller is likely to stretch the truth. At least, he is healthily skeptical about the matter and does not believe all that the horse-trader says. In the other case the buyer, to borrow a simile from another department of life's activities, is quite likely to swallow not only the bait, but the tackle also. Perhaps he is not so much to blame after all. It is a little difficult for honest physicians to realize that others traffic in human life.

The claims in the advertisements of "patent medicines" are so absurdly extravagant that a "patent medicine" advertisement has become synonymous with mendacity. In too many instances this also applies to advertisements of so-called "ethical proprietaries." There is no limit to the license allowed those who write the advertising matter that is to influence physicians to use the products advertised.

To repeat again, there seems to be something connected with the "patent" and proprietary medicine business that demoralizes. An honest, conservative statement about the merits of a proprietary preparation is as rare as are sweet violets in Iceland. As regards the large majority this is not to be wondered at. To tell the truth about either their composition or their therapeutic value would be to stop their sale. But there are proprietary medicines that have merit and that would be used even if the simple, unvarnished truth were told about them, but the habit of exaggeration crops out in the advertising of even these.

This was one of the evils recognized and so Rule 6 was adopted, which says:

> No article will be admitted or retained of which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to therapeutic value.

Of course, the principle underlying this rule is so elemental that one might think that it would meet with no opposition when put into practical application. Yet its actual enforcement has caused much trouble in spite of the fact that there has been a liberal interpretation of the literature. The diversity of opinion and varied experience in the use of therapeutic agents has been recognized and the Council has admitted every reasonable claim, everything short of absolute misstatement and palpably false pretension.

OTHER RULES.

The three rules above considered meet the most objectionable features of proprietaryship in medicine. Indirect advertising to the public through the physician, secrecy in composition and false therapeutic claims. The enforcement of these three rules would do away with the main evils connected with the proprietary business, and incidentally would wipe out a goodly number of the products. The other seven rules, while important, some of them being necessary for the enforcement of the three already referred to, need but a brief reference here.

Rule 2 is:

> No chemical compound will be admitted unless sufficient information be furnished regarding tests for identity, purity and strength, the rational formula or the structural formula, if known.

There are many preparations on the market, both domestic and imported, that are claimed to be definite chemical compounds, but which are not. This rule guards against such, as well as against adulteration, etc. No objection has been made to this rule.

Rule 3 says:

> No article that is advertised to the public will be admitted; but this rule will not apply to disinfectants and food preparations, except when advertised in an objectionable manner.

This rule, of course, refers to open, direct advertising to the public, in the public press, etc. It is not necessary to defend this rule, before physicians at least. It provides for conditions entirely different from that covered in Rule 4.

Rule 5 is:

> No article will be admitted or retained concerning which the manufacturer, or his agents, make false or misleading statements as to geographical source, raw material from which made, or method of collection or preparation.

The proviso in this rule is incorporated in the national Food and Drugs Act and needs no comment.

Rule 7 says:

> Labels on articles containing "poisonous" or "potent" substances must show the amount of each of such ingredients in a given quantity of the product. A list of such substances will be prepared.

This rule is not really necessary since the passage of the national Food and Drugs Act covers many of the substances referred to.

Rule 8 is as follows:

> If the trade name of an article is not sufficiently descriptive of its chemical composition or pharmaceutical character, or is, for any other reason, objectionable, the Council reserves the right to include with the trade name a descriptive title in the book. Articles bearing objectionably suggestive names will be refused consideration.

The last sentence was not in the original draft; experience showed the necessity of such a rule. I doubt if any one will think this an unwise precaution when we run across such names as: Gonosan, Gonorin, Gonoral, and Gonol, names certainly suggestive enough even to the most ignorant layman, and remembered without difficulty by those who wanted to tell their fellow-sufferers what they were taking. Genitone, Vaginol, Oöphorin, Virilin, Rheumasan, Bronchitin, Pneumin, etc., are others. I am not quoting fanciful names from the "patent medicine" list; they are all advertised to physicians as scientific preparations.

Rules 9 and 10 merely require information regarding the copyrighted name and, if the article is patented, the number and date of the patent. They are as follows:

Rule 9:

> If the name of an article is registered, or the label copyrighted, the date of registration and a copy of the protected label should be furnished the Council. In case of registration in foreign countries, the name under which the article is registered should be supplied.

Rule 10 states:

> If the article is patented—either process or product—the number and date of such patent or patents should be furnished.

These rules were adopted in a tentative way at the Pittsburg meeting. In the following September the Council met at Cleveland and to that meeting were invited representatives of the various branches of manufacturing and importing interests for consultation and suggestion. The various rules were discussed and only slight modifications were made. The only rule that was objected to by the manufacturers' representatives was

Rule 4, but all who took part in the discussion acknowledged that the principle underlying the rule was a just one and would work no hardship on those manufacturers who were catering to physicians only.

At the Pittsburg meeting it was decided that when it was necessary for the manufacturer to change the labels, circulars, and other advertising matter, he should be given ample time in which to comply so that he might not experience undue expense or hardship in meeting the requirement. At the Cleveland meeting this time was extended definitely until July, 1906. Thus, previous to July, 1906, the Council accepted preparations even though the labels, literature, etc., might not have been in accord with the rules, on the promise of the manufacturer to make the necessary modifications in a reasonable time. However, since July 1, 1906, the literature, labels, etc., must be correct before the preparation is accepted.

I have discussed these rules at length that you may know what they are and what they mean. Together they give, what has never been given before, a definition of the term, "an 'ethical' proprietary medicine." Is it satisfactory? Together they make the standard by which the Council judges proprietary medicines. Is the standard too high?

PROCEDURE.

As the members of the Council are scattered, meetings, except at rare intervals, are impracticable. The method of procedure, however, is simple, communication between the members being through a bulletin prepared and sent to each member by the secretary every Thursday. In this bulletin are arranged systematically the reports, motions, comments, discussions, etc., the matter being indexed so that ready reference to all past work is at hand for each member.

The Council is divided into three definite divisions—chemistry, pharmacy and pharmacology. Articles are assigned to a subcommittee usually consisting of but one member for preliminary report. This subcommittee consults with other members, with outsiders, and, if thought advisable, makes or has made chemical analyses or physiologic examinations. If the subcommittee desires to communicate with the manufacturer, the correspondence is conducted through the secretary of the Council, the identity of the subcommittee not being divulged.

When ready the report is placed in the Bulletin, together with such correspondence or other matter that the subcommittee may think necessary for the guidance of the members in arriving at a conclusion. The report may be preliminary or final. If preliminary, suggestions and advice are asked. If final, the article is recommended for either Class A, B, C or D, and reasons given for the recommendation. When the final report is made, it is before the whole Council for action. If the article is put in Class A, it means acceptance; if in Class B, more definite information regarding the composition is wanted; if in Class C, certain modifications in the literature are required, and, if in Class D, it means refusal of recognition.

The assignment of an article to Class A or Class D is not necessarily final. If an article which has been voted to Class A is later found to conflict with the rules, the action of the Council may be reconsidered. Similarly, an article voted to Class D may again be taken up and finally accepted if it is found that it has been made to conform with the rules.

Many manufacturers, believing that the publication of certain information in regard to their products would detract from their value, have often volunteered to furnish information for the private use of the Council. The Council, however, does not receive trade secrets, but insists that all information it receives may be published at its discretion. The Council desires information for the profession, and not for itself alone.

CHEMICAL EXAMINATION NOT ALWAYS MADE.

It is needless to say that the Council does not make chemical examinations of every remedy. Such a task is manifestly impossible. If the authors of text-books on physiology, on anatomy or on practice, were to verify every statement they made, such works could not be completed in a lifetime. Instead, the authors, by virtue of their general knowledge of the subjects on which they write, select the truths as they see them. These, finally presented in the form of a text-book, are again accepted as truths by students, because they believe that the author was competent to select from the mass of literature at his command those statements which were most probably true. In the same way the Council has attempted to prove or disprove statements which seemed questionable, while it has accepted those which, from its general knowledge, were believed to be true. In this matter it is needless to say that the Council has been inclined to accept statements made by firms or persons known to be reliable and responsible, while it has been inclined to examine more closely the statements made by irresponsible parties, or by those who seemed to be inclined to exaggerate.

FORMULA NOT ALWAYS RELIABLE—EXAMPLE.

At first it was supposed that the statements of all the legitimate manufacturing firms could be taken without question. This supposition, however, was not well founded, and it is here that some of us have been sadly disappointed. We supposed that it was only the pseudo-chemical concerns, those which are not in the legitimate manufacturing pharmaceutical business, who were the offenders, but in this we were mistaken. Even the regular manufacturing concerns have among their specialties preparations that are as fraudulent as are any put out by the typical nostrum vendors. One old-established house for years has had on the market a surgical dusting powder, which it advertised as a definite synthetic chemical compound, the result of great scientific research. The published formula was worded to mystify, and extravagant claims were made for the product. Our chemists showed that this wonderful preparation was a mixture containing approximately 70 per cent. of boric acid, 20 per cent. of acetanilid, with a little thymol, bismuth, cinchonin and salol. This is by no means an isolated case, but fortunately for one's faith in business integrity there are at least some firms that to physicians as scientific preparations.

COUNCIL DOES NOT RECOMMEND USE OF ARTICLES ACCEPTED.

The acceptance of an article does not mean that the Council recommends it; this is emphasized by printing the following disclaimer with every publication of accepted articles:

> The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council.

At the inception of the work, it was decided to adopt an extremely liberal policy and to accept a preparation that met the requirements, even though it might not be considered of any great therapeutic value, or as representing anything new or important from a chemical or pharmaceutical point of view. Later, when the Council obtains the fuller cooperation of the profession, a higher standard may be adopted for acceptance. In sifting the wheat from the chaff it is sometimes advisable to have a coarse enough sieve to let a little chaff go through, but later on it may be desired to have the pure wheat without any chaff; then the sieve must have a finer screen.

It is presumed that physicians will think for themselves and use their own judgment regarding the therapeutic value of the preparations accepted.

THE BOOK—NEW AND NON-OFFICIAL REMEDIES.

We have been speaking of "accepting" or "approving" preparations. Accepting for what? Approving for what? Not for the advertising pages of The Journal, as some have seemed to imagine. It would be absurd to go to the trouble and expense for such a purpose. In a sense, the Council is compiling a book, and acceptance of an article means that it is accepted for inclusion in this book. It will be known as "New and Non-Official Remedies," and will represent the actual tangible evidence, or result, of the Council's work. It will contain a description of those proprietaries which have been approved, together with such non-proprietary drugs as have come into more general use and are not as yet in the Pharmacopeia. Is it necessary to present arguments to prove that such a book is needed? Heretofore there has been no book, in this country at least, that a physician could turn to for information regarding non-official preparations. Every day a physician in active practice who reads sees mentioned in his journals medicinal preparations about which he knows nothing. But he wants to know. Where shall he look? They are not mentioned in the Pharmacopeia, in the National Formulary nor in but few, if in any, of the standard textbooks on materia medica. Heretofore he has had only one satisfactory source of information, if it is a proprietary—the manufacturer. And the information he will receive from him will most likely be voluminous, but too partial for unquestioning acceptance. Why not make it unnecessary for such an inquirer to depend entirely on biased information?

This book will tell him what the preparation is, what is claimed for it, the dose, where it can be obtained, and whether patented or trademarked. It will give him the most favorable information consistent with truth, quoting even the claims of the manufacturer, if they are not too optimistic. But it will tell him what will not be found in the literature sent him by the manufacturer—it will inform him if it is liable to have untoward effects, etc. It will, in short, supply him with information that is uninfluenced by commercialism.

It will be supplementary to the Pharmacopeia, and will contain preparations that later will become official, as, for instance, the various patented products which, because they are proprietaries, are not usually admissible to the Pharmacopeia. The last revision of the Pharmacopeia contained preparations that, while in general use by physicians at the time, did not appear in the former edition. In 1893, for instance, phenacetin was in general use, but it did not appear in the Pharmacopeia issued in that year. If this preparation, which is now official as acetphenetidin, is a good thing to-day, it was then. There are a number of such preparations already accepted that will probably be in the next Pharmacopeia,

BOOK NOT LIMITED TO PROPRIETARY ARTICLES.

At the beginning it was intended to include in the book only proprietary articles, but time and experience have shown the need of including more than these. New drugs are continually being added to our therapeutic armamentarium that are not in the Pharmacopeia. For instance, a little while ago phenolphthalein, long in use in laboratories, etc., as an indicator, was discovered to have purgative effects, and clinical use seems to demonstrate that it may have certain advantages over other aperients. In fact, it is already on the market under various proprietary names, as purgen, purgen konfect, purgatol, purgotin, laxireonfect, laxine, el zernac, etc. The Council has decided to include this in the book. Thus physicians will be able to learn what phenolphthalein is at the outset and will not be deceived for years into using it under various fanciful names and at many times its cost. But, above all, they will not be misled by the extravagant claims of commercial interests.

Hexamethylene tetramine had been known before its value as a urinary antiseptic was discovered; then it was put on the market under various trademarked names. At the present time the Council would undoubtedly accept this for the book, with a description, and we would not be bothered with a dozen or more different names for the same article. Incidentally, I hoped a less cumbersome name would have been given the preparation than was adopted by the Committee of Revision of the Pharmacopeia. Four trade names for hexamethylenamin already have been accepted, but this is done not to encourage many names for the same thing, but to furnish information. Thus a reference to the book will disclose that Urotropin, Formin, Methaform and Uritone are different manufacturers' names for hexamethylenamin.

The permanent addition to our materia medica of really meritorious articles has been slow, extremely slow; but the elimination of those without merit has been still slower. And, what is of more importance, this elimination has been achieved at the loss not only of money, but possibly even of human lives. The indiscriminate and unscientific drug experimentation that has been carried on by physicians at the behest of commercial interests and without any knowledge except that furnished by such interests is not creditable. It is hoped that this book will check this, to some extent at least.

BOOK WILL BE AN ANNUAL.

The idea is that this book will be issued as an annual, each revision to include the addition of new drugs and proprietary articles that are deemed worthy of admission: those that for good and sufficient reasons should be omitted will be left out. The descriptive matter will also be modified as may be found necessary from the developments of the year. Manufacturers are slow to call attention to untoward results. It will be the function of the revisers of this annual to incorporate both the favorable and the unfavorable.

Personally, as one who has had experience in general practice, I know that it will be of immense value. Heretofore there has been no way for the conscientious practitioner, the medical writer or the editor to differentiate the true from the false. For these the book, "New and Non-Official Remedies," will furnish a reliable guide.

While I have spoken of this book as of the future, the fact is the first or preliminary edition was issued some six or eight weeks ago. This, however, is simply a reprint of the articles as they appeared in The Journal and is issued for two purposes: To invite criticisms and suggestions, and, what is more important, to furnish even now a book of reference for those who want to support the Council in this movement by using only such preparations as have been approved. Another similar edition will be issued shortly, slightly modified, with an index and more information than appears in the first reprint; and, of course, it will include the articles that have been accepted since the first edition was printed. It is probable that two or three editions of this preliminary report may be issued before the official book is published.

CAN NOT PUBLISH BLACKLIST.

It has been suggested that the Council print a list of the preparations that have been refused recognition, since there are many who have intimated that they would not prescribe or recognize in any way the rejected articles. This is impracticable: First, because the number is too large; second, because the Council hopes that some may reform or be withdrawn without necessitating a resort to extreme measures, and, third, because it might and undoubtedly would involve us in lawsuits. A blacklist is not a safe thing to make public.

The Council is publishing from time to time reports condemnatory of preparations, with comments, but this has to be done with great caution; every statement must be verified or injustice might be done. Further, the function of the Council is to approve rather than to condemn. When it does condemn and publishes its condemnation, it is for a specific purpose, that purpose being to educate physicians by presenting concrete examples of the way they are being imposed on.

CHEMICAL LABORATORY.

A chemical laboratory has been established in the Association building and is in charge of the secretary of the Council, Professor Puckner, and an assistant. While it is not possible to do a large amount of chemical work in this laboratory, it will be of great advantage in many ways.

In connection with the movement much information relating to the general subject has been gathered. This has been classified, indexed and made available for the future. This, in fact, is one of the important features of the work being done in the central office. In the past considerable matter has been published showing the fraudulent character of products manufactured not only in this country, but in Germany and abroad generally. Such matter has usually been published in drug or chemical journals and has never come to the attention of physicians—the very ones who should have been informed.

The important drug and chemical journals of the world are taken for the laboratory, and the information obtained from them is most valuable. It is needless to say that hereafter physicians will be informed of matters which concern them that appear in this class of journals.

In connection with the laboratory is an information bureau, in one division of which advertising literature has been collected and classified. This includes booklets, circulars, advertisements and write-ups in medical journals, etc., covering the last five years. The exhibit is interesting and instructive for those who want to make a study of this nostrum business, and will furnish texts for future sermons in the propaganda for common sense in therapeutics.

Another division directly related to the above is a card index of those who have given testimonials or furnished write-ups of proprietary preparations. These cards are made up in great part from the matter on file. This division also is most interesting. While it contains the names of a few excellent men, the great majority are hardly known in their own locality, and yet their opinions are accepted without question by intelligent, well-educated practitioners. Some seem to have a habit of giving testimonials for all kinds of things and it requires considerable space to record the references. It is encouraging to note that this exhibit is not growing so fast as it was. Evidently, testimonial giving is not so popular as it was previous to a year and a half or two years ago.

It is well known that while the *name* of a product does not change, the *composition* of the product may, and does. To be able to show this in the future, samples of many proprietaries are preserved, with date of receiving, etc.

COOPERATION OF OTHERS.

One favorable development is the cooperation of other workers in similar fields. A number of chemists in universities, schools of pharmacy, etc., have volunteered to assist, and it is expected that in the future the aid of such men will be of great advantage in solving questions on which they are especially well qualified to pass. Several state and municipal boards of health are doing good work, and exchange of information with these is now a feature. This promises to develop in the future to the mutual benefit of these boards and the Council. It is hoped, in time, to interest teachers in medical colleges; such help is sorely needed.

The advantage to the Council of having as members Dr. Wiley, chief of the Bureau of Chemistry, and Dr. Kebler, chief of the Drug Laboratory, has been very great, for it has received not only their personal aid, but also material assistance from the departments with which they are connected. In fact, without the aid of these laboratories some of the work done would have been impossible. The profession is also under great obligations to Surgeon-General Wyman, who permitted Dr. Reid Hunt to serve as a member of the Council. Through Dr. Hunt's connection with the Hygienic Laboratory of the Public Health and Marine-Hospital Service, and with the permission of Surgeon-General Wyman, it has been possible to refer certain intricate problems to that laboratory that otherwise would have been difficult of solution.

FOREIGN COOPERATION.

Another promising feature is the fact that the Council is getting in touch with workers abroad. For instance, splendid work is being done in Berlin, especially in the investigation of the synthetic chemical compounds under the auspices of the German Apothecary Society. This is directed by Professor Thoms of the Pharmaceutical Institute of the University of Berlin, a chemist of international standing. Correspondence with Professor Thoms has been carried on for some months, and he has offered to assist the Council whenever possible. At the request of the Council, the Board of Trustees of the American Medical Association has just elected him a corresponding member of the Council.

Professor Cushny of the University of London has been a corresponding member since he left this country soon after the Council was organized.

It is hoped very shortly to get similar foreign correspondents in Paris, Switzerland and in other countries.

Such cooperation will be of great assistance in dealing with foreign products.

One of the conditions which the Council has had to meet is the exploitation of foreign goods by American agents who advertise them, sometimes innocently, under claims that are not accepted abroad. In some instances products had been sold abroad under claims regarding the composition that were shown to be false. Over there the manufacturers were compelled to modify their statements, but the old claims are still being made here. The Council has already secured a modification of the literature relating to certain foreign products by calling the American agents' attention to the fact that if such modifications were not made the actual facts regarding the preparation would be published.

A large number of preparations made here are advertised as being made abroad. Further, some are made abroad for the American market that have absolutely no sale in the country in which they are made. In due time evidences of these facts will probably be given to the profession.

I have given a brief review of the conditions which led to the organization of the Council, have outlined the principles or rules by which proprietary articles are judged, and have spoken of the mode of procedure. I have not told you of the difficulties the Council has encountered, and I think this hardly necessary, for I am sure all know without being told that these difficulties have been very great.

CONDITIONS ALREADY IMPROVED.

The work has been going on for a little over two years. To all appearances there are just as many nostrums on the market and the advertising pages of certain medical journals are just as well filled with this class of medicines—in fact, if the truth must be told, better, and for reasons that should be evident. But in spite of this apparent evidence of prosperity, if one looks beneath the surface, one will find that a change has taken place. There has been a gradual decrease in the number of write-ups of proprietaries; there is evidence that physicians are thinking, that they have developed a healthy skepticism and no longer believe all that is told them about the wonderful cure-alls they are asked to prescribe. The detail men do not have such willing and credulous listeners. There has been a remarkable falling off in the sale of "ethical" proprietaries, especially those of the typical nostrum type. This is common knowledge to those in touch with the trade. A comparison of the catalogues of some of the manufacturing houses in circulation two years ago with those of to-day will reveal the fact that not a few of the "specialties" are missing. And the descriptive matter, formulas, etc., of many others are different from what they were. A part of this is explained by the national Food and Drugs Act, but only a part. Many of the changes had taken place before this law was passed.

The influence of the Council in this connection has been greater than will ever be known. The knowledge that our profession is at last awake, that it has a body to expose the frauds that may be imposed on physicians has aroused some of the manufacturers at least to realize that old conditions have changed. The advertising literature is scrutinized more carefully; positive cures for incurable diseases are not so common.

"WHAT ARE YOU GOING TO DO ABOUT IT?"

This much has been accomplished; and yet what does it amount to compared with what must be done before American medicine is rid of the nostrum blight? The work has really just commenced. The exposès that have been made and the publication of facts regarding the nostrum business have made a large minority of the physicians think. But it is evident that much more must be done to arouse them to act. And this brings us to the question, "What is the profession going to do about it?"

The Council is purely an advisory body; there is no national, state, county, city or any other law that will compel the manufacturer to recognize it or to comply with its requirements. Hence, without the support of our profession its work will be of no permanent value. But this must be more than a passive support. Simply endorsing the work by words, by commendation or by that indefinable something called moral support, is well enough so far as it goes. But if definite, permanent, tangible results are to follow, the profession must act. If the profession does not act and does not back up this movement, rest assured we shall in time drop back into the old conditions, or into even worse.

HOW THE PHYSICIAN CAN HELP.

This movement was inaugurated directly for the benefit of the medical profession, and indirectly for the benefit of the public. There is no question as to the final success of the propaganda, but the work will be greatly facilitated if you who are interested will:

First.—If you use proprietaries, secure the list of approved preparations and, all things being equal, give those in the list preference in prescribing. This list, with a description of each article, costs but a few cents; without the description it may be had for the asking.[2]

Second.—Write to those whose preparations you are using and ask if the articles have been submitted to the Council; if submitted and refused recognition, why? and if not submitted, why not? Bear this in mind: The manufacturers will recognize the Council and ask to have their controlled products placed in the book if physicians insist that they desire this; otherwise, they will do neither.

Third.—Ask detail men who call if the preparations represented have been approved by the Council, and if not tell them that until this has been done you do not care to take time to examine the product.

Fourth.—Look over the advertising pages of the medical journals you are supporting—editors and publishers have great respect for the opinion of their subscribers—and write and ask for a square deal in the advertising, as well as in the reading pages.

Will it be out of place for me to suggest here that the members of the Council have a right to ask for your support, when they are working absolutely without pay? Is it presumed that they will keep on indefinitely and submit to jeers and sneers if those whose interests they serve do not themselves do their share?

I am sure that every intelligent physician, unless he has some interests on the other side, believes that the movement is a good one, and deserves all the support the profession can give it. I am also sure that every one of you believe this. But—what are you going to do about it?

Let me repeat: Moral support alone will not win this battle.

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[2] For prices, see advertising page 30, this issue.

It Will Pay.—The prolongation of life by the suppression of preventable disease is of much greater value to the state than the cost of the means employed.—G. W. Webster, M.D., in *Charities and the Commons.*

Original Articles

THE CURE OF UNILATERAL RENAL HEMATURIA BY INJECTION OF ADRENALIN THROUGH A URETER CATHETER.

HUGH H. YOUNG, M.D.
Associate Professor of Genito-Urinary Surgery, Johns Hopkins University.
BALTIMORE.

The following case of persistent hematuria from the left kidney of sixteen months' duration, which was cured by the injection of adrenalin in the renal pelvis through a ureter catheter, seems of sufficient interest to warrant publication.

It is interesting because of supposed traumatic origin, an injury having been received ten days before the hematuria began; because pain was constantly present in the side injured, but the hemorrhage came from the opposite side; because of the absence of any signs of nephritis which is held to be generally present in such cases, and because no previous publication of the use of adrenalin for such purpose has been found in the literature.

Patient.—R. H. D., single, aged 36, admitted Dec. 3, 1906, complaining of blood in urine.

History.—His family history was negative, as was also his past history. Patient had never had gonorrhea nor syphilis. No previous urinary trouble.

Present Illness.—In July, 1905, while working on a farm, the rack of a hay wagon fell over on the patient, and a large iron bolt struck him on the right side of the back "between the ribs and hip bone." He was stunned for a few minutes, but soon was able to return to his work, although there was considerable pain present in the region of the trauma. During the next week he had a good deal of pain in the right lumbar region, but he continued at his work. Ten days after the injury he noticed for the first time that the urine was quite bloody. He feels sure that there was no hematuria before this, and says that micturition was normal in every way before and after the onset of the bleeding. There was no swelling present in either side, and he felt well but for the dull pain in the right lumbar region which had persisted since the accident. There had been practically no let-up in the hematuria since its beginning, although the amount of blood present had varied somewhat. During this time his general health had been excellent and his only symptom had been a slight, dull pain located in the right lumbar region, almost constantly present but never severe. The blood had always been well mixed with the urine—never any clots. Never any pain nor discomfort on the left side, nor any disturbance to micturition. The urine was continually bloody and had been so for the previous 16 months. The patient had lost weight and was much weaker than normal. He had a dull pain "in the region of the right kidney" which he said felt beneath the ribs in front and in the small of the back on the right side. Occasionally the pain radiated toward the right hip bone, but never into the bladder, groin nor testicle. There was a slight increased frequency of urination and occasionally burning pain in the urethra. His sexual powers were normal, and he had no pain during ejaculation, during defecation or during urination with the exception of the occasional burning pain in the end of the penis previously spoken of.

Examination.—The patient was somewhat emaciated and rather pale. There was a slight arteriosclerosis present. The heart and lungs were negative. Neither kidney was palpable nor tender, and there was no tenderness along the course of either ureter. The patient did not complain when deep pressure was made on the region of the kidney on either side. The genitalia and rectum were negative. The urine voided in three glasses was uniformly reddish-brown in color. Under the microscope only blood cells were to be seen. There were no bacteria present.

Cystoscopic Examination.—A catheter was passed with ease and there was no stricture present. The bladder was large and difficult to wash clean of blood. The cystoscope showed a slight median prostatic bar with a shallow cleft on each side. The lateral lobes of the prostate were not enlarged. The bladder was normal. The trigone was a little irregular and hyperemic. The ureteral ridges and interureteral ligament were slightly hypertrophied. The right ureteral orifice was small, secreted at normal intervals and the urine emitted was apparently clear. The left ureteral orifice was larger, located in a prominent papilla and surrounded by congested blood vessels, but no distinct ulceration or inflammation was seen. It was secreting intermittently at normal intervals and the fluid coming from it was smoky in color. The patient was given urotropin (hexamethylenamin) and was requested to return for ureter catheterization. He was also sent to Dr. F. J. Baetjer for skiagraphs to be made.

On Dec. 4, 1906, Dr. Baetjer reported that skiagraphic examination of the kidneys was negative. Within the bony pelvis and along the supposed course of the right ureter were two small shadows about 5 mm. in diameter, lying close together and apparently about 1 cm. above the point of juncture of the ureter and bladder. They might have been phleboliths, but Dr. Baetjer was inclined to think that they were small ureteral calculi. Nothing was seen on the left side of the pelvis or along the other portions of either of the ureters.

Cystoscopic examination was again performed and bloody urine was seen coming from the left kidney and clear urine from the right.

Ureter Catheterization.—On Dec. 8, 1906, both ureters were catheterized with the double Casper ureter catheter cystoscope with very little difficulty, the catheters being introduced about 4 inches on each side. The urine coming from the left side was bloody, that from the right side was clear until about 5 c.c. had been secured; after that a small amount of blood appeared in the urine. Urine came from the left side much more rapidly than from the right, the total amount collected being about four times as much during the same interval. The urinalyses were as follows:

	Combined Urine.	Right Kidney.	Left Kidney.
Color	Dark red	Slightly tinged with blood.	Dark Red.
Sp. Gr.	1030	Amount too small	Am'unt too small.
Sugar.	None	None	None.
Urea		0.16	0.19
Albumin	Considerable	Faint trace	Considerable.
Microscopic.	Blood corpuscles. No pus or bacteria. No casts.	Few red blood cells. No casts.	Many red blood cells. No casts,

It seemed evident from the examination that the hematuria was from the left kidney and that there were no calculi in the right ureter, as no obstruction was encountered in introducing the ureter catheter. It occurred to me that adrenalin might be useful to cause a cessation of the hemorrhage from the left kidney and I therefore decided to introduce it through the left ureteral catheter. For this purpose 2 c.c. of adrenalin was added to 8 c.c. of sterile water. With a small syringe about 3 c.c. was first injected through the catheter into the left ureter. The syringe was then removed and bloody fluid allowed to escape from the ureter catheter. When this ceased about 3 c.c. of adrenalin was again introduced. The introduction of the fluid caused pain which the patient felt in the small of the back and beneath the ribs on the left side. When some of the fluid was allowed to escape the pain became less, but after the withdrawal of the catheters, which was done after 6 c.c. of the adrenalin solution had been introduced, the pain in the region of the left kidney persisted, and after the patient was removed from the table he continued to complain of considerable pain in this region. There was no pain referred to the region of the right kidney, and in fact the patient remarked that the dull pain which had been constantly present on that side had disappeared as soon as the pain on the left side came on. The patient soon voided a considerable amount of quite bloody urine. He then lay down for a while, but after about an hour returned home.

Convalescence.—During the evening following the injection a request was received to visit the patient at his home. He felt weak and complained of considerable pain in the region of the left kidney. The urine was deep red in color; no infection was present.

On Dec. 9, 1906, the patient reported that at 8 p. m. the previous evening he had a very severe attack of collicky pain in the left side, beginning in the region of the kidney and radiating downward to the bladder and end of the penis; he subsequently passed a large clot and the pain subsided. Seven hours later and again at 8 p. m. of that day similar attacks occurred, but they were much less severe and did not last so long. The patient said that during these attacks he voided urine which was perfectly clear, but when the pain passed away the urine was very bloody and contained clots. An examination of the clear urine passed while the left ureter was plugged, shows urea 0.22 per cent.

Dec. 10, 1906: Another very slight attack of pain; slight headache and fever.

Dec. 11, 1906: At 3 a. m. the patient had a slight attack of pain in the region of both kidneys lasting two hours. Urine was still bloody.

Dec. 12, 1906: The patient said the urine was now clear. Examination shows that it was slightly smoky and contained red blood cells. No bacteria were persent.

Dec. 15, 1906: For three days previously the patient had had only a slight pain in the region of both kidneys and the urine had been free from blood. He had had no fever, but he felt nervous.

Dec. 18, 1906: The urine was still slightly cloudy and showed red blood cells.

Dec. 21, 1906: The urine was perfectly clear in all three glasses; it was amber in color and a centrifugalized specimen showed no red blood cells nor casts. He said that there had been no blood in the urine for three days. He had a slight dull pain in the small of the back, but there was no pain in the region of either kidney, and the pain which was present in the right side up to the time of the injection of adrenalin had not been present since. He said that this was the first time in one year and four months in which the urine had been absolutely clear. He had taken no treatment except urotropin, which had been given to prevent urinary infection. This was given for a week before the ureters were catheterized, but had no effect on the hematuria.

Dec. 30, 1906: The urine was clear, but a centrifugalized specimen showed a few red blood cells. He still had a slight pain in the back, but felt well and had no frequency or difficulty of urination. Neither kidney was palpable, and there was no tenderness on deep pressure over either kidney or ureter.

Jan. 2, 1907: The urine was clear in all three glasses and centrifugalized specimen showed no red blood cells and no casts. The patient felt well, had only a slight pain in the back and the kidneys were not tender.

Feb. 2, 1907: The patient had been at work for some time. He said that he occasionally suffered from slight pain in the small of the back, which was increased somewhat by active exercise, but when he was quiet he was entirely free from pain. He slept well and felt perfectly well in the morning. He had gained 11 pounds since the injection of adrenalin and his general health was excellent. His urine continued to be entirely free from blood.

Second Examination.—The patient appeared well and his lips were of good color. There was a slight arteriosclerosis, but the pulse was regular and of good volume, 100 to the minute. Examination of the kidney was entirely negative. There was no tenderness on deep pressure either beneath the ribs or in the lumbar region, with the exception of slight tenderness on the left side on deep pressure. The urine was perfectly clear, light amber in color; sp. gr. 1019, with no albumin, no sugar, and the centrifugalized specimen showed no casts, pus, nor bacteria. He had no treatment since the injection of adrenalin, with the exception of urotropin, which he took, 20 grains daily for three days, and has taken none since.

On March 8, 1907, the patient returned for examination. He said that he had been at work daily, and that there had been no return of the hematuria. Micturition had been entirely normal. Work seemed to produce a slight pain in the back, and several times he had a dull pain in the right side of the back, and occasionally in the left side of the back. This was present only in the daytime and disappeared in the evening. He still suffered from headaches, but not nearly so severely as before. His eyes troubled him and he wore glasses which he thought did not suit him very well. He had gained in weight and general health and his strength was good. The patient looked well. Physical examination was entirely negative. The urine was clear and normal. There was no albumin, no casts, no blood, no evidence of nephritis.

The subject of renal hematuria without material cause has of late received considerable attention in the literature, and during the last few months important articles by Casper, Fowler and Chute have appeared.

Casper[1] reports seven cases of unilateral hematuria, in five of which operation was performed. In four cases the hematuria was due to chronic parenchymatous nephritis, which in two cases did not show itself until several months after the operation, although sections from the kidney at operation showed definite evidence of the disease. In one case the hemorrhage came from carcinoma involving the pelvis of the kidney. In two other cases the kidney from which the hemorrhage occurred was removed, one on account of injury to the renal vein and in the other case on account of the very weak condition of the patient. Although very careful macroscopic and microscopic examinations were made in both of these cases the source of the hemorrhage could not be made out, and with the exception of a few small fibrous points the kidney was normal.

Fowler[2] reports an interesting case of unilateral hematuria, in which he removed the kidney, microscopic examination of which showed a chronic diffuse nephritis. Subsequent to the operation an increasing amount of albumin and casts were found in the urine, and finally a few red blood corpuscles, thus showing distinctly that the apparently sound kidney was also diseased. Fowler has made a careful study of the literature and shows that many of the cases of supposed hematuria from sound kidneys were really cases of nephritis, but he quotes Schede as saying that he has found six cases recorded by competent observers in which careful microscopic studies of the extirpated kidneys showed no evidence of nephritis or other cause for the hemorrhage. I am able to add another case of unilateral hematuria without demonstrable lesion in the kidney. In this case the hematuria of several years' duration came from the left kidney. An exploratory operation was performed, and during this the ureter was accidentally torn so that nephrectomy had to be done. Very careful examination of the kidney was made in the pathological laboratory of the Johns Hopkins University and nothing abnormal was to be made out. The patient has since remained entirely well. Adding the two cases of Casper we then have at least nine cases of unilateral hematuria in which careful examination showed no evidence of nephritis or other cause for the bleeding. It therefore seems evident that there are a definite number of cases in which there is no pathological explanation for the hematuria.

As regards the character of nephritis associated with hematuria there is much divergence of opinion. Israel, Pousson, Edebohls, Rovsing and others hold that nephritis may at times be unilateral and in fact only involve isolated portions of one kidney. Fowler divides chronic nephritis associated with hematuria into two groups; first, those in which the nephritis is diffuse; sec-

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1. Archiv. f. klin. Chir., Berlin, lxxx. No. 2.
2. Studies in Urological Surgery, Johns Hopkins Hospital Reports, xiii.

ond, those in which the nephritis is circumscribed or partial; and notes cases of Albarran and Nicolich in which careful pathologic examinations demonstrated lesions of this nature in two cases of unilateral hematuria. Casper, on the other hand, vigorously combats this view and holds that chronic nephritis is always double and diffuse and claims that these isolated lesions which have been described in kidneys extirpated for unilateral hematuria are frequently seen at autopsy where no hematuria had been present and are simply the results of some old lesion which had long since been cured. Similar lesions are frequently seen in various organs of the body. Casper says that he has catheterized both ureters in more than 100 cases of nephritis and has always found the albumin bilateral. He says that the urine in these cases never contains bacteria and that the nephritis is the result of toxic processes, and therefore necessarily bilateral. The unilateral nephritic lesions which have been described, he thinks, are the results of localized arteriosclerosis or focal bacterial infections and that their tendency is toward the formation of a localized area of sclerosis and is not progressive as in cases of true nephritis. Malherbe and Legueu, after an exhaustive study of the subject, assert that it is well established that chronic nephritis can establish itself in only one kidney and be characterized by a single symptom—hematuria. This is proven by numerous nephrectomies where nephritis was found and the patient has remained cured. A careful review of the literature shows that there is need of much work, both clinical and pathologic, in order to clear up this important field of renal pathology and therapeutics.

The diagnosis of the cause of unilateral renal hematuria is not always easy. Fortunately, the more common etiologic factors, calculus and tuberculosis, are usually recognized easily by means of the Roentgen ray and bacteriologic study of the urine. In the case of a tumor the diagnosis is not so easy. As a rule, however, the neoplasm reaches palpable size before the hematuria becomes marked, but in some instances this is not the case. Occasionally the Roentgen ray will show a definite enlargement of the kidney, and tumor may be suspected, although it is not palpable. In cases of hematuria associated with nephritis there may be many unmistakable signs of the disease present, but according to Albarran and Hamonic the hematuria may precede the disease by several years. As a rule, however, bilateral catheterization of the ureters will demonstrate albumin and casts in the urine from the kidney which is not bleeding. Casper says that cryoscopy is of little help in these cases and that the elimination of the sugar after phloridzin injections is about the same from both kidneys. In only one of four cases did Casper find the urine, obtained by ureter catheterization from the non-bleeding kidney, to be free from albumin or casts, and as the kidney was not removed in this case it is impossible to say that the albumin which has persisted does not come from the kidney operated on and that he had a definite case of unilateral nephritis. In both of Casper's cases in which the extirpated kidney was found to be free from nephritis the urine obtained by catheter from the non-bleeding side showed no casts and practically no albumin. The same was true in my case. It seems, therefore, to be pretty definitely shown that simultaneous bilateral ureter catheterization will generally show evidence of nephritis in the non-bleeding kidney if such disease is present, and that in cases where the urine thus obtained is entirely normal the diagnosis of bilateral nephritis, at least, can be excluded.

PROGNOSIS.

This study of the literature has shown conclusively that great importance should be given to apparently causeless hematuria and that it should not be allowed to run on indefinitely without due efforts being made to determine the etiology. For this purpose bilateral ureter catheterization should always be done. The double ureter catheterization cystoscope of Casper has proved the most effective instrument for the purpose in my hands, but the new Nitze instrument is perhaps easier to manipulate. The operation can be done under local cocain anesthesia (4 per cent. cocain in bladder and urethra), generally with little pain and without much difficulty.

Enough urine should be collected for a careful urinalysis, and a comparison between the separate specimens and the combined urine voided immediately before catheterization made. The case reported at the beginning of this paper demonstrates to my mind the importance of attempting to stop the hemorrhage by the injection of adrenalin through the ureteral catheter. The excellent result which was obtained in this case proves conclusively its therapeutic value in certain cases, and I am convinced that it is practically free from danger. Even in cases where a definite lesion, such as nephritis or renal tumor, may be present the use of adrenalin would not seem to be contraindicated; in fact, it may prove of great diagnostic value. It would seem probable that, in cases of nephritis, if the hematuria ceased after the use of adrenalin, a better opportunity would be afforded for carefully examining the urine and determining the presence of a nephritis, and it is possible that the hemorrhage with its marked weakening effects might completely disappear, even though the nephritis persisted. In the case of renal tumor I do not believe its use would be contraindicated, because I am firmly convinced that if the hemorrhage were due to ulceration of the new growth into the urinary passages it would promptly recur, so that the use of the adrenalin would not greatly delay an exploratory operation to determine the exact nature of the lesion. On the other hand, if a neoplasm were suspected the subsequent ureteral catheterization when the urine is free from blood would give a far better opportunity to study the relative value of the urine from the two sides and by functional diagnosis aid in the recognition of marked renal impairment on the bleeding side, a finding which would be suggestive of tumor.

As remarked above, however, the question of renal hematuria without other symptoms is a subject about which comparatively little is known and should receive considerable study in the future. With the use of adrenalin to stop hemorrhage we may have a measure of considerable diagnostic and therapeutic value. If we can in this way cure, as in the case reported above, cases of persistent hematuria without definite renal disease much will be gained and patients saved from the ordeal of cutting operations. If only a temporary cessation of the hematuria can be procured in other cases a chance will be afforded for a more careful study of the urine and a comparison of the function of the kidneys which may make renal diagnosis much more easy.

The Urine in Nephritis.—W. G. Vincent (*New York Med. Jour.*), states that the further we get away from the strictly parenchymatous types of nephritis the less we can depend on the urine examinations alone to determine the actual pathologic condition of the kidney, though they give us an approximate measure of its functional value.

STRANGULATED HERNIA.*

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Clinically, the term strangulated hernia refers to strangulated abdominal types. It may be defined as "that condition in which the contents of the sac are so constricted or girt about that there follows pain, obstruction, vomiting, irreducibility and absence of expansive impulse."[1] The relative frequency of strangulation, based on a report of 529 cases, is as follows:

250 cases of strangulated femoral hernia.
250 cases of strangulated inguinal hernia.
29 cases of all other abdominal types.[2]

The pathology of strangulation may be considered with reference to the gross anatomy of hernia, the histopathology of the strangulated parts, and the mechanisms precipitating the crisis.

By reference to the gross anatomy it is observed that the constriction may occur in the canal transmitting the hernia, in the hernial sac or its contents (Figs. 1 to 7). If in the canal, it is usually at one of the natural openings or rings guarding the entrance and exit (Fig. 2). Otherwise, it may be determined by cicatricial contracture, or by the pressure of a neoplastic or inflammatory swelling (Figs. 3 and 4). If in the hernial sac, it may be at one or more places in the neck or fundus, or in a diverticulum (Figs. 4 and 5). In such cases the sac is usually thickened by hyperplasia, or by plicature of its lining. If in the hernial contents, it is secondary to adhesions or the direct result of volvulus (Fig. 6). Constriction may also occur at a rent in the sac through which the hernial contents have extruded (Fig. 5).

The histopathology of the strangulated parts is essentially that of the phenomena accompanying passive congestion, septic infection, and moist gangrene.

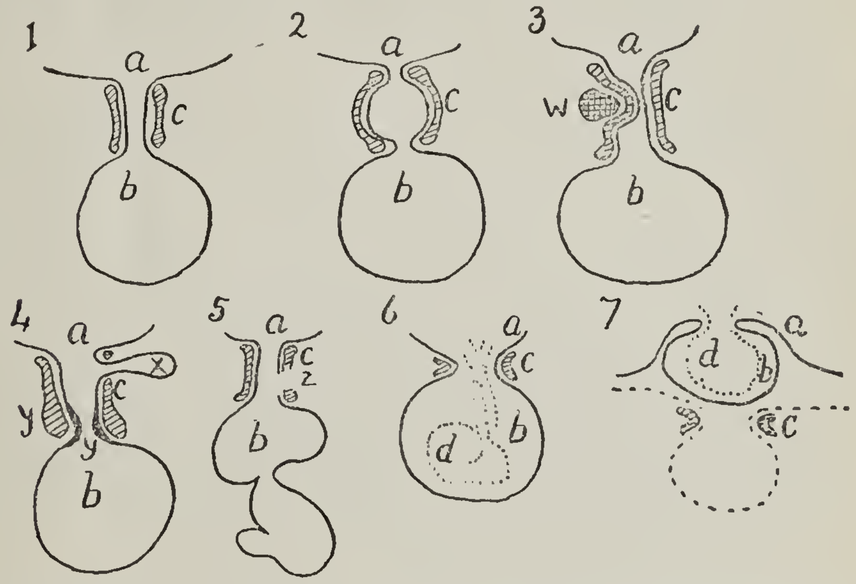
Our present knowledge of the mechanisms precipitating strangulation is hypothetical. The two essential elements in strangulation are the constriction itself and the hernial contents bound off by it. The first is usually a constant; the second is a variant, in that it is subject to rapid alterations in anatomic make up, form, volume and position. In connection with the forces exciting these critical alterations, it may produce strangulation in the following ways: 1, By passing through the constriction under sufficient pressure to induce strangulation at once; 2, by undergoing critical alterations, after having safely passed the constriction, that increase the pressure to the point of strangulation; 3, by the passage of an additional structure through a constriction filled with all the hernial contents it can safely transmit; 4, by volvulus in a part or all the hernial contents. The constriction itself, which is practically a constant, may become a variant by critical contraction of its lumen, incident to cicatricial thickening, acute swelling, or external pressure. Thus it may close too tightly about the contents of an unreduced hernia and bring on strangulation.

SIGNS AND SYMPTOMS OF STRANGULATION.

The earlier symptoms and signs of strangulation are abdominal pain, vomiting, quickened pulse and sometimes elevation of temperature, associated with irreducibility, absence of expansile impulse, and increasing volume, turgidity and tenderness of the hernia. If the bowel is caught, we have the additional symptoms of intestinal obstruction and cessation of the gurgling sound within the hernial sac. The late symptoms are essentially those of peritonitis or of abscess formation, and the more aggravated manifestations of intestinal obstruction. The pain is intermittent and colicky or continuous. At first it may be general or localized about the umbilicus or epigastrium; finally it centers at the seat of strangulation. The vomiting is at first reflex, but later is due to reversed peristalsis or the direct action of septic poisons on certain brain centers. Stercoraceous vomiting seldom begins inside of forty-eight hours. Tenderness over the tumor may develop later. A sudden cessation of pain and of symptomatic violence without reduction of the hernia is a bad omen.

DIAGNOSIS AND PROGNOSIS.

The diagnosis of concealed strangulated hernia is of vital importance. Persistent abdominal pain, especially if accompanied by vomiting, with the diagnosis unsettled, demands a search for this condition. Strangulation of Richter's hernia, one in which only a part of the circumference of the bowel is caught, is most fatal and difficult to diagnose. In operating for this condition, it is essential not to allow the strangulated segment to slip into the abdomen without thorough examination.



Strangulated Hernia.—a, abdominal cavity; b, hernial sac, neck and fundus; c, hernial canal; d, hernial contents; w, mass exerting pressure; x, diverticulum; y, cicatricial contraction; z, rent in sac.

As to prognosis, it is well to remember that the passing of each succeeding hour with strangulation unrelieved portends a decreasing chance of recovery and an increasing probability of a tedious convalescence in case of survival. In violent cases after twelve hours, and in all cases after twenty-four hours, the mortality is increased by further delay at an alarming rate.

Strangulation is more common and more rapidly fatal in enterocele than in epiplocele or in entero-epiplocele. It is also more common in small and recent hernias than in large and old ones. Femoral strangulations have a larger mortality than inguinal types. To illustrate, I shall describe two cases of strangulated femoral hernia referred to me by Dr. Van der Sliee, of Cheneys, Neb.

Case 1.—April, 1905.—Patient, a farmer's wife, of middle age, had been afflicted with a small femoral rupture for two years. At 9 o'clock one morning she noticed that her rupture had come down and could not be reduced. Dr. Van der Sliee was called and taxis tried without avail. I saw the case with the doctor at 6 p. m. We decided to prepare and operate imediately, if taxis under anesthesia would not relieve her. By 8 p. m. we were ready, having improvised baking pans for sterilizers and pie pans for instrument trays. The patient was rapidly getting worse. Dr. Myers of Bennett administered chloroform and taxis was tried for five minutes with negative results. The tissues were incised down to the hernial sac and bloody serum was encountered both outside and inside of it. A small knuckle of ileum was found badly strangulated and of a dark purple color. Hey's ligament was cut to release the constriction at the external femoral ring, and the bowel drawn out. Although the intestine had been strangulated for only twelve hours, the state of affairs within and about the sac indicated that gangrene would have set in shortly. It was decided to replace the loop within the abdomen. The femoral canal was obliterated by four interrupted sutures through the deep crural arch above, and the tissues over the ramus pubes below. The wound was closed under aseptic conditions and the patient made an uneventful recovery.

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*Read at the Johnson County Medical Society annual meeting, Jan. 15, 1907, Tecumseh, Neb.

[1] Agnew's Surgery.

[2] Hancock on Strangulated Hernia.

Case 2.—December, 1906. A farmer's wife, of middle age, with large irreducible femoral hernia of twenty-five years' standing, was taken sick with the usual symptoms of strangulation. At the end of twenty-four hours Dr. Van der Slice was called. At the end of thirty-six hours, consultation was held and immediate operation urged. The patient grew worse steadily. I operated toward the end of the second day without attempting taxis. The sac was large and filled with omentum and a large loop of sigmoid colon. There was some clear serum in the sac. The bowel and omentum were partially but not severely strangulated. The neck of the sac was large and the omentum firmly adherent to three-fourths of its circumference. It was necessary to cut the deep crural arch slightly to reduce the bowel. The omentum was ligated, amputated, and the stump of it sewed within the femoral canal, making as it were a new septum crurale. The wound was closed as in the preceding case. The patient has recently recovered after a complicated postoperative course.

The strangulation in the first case, a small enterocele of two years' standing, was much more complete than in the second case, a large entero-epiplocele of twenty-five years' standing. In the latter case the strangulation was precipitated by the slipping down of intestine into a sac already filled by an irreducible mass of omentum.

If omentum alone is strangulated, the case may result in recovery with an irreducible hernia. But since it is impossible to know that some part of the bowel is not included, we must treat each case with those prompt and often radical measures necessary to the saving of life in strangulation of the bowel. Unrelieved strangulation of the bowel means certain death.

As to treatment, it is best at the outset to throw a bomb shell into the midst of those who have it in hand to say what shall be done by telling them the patient will shortly die unless relieved. If they doubt you, call for intelligent counsel, and go about your task.

After the diagnosis, determine whether it is a case for taxis or not, bearing in mind the following contraindications: 1, When taxis has already been thoroughly tried; 2, when the case is extremely acute and violent; 3, when several days have intervened; 4, when dealing with an irreducible hernia; 5, when stercoraceous vomiting occurs; 6, when there is a suspicion of inflammation or gangrene; 7, when a skilful and clean operation can be immediately performed.

Taxis can not be done thoroughly without a general anesthetic. Place the patient in such a position that gravity favors reduction. If an inguinal hernia, flex the pelvis and thorax ventrad to relax the anterior abdominal wall. If a femoral hernia, the leg of the same side should be partially flexed, adducted and rotated inward to relax the fascia lata. The tumor should be drawn down in a line with the long axis of the canal transmitting the hernia. Then, while firm, continuous, even pressure is made to direct the contents of the sac in a line perpendicular to the plane of the opening through which they must first pass; traction enough should be made on the sac to draw out the folds into which it may be thrown at the neck. The fingers of one or both hands should be so applied as to mold the part which must first pass the constriction into that form most favorable to its return. Taxis should not exceed ten minutes, for he who persists unduly will be inviting death oftener than relief. If taxis fails, immediate operation should be carried out under aseptic precautions, in order that the hernial canal, the sac and its contents may be dealt with as they severally require.

When the hernia apparently has been reduced by taxis, and symptoms of strangulation continue, one of the following conditions may be present:

1. Another strangulated hernia.
2. Strangulation within the reduced contents.
3. Paresis of the released intestine.
4. Reduction *en bloc* (Fig. 7).
5. Reduction beyond the first but not beyond the second narrow where strangulation persists.
6. Presence of strangulation in an interstitial diverticulum of the sac.
7. Eruption of the hernial contents through the sac into the interstitial tissues of the abdominal wall.

The situation must be met by eliminating the possibility of another strangulated hernia, and operating according to indications. If it is probable that the hernial contents have not entered the abdomen, they can be exposed by an incision over the hernial tract. If they have entered the abdomen, a median laparotomy incision will, as a rule, be most serviceable.

Following actual relief of strangulation by taxis, other serious conditions may arise. Chief among these are peritonitis and hemorrhage. Such unfortunate occurrences may be due to direct injury from rough handling of the hernia, or to the fact that necrosis or active inflammation had actually set in before reduction. Again, these conditions are surgical and must be met promptly as the special case demands.

Finally, to the end of saving life in this crisis, let us bear in mind the words of Macbeth that

> If it were done, when 'tis done, then 'twere well
> It were done quickly.

VASCULAR LESIONS OCCURRING SUBSEQUENT TO ABDOMINAL SECTION.*

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There are three bounden duties which the conscientious up-to-date surgeon feels called on to fulfill. These are, first, preservation and publication from time to time of accurate and authentic records of his work; second, the publication in the current literature of all anomalous and unusual cases, or cases of extraordinary interest, which chance to fall in his way, wherefrom the collators of the profession may eventually cull some previously unknown fact or arrive at more or less positive statistics of the rare condition; third, and morally foremost, careful reports of accidents that have occurred in his hands in order that not only he himself may profit by the lessons to be derived therefrom, but that the profession at large, and the laity indirectly, may enjoy the benefits of his painfully-acquired information.

The cases that have become the texts for this article come under the third of these classes, and I report them, regretfully, it is true, but without hesitation, since I have learned from them, and it may be that others can do so also.

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* Read before the Atlantic City Academy of Medicine, Feb. 15, 1907.

What surgeon has not seen the patient of whose recovery he was most confident suddenly succumb to one of the grave accidents which are liable to occur in all major operations, while the patient for whose recovery he had but little hope pulls through with an almost uneventful convalescence? A suddenly developing ileus, an ether pneumonia, a thrombosis or embolism, a brown atrophy of the heart, or a postoperative hemorrhage sweeps the patient into eternity almost before the surgeon is aware. It is to one class of these startling developments that I wish to direct attention, namely, postoperative vascular complications. These vascular lesions, which may occur after any major operation, are hemorrhage, thrombosis and embolism.

POSTOPERATIVE HEMORRHAGE.

Patient.—Mrs. M., aged 32, was referred to me by Dr. J. P. Crozier Griffith.

History.—A large multilocular cyst of the left ovary had extended upward until it lodged under the stomach; it had also developed well toward the liver. The symptoms, in addition to the presence of the tumor, were pain and discomfort, tenderness on palpation, and reflex nervous manifestations, including irritability of the stomach. There was considerable constipation and some pressure pain extending down the left thigh.

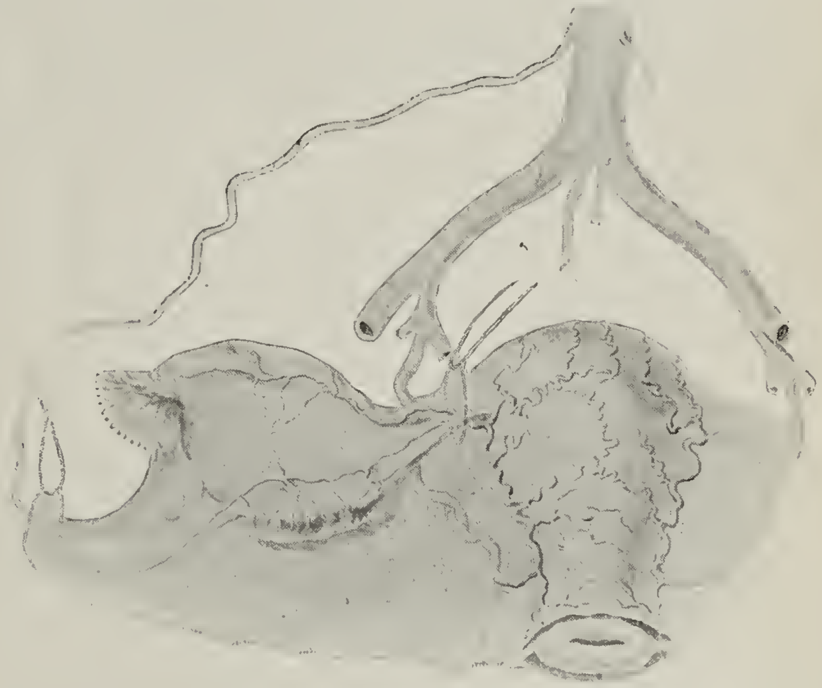
Diagnosis.—I made a diagnosis of tumor, probably ovarian in nature, which was confirmed by Dr. T. S. K. Morton, and an operation was advised.

Operation.—On Nov. 25, 1904, at noon, a median incision was made and a large cystic mass was revealed. It was absolutely free from adhesions, save at one point, where the omentum had become attached to the cyst wall. After tapping the cavities the retaining wall was readily eventrated and it was found to taper down to a small left-sided pedicle which admitted of easy ligation. The right ovary and tube were healthy and were not disturbed. After making a careful toilet of the peritoneum the abdominal cavity was closed and the patient removed from the table, the entire operation consuming but half an hour.

Postoperative History.—As I was compelled to leave the city for a few hours immediately after the operation my friend and colleague, Dr. Harris A. Slocum, very kindly consented to respond to any summons, should assistance be required. On my return to the city at 6:30 p. m. I found a hasty call, and on reaching the hospital I found Dr. Slocum searching the abdominal cavity for the bleeding point. The hemorrhage had been extreme and the patient was blanched. Direct venous transfusion of physiologic salt solution was made into the right arm, and while this was being done the bleeding point was discovered three inches to the outer side of the pedicle which was found to be securely ligated. Owing to the collapsed condition of the patient a Mikulicz packing was made, instead of the prolonged effort to accomplish direct ligation of the bleeding point, and the hemorrhage was effectually controlled in this manner. A large quantity of physiologic salt solution was introduced into the bowel and an additional amount was injected under the mammary gland as well as intravenously. Under the most active stimulation the patient rallied sufficiently to recognize me and her husband. The shock had been too profound, however, and she died at 9:30 p. m.

Here was a case terminating fatally from that most appalling of postoperative accidents—hemorrhage. In the vast majority of such cases the surgeon, shrink as he may from acknowledging the truth, has but himself to blame for the unfortunate termination. Generally such an accident results from an improperly or carelessly-applied ligature or from the use of unsuitable material. Primary slipping of the ligature is due either to a careless tying of the thread or to an extreme tension placed on the pedicle when a considerable bulk of the broad ligament has been included in the knot or when this structure is congenitally unusually taut. It is always the upper outer margin of the ligament on which the greatest tension falls, and it is this portion that first disengages itself from the ligature when slipping occurs. Unfortunately, it is just here, as we all know, that the ovarian artery runs on its course from the aorta to the uterine fundus. It was to obviate the possibility of the occurrence of this accidental slipping that the improvement in the technic, which is now almost universally adopted, was suggested, namely, the ligation of the ovarian artery in the broad ligament beyond the distal extremity of the Fallopian tube. At this point firm ligation can be secured without the possibility of extreme tension resulting from the inclusion of a large quantity of tissue in the tubo-ovarian pedicle (see illustration). A second ligature applied at the uterine cornu will include the small ascending branch from the uterine artery, and thus all danger of primary hemorrhage from slipping of the ligature will be avoided, provided the knots be securely tied.

In the unfortunate case I have reported, however, it will be noticed that the hemorrhage was not due to slipping of the ligature. At the time of the secondary operation the ligature was found intact and doing all that was required of it. On the contrary, the bleeding resulted from what I believe to be an exceedingly rare postoperative accident, notwithstanding the statements of some authorities in abdominal surgery. A large and widely-distended broad ligament vein had burst spontaneously some time after the closure of the abdominal incision, probably during the wrenching of the ether vomiting, and from this unlooked-for source had the fatal hemorrhage taken place. Now, it so happened that one hour subsequent to the death of my patient I chanced to take up Byron Robinson's work, "Landmarks in Gynecology," and on page 53 I was astounded to read the statement: "The pelvic veins frequently rupture postoperative." That they do so rupture occasionally I can now bear witness; that this rupture is of frequent occurrence I confess I entertain very serious doubts.



Improved and generally accepted method of ligating the broad ligament to prevent slipping of the ligature. Looking from behind forward.

It is not difficult to understand the manner in which such a venous rupture may be produced. Three factors probably play their respective rôles in the development of the condition. In the first place there must undoubtedly supervene immediately on the ligation of the vessels, with the consequent break in the arteriovenous circle, a temporary stasis in the pelvic circulation on the side involved, with more or less distension of the veins of the corresponding pampiniform plexus. This condition may even advance to a decided varix of the broad ligament. The intravenous tension is thereby vastly increased, and any vessel, the weakest point in the circuit, may yield to the pressure.

In the second place the removal of these large pelvic tumors is followed by a decided diminution in the intra-abdominal pressure. There is produced at once an accentuation of the intravascular pressure, and this steadily increases up to a certain point as the patient rallies from the surgical shock. This necessarily contributes to the strain thrown on the broad-ligament veins, which, as has been amply demonstrated by the pathologists, suffer during the development of the tumor, more or less thinning of their walls, which in many instances are reduced to but a single layer— the intima. This thinning, which constitutes the third factor in the production of the rupture is, in reality, the primary and leading cause of the grave accident.

It will be well to note at this point that while the patient is in the Trendelenburg position the pelvic intravascular pressure is considerably lessened, so that a tendency to bleed from an obscure open vessel or from torn adhesions may not be evident until the table has been lowered. This fact was first noted publicly by Buckmaster,[1] of New York, and has since been confirmed by other operators. The obvious deduction is that the abdominal incision should not be closed until an ocular inspection of the cavity has been made after lowering the patient to the dorsal position.

It will not be inopportune to put myself on record as saying that I do not think that the blame for such a grave accident as primary hemorrhage from slipping of the ligature should be attributed so much to the material used as to the method employed in the ligation. There are distinguished surgeons throughout the country who, in all their abdominal work, employ nothing but chromicized catgut and who seldom if ever have to report a slipping or too speedy absorption of the gut. Again, there are other surgeons, just as able and distinguished, who employ silk only with equally excellent results. It is not the material but the hand that uses it. The ablest surgeon may mistake the degree of tension he has exerted in tying the knot, and the trusted and most thoroughly prepared and tested gut may yield or become absorbed before the allotted time. In either case the result is the same, and the surgeon and patient both suffer.

Secondary postoperative hemorrhage is of rare occurrence and can result only from absorption of a catgut ligature, as in a case recorded by Howard Kelly,[2] in which the bleeding occurred on the eighth day, or from sloughing of the devitalized pedicle, as after the use of clamps or charring of the stump.

To review, from what we have seen thus far we may classify postoperative hemorrhages as primary and secondary. Primary postoperative hemorrhage may be intraperitoneal, due to (1) slipping or loosening of the ligature; (2) oozing from large raw surfaces, such as are present in incompletely removed growths, or from extensive adhesions to omentum and peritoneum; (3) spontaneous rupture of the pelvic veins from increased intravascular pressure with lessened resisting power in the vessel walls; (4) subperitoneal hemorrhage from imperfect ligation of the connective tissue or peritoneum over and in front of the open mouth of a retracted vessel. The hemorrhage in the latter case, as Voituriez[3] has indicated, may be limited and encysted, in which case the blood collects in the cellular tissue of the broad ligament to form a hematoma, or it may flow freely from the vagina.

In any case of bleeding if the hemorrhage has been excessive the danger ensues from the lowering of the blood tension because of the loss of fluid rather than from the diminution in the number of blood corpuscles. Hence the value of physiologic salt solution, by the use of which the lowered tension can be speedily corrected, the fluid being injected intravenously or by hypodermoclysis, or both, as in the case reported.

THROMBOSIS AND EMBOLISM.

History.—I operated on Miss C., aged 26, in March, 1906, for cystic degeneration of the left ovary. The organ was considerably enlarged and sensitive, and especially painful during and after the menstrual periods. This condition had persisted for some years, and as the severity of the attacks was steadily increasing, relief was sought in extirpation of the painful gland. The operation was a simple one and unattended by any complications. There was but little visceral manipulation, although the broad ligament was tense and the appendage could be brought into the operative field only with difficulty. The convalescence was perfectly normal until the eleventh day, when some pain was complained of in the right thigh, and this soon extended down the leg. An examination revealed a slight puffiness around the ankle and some tenderness over the femoral vein. The swelling soon involved the entire limb, but at no time did it reach an extreme degree. There was an increase of from two to three inches in the circumference of the leg, but the tissues were not tense nor did the limb present the characteristic milky whiteness of the typical phlegmasia alba dolens. The temperature never reached the 100 F. mark, but the pulse was considerably accelerated, ranging from 95 to 110 beats a minute. The usual course of treatment for phlegmasia was instituted, namely, absolute rest and elevation of the limb, which was wrapped in cotton, on pillows. The swelling gradually lessened and beyond the protracted stay in bed no other abnormal features marred the progress of the case.

Here was a typical though light attack of right-sided phlegmasia alba dolens occurring after a simple left salpingo-oöphorectomy without complications. There had not been excessive handling of the parts; there were no clinical symptoms of septic infection; the operation had not been prolonged nor severe and hemorrhagic, and the patient was not unusually anemic or run down in general health. There had been, however, some considerable traction on the left broad ligament, and presumably on the uterus and opposite broad ligament, in order to bring the diseased appendage into view.

Krusen[4] of Philadelphia has called attention to the scantiness of the literature on the subject of postoperative thrombosis and embolism, and he has emphasized a fact which is demonstrated by my case, namely, that in almost all the cases recorded in the literature the symptoms have developed uniformly when the patient was doing well, and often when the cure was considered complete. This is especially true of the reported cases of embolism, which, almost without exception, have developed with appalling suddenness in patients who were thoroughly convalescent.

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[1] Ann. of Gyn. and Pediat., May, 1894.
[2] Med. Record, June 8, 1901.
[3] Jour. d. Sci. Med., Lille, Jan. 25, 1902.
[4] Am. Jour. Obst., 1906, liii, 478.

The frequency of postoperative thrombosis is not great. Many surgeons fail to see a case in an experience covering many hundreds of operations. Schenck was able to gather the records of but 48 cases of thrombosis in 7,130 gynecologic operations—about .6 of 1 per cent. of the cases. Dearborn[5] holds that thrombosis and embolism are more common after operations in the pelvis than after operations on any other portion of the body. It is well known that embolism has not infrequently been noted after operations on the appendix, but what there is in pelvic and abdominal operations to favor the development of thrombosis and embolism still remains one of the unsolved mysteries of the surgical art. Dearborn suggests that in all probability some of the cases of embolism are overlooked, and that it is possible that many of the cases of pleurisy, pneumonia and pulmonary abscess, following surgical operations, are the direct result of minute embolic obstruction in the parts. Since it is well known that the commonest seat of aggravated and fatal embolism is the pulmonary region, this suggestion is very pertinent.

The causes of postoperative thrombosis have not been definitely ascertained for all cases. There are undoubtedly some factors that are positive in their etiologic relationship to the condition. Thus, there can be no doubt that some cases follow a mild degree of septic infection, due to some error in the technic of the operation. To conclude, however, that every case of phlegmasia following abdominal section is septic in origin is, in the highest degree, erroneous. The absence of fever in many of the cases—as in the one I have reported—would in and of itself indicate that it was probably a non-septic condition.

Another strongly predisposing factor in the development of thrombosis is prolongation and severity of the operation, especially when the hemorrhage has been considerable. Thus Agnew, in his "Surgery," remarks that: "After operation in which much blood has been lost, there is always more or less tendency to the formation of coagula. This may take place in the vessels of the extremities." In the case just reported, the operation was not prolonged nor severe, nor was there the loss of a teaspoonful of blood. Therefore, this second factor must be eliminated in this case. It is interesting to note in regard to this etiologic factor of an increased tendency to the formation of coagula, that recently M. Schwab[6] has stated that a study of the coagulability of the blood in 30 patients failed to show any appreciable difference in the time required for the appearance of threads of fibrin in the hanging drop of blood in patients who afterward suffered from embolism, and in the blood of those who did not. This only demonstrates the fact that our knowledge of the interesting study of coagulability of the blood, as of leucocytosis and other seemingly important subjects, is still exceedingly limited.

Anemia and cachexia in association with malignancy; injury to the large venous trunks by too forcible use of retractors; ligation of a vein close to the point at which it enters the main venous trunk, with extension of the clot into the larger vessel; the prolonged use of the Trendelenburg position,[7] altered metabolism due to peritoneal exposure and manipulation, and injury of the fine sympathetic nervules—all these have been suggested as possible causes of pelvic and femoral thrombosis following abdominal section. The truth is, that with the exception of the comparatively small percentage of the cases resulting from sepsis, hemorrhage and severity of operation, we do not yet know the true etiologic history of this curious and frequently serious or fatal condition. Here is opened up a field for interesting original research work. The compilation and tabulation of all recorded postoperative cases of thrombosis might show some hitherto unrecognized fact that would do much to clear away the obscurity that at present veils this interesting surgical complication. With our present limited knowledge of the subject, many of the cases can not be ascribed to any of the possible causes that have been offered in explanation of the occurrence of the accident.

In regard to the symptomatology of thrombosis, as Mahler has indicated, the most important phenomenon is a persistent frequency of the pulse rate, out of all proportion to the elevation of the temperature. Dearborn, in his able résumé of the subjects, remarks that any sudden increase in the pulse rate during convalescence from an operation, the temperature remaining about normal, should lead one to think of the possibility of the development of a thrombosis. He further adds that if there are evidences of phlebitis or thrombosis absolute rest in bed must be insisted on. Here he hits on the main element in the treatment of the condition. Absolute immobility of the affected limb, external warmth, emollient and antiphlogistic applications along the course of the thrombosed vein and thorough asepsis of the primary wound comprise about all that can be done to relieve the patient.

THE ACTION OF THE EXTRACT OF THE SUPRARENAL GLAND AND THE METHOD AND INDICATIONS FOR ITS USE.

JOSEPH L. MILLER, M.D.
CHICAGO.

The value of the extract of the suprarenal gland as a topical application to the mucous membranes, especially of the nose and throat, is well established. Recently it has been employed extensively in a variety of different conditions, those deserving special mention being cardiac insufficiency, hemorrhage, bronchial asthma and in the treatment of various exudates and transudates in the body cavities. As it is a drug with a very decided physiologic action, we should be familiar with its effect and indications for its use.

PHYSIOLOGIC ACTION.

Inasmuch as adrenalin has been employed in most of the experimental and clinical work this term will be used, bearing in mind, however, that the active principle under various other trade names has the same effect.

The action of adrenalin, in general, simulates that of electrical excitation of the sympathetic nerves. So exact is this selective action that it is assumed that an organ contains sympathetic fibers if it contracts under the influence of adrenalin, as plain muscle without sympathetic fibers is not affected. In the past it has been disputed whether this action on the sympathetic was central or peripheral. At present it is generally conceded that the action is a peripheral one affecting the neuromuscular function. The most important action of adrenalin is on the cardiovascular system, the effect produced being the same as would follow electrical excitation of the sympathetic. Three minims of the 1-1000 solution injected intravenously into a rabbit within thirty seconds will cause a rise in pressure of from 40 to 80 millimeters of mercury. This maximum pressure is only maintained for twenty or thirty seconds, then gradually falls, reaching normal in from two to five minutes. This return to normal is not due to disappearance of the adrenalin, but to fatigue, as it has been shown that the blood of the animal, even thirty minutes later, if injected into another rabbit, will produce the typical rise in pressure. If a rabbit receives repeated doses at short intervals the pressure effect will be less and less marked until finally scarcely any reaction occurs. However, by continuous intravenous transfusions of very dilute solutions, from 1-500 to 1-1,000,000, a moderate increase in pressure, as shown by Crile,[1] may be maintained for several hours. The increase in pressure is due chiefly to vasoconstrictor effect, partly to its direct accelerative action on the heart; very soon, however, a peripheral nervous impulse slows the heart by overpowering the accelerative influence of the adrenalin. Later when the pressure begins to fall the acceleration reappears and may continue for some time after the pressure has reached normal.

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[5] Ann. Gyn. and Pediat., November, 1904.
[6] Münch. med. Wochschr., November, 1906.
[7] Strauch: Centrbl. f. Gynak., xiii, 1894.

Plethysmographic tracings, during the period of high pressure, show that the output of blood at each contraction is considerably increased, indicating dilatation of the cardiac chambers, due to inability of the right ventricle to empty itself completely against the increased resistance. So great may this resistance become that the serum is forced out through the thinned ventricular wall into the pericardial sac, as first mentioned by Oliver and Schafer and which I have observed in one rabbit after a fatal dose. The venous pressure rises very slightly. In the various vessels the degree of constriction is in proportion to their sympathetic innervations. According to Schafer, the coronary vessels do not take part in this constriction on account of the absence of vasoconstrictor fibers. Brodie and Dixon[2] believe they have demonstrated the absence of sympathetic fibers in the lesser circulation in the lungs, as they maintain that these organs are not constricted by adrenalin. This very important point from a therapeutic standpoint has been disputed by Plummer and must be considered as still in doubt.

METHOD OF ADMINISTRATION.

Large amounts may be given by mouth without any demonstrable effect on the cardiovascular system. I have administered 5 c.c. at a single dose to an adult without any subjective effect or increase in pressure that could be detected with the Stanton instrument, although taking the pressure every two minutes for the period of one hour. D'Amato[3] has shown that very large doses given in this manner to rabbits do not increase pressure, although they may cause arterial degeneration. It is evident that the only indication for adrenalin by mouth would be for its local effect in hemorrhage from the esophagus or stomach. It is valueless given in this way in intestinal hemorrhage on account of the readiness with which it is decomposed in the stomach. Applied to the mucous membrane it does not usually have any constitutional effect, the action being entirely local. Bennett,[4] however, recently reported marked cardiac disturbance with pulmonary edema after a urethral injection, absorption probably taking place through an open vessel. Freely applied to the nasal mucous membrane of man or rabbit, it does not cause a rise in blood pressure. This is explained by the local vasoconstrictor action being so great that an insufficient amount of the drug reaches the general circulation.

The results of subcutaneous injection are not uniform. The general opinion has been that when administered in this way the drug does not cause a rise in pressure. Recently in going over this work experimentally I found that in some rabbits doses of 1 c.c. were without effect; in other rabbits the same amount would cause a very marked rise in blood pressure, the curve being different from that of intravenous injections. The first effect is observed about one minute after injection, when a very gradual rise begins, the maximum of from 30 to 40 mm. is reached in from three to five minutes, gradually reaching normal in from twenty-five to thirty minutes. Meltzer[5] has obtained these same results, but is inclined to believe that in the cases in which a rise occurs the needle has entered the muscle. I have observed a marked rise, however, when exercising special care in introducing the adrenalin, and believe that subcutaneously an increase in the general blood pressure often occurs. I have obtained similar results in man when using subcutaneous injections. In eight cases, using 1 c.c., in which careful blood pressure observations were made, seven responded with a rise in pressure of from 10 to 45 mm. of Hg, the first effect being observed in about one minute, the maximum in from three to four and one-half minutes; the maximum was maintained for from eight to eighteen minutes, the return to normal requiring from twenty-six to forty-five minutes. In one patient, a nephritic with a normal pressure of 150 mm., no rise occurred.

Intramuscularly, as Meltzer has shown, there is always a decided reaction. The rise is more gradual than after the intravenous injection and much more prompt than after its subcutaneous use. The duration and action is also considerably greater than after its intravenous injection. We see, then, that a cardiovascular effect can only constantly be expected after subcutaneous intramuscular or intravenous use of this drug. When considering its application in cardiovascular conditions, the best method of administering it in any special case will be discussed.

USE IN CARDIOVASCULAR CONDITIONS.

On account of its marked vasoconstrictor action the field of its greatest influence is conditions in which there is marked vasodilatation with good heart muscle. This latter should be emphasized, as the sudden increased work can only be borne by a good heart. These indications are present in chloral poisoning, shock and heart failure in chloroform or ether anesthesia. Under these circumstances there is a very low blood pressure, due largely to vasodilatation. Gottlieb[6] has shown that when a rabbit has received increasing doses of chloral until the heart comes to a standstill the injections of suprarenal extract will start the heart beating and maintain it for from 20 to 30 minutes, and by repeated injections it may be kept beating for hours. Even when the heart had stopped beating five minutes, by injecting adrenalin and compressing the thorax he was able to start it again, and in one minute to have a blood pressure of from 50 to 60 mm. Hg. In man, when using adrenalin for this purpose, the drug should be given intravenously in from 5 to 10 minim doses, repeated as often as required, or, better, continuing intravenous transfusion of normal salt solution in strength of from 1-50,000 to

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[1] Jour. Exp. Med., viii, 713.

[2] Eng. Jour. Phys., xxx, p. 476.

[3] Berlin klin. Wochschr., 1906, p. 1100.

[4] The Journal A. M. A., Nov. 17, 1906, p. 1655.

[5] Meltzer and Auer Jour. Exp. Med., 1905, p. 114.

[6] Arch. f. exper. u. Pharm., xxxviii and xliii.

1-100,000. Gottlieb has shown that adrenalin is far superior to digitalis under these circumstances. Crile has demonstrated its value in surgical shock. Miles and Muhlberg caused vasomotor collapse in a rabbit by giving ether, and were able with adrenalin to cause a very prompt and marked rise in pressure, which persisted for five minutes or until the danger was past. In shock and in chloroform and ether poisoning the drug should be given intravenously. For the former, as a prolonged action is needed, continuous intravenous transfusion of a solution of from 1-50,000 to 1-100,000 is most desirable. With the latter a single injection of 10 minims of the 1-1000 solution should suffice. We have here probably the field of greatest usefulness for adrenalin. In these conditions it is a safe remedy and probably of much greater value than strychnia or digitalis.

When we consider its use in the heart failure of acute infection it is quite another problem. Here vasomotor paresis probably plays a very important rôle. We have also, however, a degenerated heart muscle and it is, furthermore, not a question of maintaining the circulation for a few minutes, but for hours or even days. Under these circumstances the intravenous use of adrenalin, by its vasoconstrictor, throws such an enormously increased work on a diseased heart that acute dilatation with fatal termination may follow. Gottlieb has demonstrated this in a rabbit that received daily doses of diphtheria toxin until evidence of cardiovascular disturbance appeared. An injection of adrenalin then raised the pressure from 56 mm. Hg to 132 mm., and maintained it there for a short time. It then sank lower and lower, a fatal termination being reached in a few minutes. Here the first result was apparently beneficial, but the heart was unable to maintain this increased work, and dilatation and death followed. The same results were obtained in animals poisoned with phosphorus. If adrenalin is allowable at all in this group of cases it should be administered subcutaneously, as the increase in pressure is then much more gradual.

At the recent meeting of the Association of American Physicians there was considerable discussion on its value in acute pulmonary edema. Experimentally it is well known that the usual cause of death in rabbits after an excessive dose is acute pulmonary edema. Bennett[4] has recently reported acute pulmonary edema in man after a urethral injection of 2 c.c. of the 1-1000 solution. It can, therefore, scarcely be considered a safe remedy in this group of cases.

VALUE IN STOPPING HEMORRHAGE.

Here I shall only consider the value of this drug in hemorrhage from vessels not accessible to local applications, as in the lung or intestinal tract. Adrenalin may check hemorrhage not only through its constrictive action but also by increasing the coagulability of the blood. The latter action can be readily demonstrated after intravenous injection. At first thought it would appear that we have here an ideal hemostatic. Its constrictor action, however, is more than counterbalanced by the sudden increase in pressure. In rabbits I observed that in a wound the vessels that have stopped oozing often start bleeding after an intravenous injection of adrenalin. It is also not an infrequent occurrence to have a canula forced out of the carotid immediately following the use of an intravenous injection. In pulmonary hemorrhage there is the additional danger of possible absence of vasoconstriction, and, therefore, the bleeding might increase by having a condition of dilated vessel with increased pressure. Its action in stopping hemorrhage by increasing the coagulability of the blood may be more safely and effectually induced by calcium chlorid or gelatin, neither of which increases blood pressure. The use of adrenalin in controlling distant hemorrhage should be discouraged, as it probably does harm, as may any substance that increases blood pressure. This has led Smith, Hare,[7] Lemoyez and others to advocate vasodilators in controlling distant hemorrhage.

USE IN BRONCHIAL ASTHMA.

The use of adrenalin by subcutaneous injection in controlling asthmatic attacks is of recent date, although applied to the nasal mucous membrane, it has been employed for this purpose for several years. Kaplan[8] has reported very favorably of its action in relieving the asthmatic attack. The dosage is from 5 to 15 minims of the 1-1000 solution subcutaneously or intravenously. During the past year I have used adrenalin in eight cases of bronchial asthma with very satisfactory results. In all these cases marked relief appeared in two or three minutes and continued for three hours. Some of these cases were of long standing and the patients had employed all the ordinary remedies, but, according to their statements, none afforded such prompt and complete relief as adrenalin. From tests with other substances I am quite convinced that the results are due to the specific effect of the drug and not to any suggestive action. In none of my cases could I observe any curative effect; the attack occurred at the usual interval and with the same intensity. One patient during a period of eight months received 100 injections, always with relief, no increase in the dose being necessary. In none of the cases could I observe any untoward results. J. A. Capps, however, in personal communications, reports serious cardiac disturbance in an elderly person immediately after an injection for asthma, and its use here should be restricted to patients with good heart and blood vessels. The action of this drug on asthma may throw some light on the nature of the pathologic process. It is difficult to conceive how adrenalin can relieve a bronchial spasm; one can more readily see how a hyperemia of the bronchial membrane could disappear under its vasoconstrictor action.

USE IN PLEURAL AND PERITONEAL EFFUSIONS.

Barr,[9] in 1903, after withdrawing fluid from the pleural cavity of a patient suffering from carcinoma of the lung, introduced a solution of adrenalin through the canula and was surprised to find that the fluid did not reaccumulate. He then tried it in tuberculous pleurisy, tuberculous and malignant peritonitis and in ascites due to cirrhosis. His method was to withdraw the fluid, then introduce through the canula 5 c.c. of the 1-1000 solution of adrenalin diluted to 15 c.c. with sterile water. After injection into the peritoneal cavity he used light massage to facilitate its distribution. Plant and Steele,[10] following this method, treated three cases of liver cirrhosis and two of pleurisy. Two of the patients with ascites received one treatment, the other one received two, following which the accumulation of the fluid stopped. One patient later relapsed and was again relieved after one injection. The two patients with pleurisy each received one treatment and no reaccumulation occurred.

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[7] Lancet, Nov. 14, Aug. 20 and Oct. 1, 1904.

[8] Medical News, 1905, p. 871.

[9] Editorial, THE JOURNAL A. M. A., June 4, 1904.

[10] Brit. Med. Jour., July 15, 1905, p. 125.

These cases at the time the report was made had only been under observation a few months, too early to draw conclusions as to the permanency of the result. Barr reports untoward results in one case in which he injected 3 c.c. of a 1-1000 solution into the pericardial sac, after withdrawing 600 c.c. of fluid. The pulse disappeared at the wrist and for a short time the patient's life was in imminent danger. Plant reports colic and a rise in temperature of 2° F. after its intraperitoneal use. Exner,[11] and Meltzer and Auer,[5] working with animals in order to determine the effect of adrenalin in preventing absorption and transudation in the peritoneal cavity, obtained results which lend plausibility to Barr's empirical treatment. Exner, in 1903, demonstrated that the intraperitoneal injection of adrenalin delayed absorption of poison from the peritoneal cavity. He injected into the peritoneal cavity of a rabbit 20 times the fatal dose of strychnin, preceding it by adrenalin, the tetanic convulsions being delayed fifty minutes and were much milder than in the control. Meltzer and Auer confirmed these findings. They also showed that fluorescence transfused from the blood into the peritoneum much more slowly in animals that had previously received adrenalin intravenously. It has also been demonstrated that intraperitoneal injection of adrenalin will lessen the tendency of transudation into the peritoneal cavity after excessive transfusion of normal salt solution.

DANGERS OF ADRENALIN.

The special dangers attending the use of adrenalin besides those already mentioned are rupture of an artery from the sudden increase in pressure, glycosuria and arterial degeneration.

It is a remedy that must be employed with great care in all patients with suspected arterial degeneration. In elderly people, both on account of atheromatous arteries and myocardial changes, it is a dangerous remedy. Kaplan[8] has found that glycosuria does not occur after moderate dosage. He observed on twelve patients the effect of a daily dosage of from 30 to 40 minims continued for two weeks and never detected any glycosuria. Underhill[12] has reported that repeated doses of adrenalin finally fail to produce a glycosuria in rabbits, a certain degree of tolerance being acquired. The danger from this source is very slight and may be overlooked. Much more important is the possibility of causing an arterial atheroma. In rabbits it has been found that a single intravenous injection may cause decided changes in the media and its continued use destruction of the muscle fibers and later calcification. It has, furthermore, been shown that these same changes may be produced by administration of large amounts by mouth or subcutaneously. We must not conclude, however, that its use in man with the usual dosage is necessarily attended with the same danger. We have reasons to believe that the rabbit is especially prone to such changes, as an attempt to produce these in some other animals, as dogs and monkeys, have failed. A variety of substances, some of them well-recognized therapeutic agents, as barium chlorid, physostigmin, lead and digalen, will produce these same changes in rabbits, and further experimentation would probably show that this list can be added to. It is probably true, however, that these changes are more readily brought about by adrenalin than by any other substance employed up to the present time. Again the dosage per kilo, when used subcutaneously, is fifty times our therapeutic dose in man. When we consider that subcutaneously in animals the majority of investigators have never been unable to produce vascular changes, it would appear that the danger of the drug in this respect could easily be overestimated. Its continuous intravenous use should be discouraged. It is not probable that a single intravenous injection would cause vascular changes, although it has been shown that this may occur in rabbits; the real danger attending its use, however, is immediate cardiac disturbance, especially acute dilatation.

OCCUPATION IN THE TREATMENT OF THE INSANE.*

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BROCKVILLE, ONTARIO.

It will not be possible for me to consider this subject at length, but I wish to urge persistent effort in devising ways and means to find employment of a suitable kind for the insane. I do not pretend to add anything of importance to what others have said on this topic, and it is not unlikely that any one will object to my according a great deal of importance to occupation as a remedial measure for the insane, but I hope that I may be able to direct attention more strongly to the desirability of prescribing this valuable remedy in a more systematic manner.

Some authorities say that great care should be taken to assign patients to labor similar in character to that which they are accustomed to perform. Surely this is not wisdom. A patient comes from the counting house fairly saturated with the toxemia of figures. He has spent his days—and often, it may be, a considerable portion of his nights—in struggling with great and perplexing problems, as a result of which there is a failure of his physical health and a more or less complete shattering of his nervous system. To ask such a patient to perform any sedentary duties would be but adding fuel to the fire already consuming his nervous vitality.

Better far to start this patient at some occupation requiring little or no mental exertion. Send him out in the open air where he will be surrounded by conditions favorable to health, and give him a hoe, a spade, or a rake, and see that he is kept in motion. Do not attempt to explain what he is expected to accomplish. The great majority of patients will attempt to use any utensil of this kind as soon as it is placed in their hands. They appear to work automatically, little or no mental exertion being required. The power of observation appears to be aroused and developed, slowly it may be, but steadily. A simple hole is perhaps made in the soil and the patient proceeds either to enlarge this opening or fill it in or build a mound. He will continue this occupation, apparently forgetful of his delusions, for a time, but suddenly the abnormal ideas return and any attempt at occupation ceases. Here is where the properly trained attendant is able to render valuable assistance. He has, or should have, a good knowledge of the temperament of his patient and can, by tact and patience, encourage him to recommence his work. It was a revelation to me to notice the progress made by patients from day to day. At the outset perhaps a few minutes would represent the time spent in work, but this time is gradually extended until a patient may continue his occupation for an hour or longer, apparently unconscious of his surroundings and forgetful of his delusions. Of course, even after the patient has made progress and understands the nature of the work in which he is engaged, and why he is asked to perform it, he may become obstinate and refuse to do more. In such an event no force should be used. Allow him to remain indoors or to spend his time with the walking parties, etc., for days, if necessary, and await confidently the time when he not only consents to accompany the working parties, but expresses a desire to do so.

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[11] Arch. f. exper. Path. u. Pharm., 1903, p. 313

[12] Amer. Jour. Phys., xvii, p. 42.

*Read before the British Medical Association, Toronto.

I might cite a number of cases to explain more fully what I desire to express, but time will not permit. This case, however, will interest you.

A young man, in the prime of life, was sent to the hospital for treatment. He was the most perfect specimen of physical development that I have ever seen. He was brought in on a mattress to which he was firmly bound. This patient had occupied a position of great financial responsibility, and filled with an energetic young man's determination to master all the details of his work he spent day after day and many a night at his desk. His domestic environments were such that he was denied rest even when he tried to obtain it, and he never thought of recreation. His general health became impaired, followed by a complete mental breakdown. After his admission he would destroy his bedding, clothing and everything he could lay his hands on. He went on all fours and fancied he was a ferocious animal in a cage, and sniffed and snapped at everyone. He continued in this way for some time with little if any improvement, although his condition varied somewhat from time to time. Spring came, however, and instead of looking for some occupation befitting his condition in life, he was provided with a spade and sent out with the working gang. He was dull and stupid and seemed to move about mechanically. He soon began, however, to use the utensils supplied him and in less than a week I was surprised and delighted when he asked me to sit with him under the shade of a tree, as he had something to say to me. For the first time since he came to the hospital, more than three months previous, he appeared to realize that something was wrong and asked for an explanation, but the mental cloud was yet too dense to make him understand. I had previously ascertained that this patient had a hobby for gardening in his spare time, and it would appear that even in his afflicted condition enough of his old inclination remained to induce him to persist in his work. He made a good recovery and subsequently resumed his former occupation.

This case has impressed me with the necessity of studying the temperament of a patient before selecting his occupation and of endeavoring to obtain as much information as possible regarding the previous history, not forgetting the whims and fancies.

I will cite one more case to point out the danger in allowing a too great time to elapse before placing a patient at work.

A male patient, aged 30 years, was admitted suffering from acute mania. He fancied he was charged with electricity and was alarmed lest he might unintentionally injure his friends. He was very irritable, attacked the other inmates, and was considered a dangerous patient. He became a great nuisance on the ward and was sent out under the care of an experienced attendant, who, with nine other patients, were engaged in grading. He commenced to improve at once, forgot his delusions, and ceased to provoke trouble while indoors. In a short time he was discharged and has been well for almost two years. I am convinced that this patient's restoration to health could not be so completely and quickly effected in any other way.

The percentage of patients who are not likely to derive benefit from occupation of some kind is very small, indeed. If we exclude those cases who are physically unfit and those who are in the advanced stages of dementia, the proportion who are unable to perform work of any kind almost disappears. A considerable number of patients with acute mania are, during the early stages of the disease, unable to perform any labor, but this period of enforced idleness may be very much shortened if careful and systematic efforts are made to ascertain the earliest possible time when simple occupation may be attempted. Paretics, too, during the period of exaltation, are not capable of undertaking work of any kind, but it is not unusual to find them able to perform considerable work later on in the disease. Some patients who have dementia præcox also absolutely refuse to do anything, no matter how persistent our efforts may be.

Occupation should be simple at the outset. It does not require much mental effort on the part of any patient to push a heavy brush up and down the corridor on the polished floors, and this effort is much less when the patient is only one of a large number moving up and down in the form of a procession. It is little more than an exercise in walking, while it serves as a stepping stone to something more complicated. This simple occupation is continued longer than the condition of the floor requires, the principal object being to endeavor to direct our patients along the line that leads to something better. A change to outdoor exercise is made just as soon as the patient is reported as being able to perform the simpler indoor labor with very little direction from the attendant in charge. It is true that patients vary much in the time necessary to reach what I may call an "outdoor stage," but the great majority are sure to advance this far.

While I think it is unwise to restrict any class of patients to any particular work, nevertheless it is true that certain patients can not be induced to perform any work other than that to which they are accustomed. I have in my mind the case of a tailor who was exceedingly dull and sluggish, refused to eat or speak and could be only moved from place to place with difficulty. It was useless to attempt to force him to brush or to do anything else, yet when a needle and thread and a piece of cloth was placed in his hands his interest appeared to be aroused and he made some attempt to ply his trade. This led to better things, and later on he was sent to the tailor shop where he proved to be a skillful workman. Another matter that should never be forgotten is that certain classes of patients should never be asked to perform the more menial services that must always be rendered in every hospital. In matters of this kind the same judgment should be exercised in selecting certain persons to fill certain positions as is used in the world at large.

Friends of patients often object to the rule in force to induce every person who is physically able to engage in some occupation, and this objection comes from the poor as well as from the rich. It is assumed by many that the poor are asked to labor in order to defray the expenses in connection with their maintenance. Others assure us that certain patients are under no obligation to labor, as their friends are willing to pay for all they receive. It takes a little time and patience to point out to persons making these objections that occupation is a remedial measure and that it must be administered in accordance with the requirements of the patients and under the direction of those who are in charge of the asylum. The time occupied in making such explanations is well spent, however, and later on we will find that the number of persons objecting gradually diminishes. Even now the general public is so impressed with the importance of occupation that complaint is often made when visitors come and find their friends, who, for some reason, may be in the ward, unoccupied.

Once the facts that occupation is an important remedy in the treatment of insanity and that it must be administered in an intelligent and systematic manner, are firmly impressed on the minds of the attendants, little difficulty is found to keep patients employed. Patients who, previous to their arrival at the asylum, belonged to the indolent class and who were never obliged to perform any labor, may consider it a hardship to do so, but they are soon influenced by their surroundings and learn to fall in line and perform such duties as may be assigned to them. The fact that they are not asked or permitted to overwork themselves and that attendants are expected to make their outdoor life as cheerful as possible, robs labor of much that is disagreeable in their minds. Even persons belonging to this class are glad to be permitted to participate in the advantages to be derived from occupation.

My experience has taught me also that it is unwise to offer any pecuniary reward for services rendered by a patient. If this plan is permitted, patients are encouraged to think that they are employed for the benefit of the institution and not for their own good. It also encourages jealousy and serves to engender a general feeling of dissatisfaction and unrest that is not at all conducive to the physical or mental improvement of the patient. A full day's pay is impossible and a lesser amount is unsatisfactory. Better far to eliminate this feature altogether and to encourage the feeling that occupation is the best and most easily administered remedy known to us at the present time.

How does occupation effect a cure? This is not an easy question to answer. Delusions may be nothing more than mental expressions of physical disease. At all events we know that in a large number of cases mental improvement is coincident with the return of physical health. As a result of suitable outdoor employment, we find that patients are less restless, sleep better, their appetites are improved and the secretions become normal. The gentle perspiration helps to eliminate the excess of toxic products and the muscular exercise tends to tire the patient sufficiently to induce quiet sleep. While in the wards, too, they become less noisy, less quarrelsome, less destructive and much better behaved generally. One thing is certain, that the coated tongue, the obstinate constipation, the diminished secretions, the sallow complexion and the other symptoms of ill health that very stubbornly resist other methods of treatment gradually disappear when patients are engaged in suitable occupation, and we can nearly always look forward with confidence for a marked improvement in the mental condition.

While I have no objection in stating that the cure of a large number of patients may be attributed to occupation, I am also of the opinion that the greatest good is conferred on the incurable cases by delaying dementia and by adding to the comfort, happiness and general well-being of the chronic insane.

The fact that the employment of patients materially lessens the cost of their maintenance and saves the expenditure of hundreds of dollars annually in the carrying on of the various industries in connection with an asylum for the insane is, of course, a matter of some importance. But when we attempt to consider what the restoration of a patient's health may mean to his family who may be dependent on him for support, or when we try to estimate the value of the happiness that lights up the home when a loved one returns, whose departure has enveloped his own fireside in the shadows of sorrow and desolation and left behind him the fearful dread that he may never recover when we consider all this we must forget such matters as finance and carry on our various works with the sole object of improving the mental condition of our patients. Our annual reports contain elaborate statements in detail of the handiwork of our patients. We report from 50 to 75 per cent. as having been employed and the total number of days labor is very large, indeed. I am inclined to believe that these figures are not always accurately compiled, yet they go to show that a great deal of labor is being performed by patients in the different institutions. But this in itself is not everything. We should endeavor to carry on our work in such a way that every manufactured article will represent in some measure an improvement in the mental condition of a patient, and not a single piece of work of any kind should be placed to the credit of any institution if its performance interferes, in any way, with the recovery of a patient.

Much that I have said in this paper applies to amusements and entertainments which I look on as important aids to be employed in connection with occupation.

SUMMARY.

1. Only a small proportion of our patients should be exempt from labor.
2. A careful study should be made of the temperament of each patient before deciding the kind of labor suitable in each case, and the previous occupation or social condition should not be the only determining factor.
3. The carrying on of this work successfully depends in a large measure on the attendants in charge. Attendants should be selected with care and carefully instructed.
4. Members of the medical staff should visit the working parties regularly for the purpose of studying individual cases.
5. Patients should never receive wages. It is possible that such a system may appear to work successfully in some cases, but in the end it is sure to create trouble.
6. In some cases it is advisable to encourage patients to learn a trade, so that they may the more easily earn their living after their discharge.
7. Agricultural pursuits and caring for grounds appear to be ideal labor for the great majority of patients.
8. Female patients may with advantage be employed in the vegetable and fruit garden, weeding, picking berries, etc., in addition to the work performed in the day rooms, dormitories and dining rooms. They should also perform fancy work, do all the mending, and assist in the industrial department in the making of mats, mattresses, etc.

TUBERCULIN TEST.*

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Eight years ago, in a paper on the "Early Diagnosis of Pulmonary Tuberculosis," I made the statement that the tuberculin test had been accepted for testing cattle, but that this procedure would be slow in becoming popular with our profession as a means of confirming or rejecting our suspicions in the human being. It was compared to hunting for a gas leak with a lighted candle.

Having used tuberculin, in its various forms, since it was first brought out, I am more convinced to-day than ever that in tuberculin we have our most efficient remedy in fighting this disease.

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*Read before the Buncombe County (N. C.) Medical Society, Feb. 18, 1907.

Experience has convinced me more firmly than ever that its use under proper precautions and with a full appreciation as to its limits and results is justifiable and advisable; while this is true, I am just as firmly convinced that my old comparison of "hunting the gas leak with a lighted candle" is still applicable, but with this addition, experience has shown how better to guard the light. So powerful an agent can be safely used only when the utmost caution is exercised and the indications for its use are given the consideration and attention which they demand.

Ten years ago those of our profession who advocated and used tuberculin were few and far between; during the first years of its use (as has been the history of all our greatest medical discoveries) the remedy was abused at the hands of those who employed it in half-moribund patients and in cases in which it should never have been used either as a diagnostic measure or in treatment. To-day we find a majority of the progressive members of our profession using the remedy at least as a diagnostic measure. Those who a few years ago were loudest in their denunciations have now become non-committal. Ten years more will without doubt convert those who are skeptical to-day.

A tuberculin test will frequently clear up the diagnosis in cases in which, without the remedy, the true nature of the disease would otherwise remain obscure until the disease had become more advanced and valuable time had been lost.

REACTION TO THE TEST, PROOF OF THE PRESENCE OF TUBERCULOSIS.

The fact that animals and human beings will react when no evidence whatever of a tuberculous disease exists (otherwise than found by a tuberculin test) does not prove that a reaction can or does occur without the disease. It is well known that a small local tuberculosis may be present in any organ of the body without the patient or physician being aware of its existence. It has been claimed that a reaction will occasionally occur in uncomplicated syphilis. The more we become acquainted with tuberculin and its action the more certain do we become that we have been lame in our diagnosis, that our powers of discernment and judgment have been at fault, and that a reaction means tuberculosis, no matter whether we find the deposit or not.

Veterinarians have been able to satisfy themselves on this point more quickly than we have, from their ability to get a postmortem immediately following the reaction if desirable. Were it possible that we also could secure an autopsy in all cases and dissect the body as carefully and in the same detail as does the veterinarian, we should undoubtedly find evidence sufficient to convince us that the occurrence of reaction to tuberculin means tuberculosis.

The majority of tuberculous foci starting in the human body probably never produce an open tuberculosis. A reaction, when such shut-in tuberculosis exists, will occasionally produce sufficient local manifestation (throat, pulmonary, articular or glandular) so that the diseased area may be determined accurately during the reaction.

Experience shows that the more recent case will give a stronger reaction to a given dose than will a case of longer standing; further, the more recent case will react to a much more minute dose than will a case more advanced.

IN WHAT CASES SHOULD THE TUBERCULIN TEST BE EMPLOYED.

In pulmonary work we are constantly finding patients presenting absolutely no symptoms of tuberculosis except a hacking cough, associated with bronchial inspiration, and perhaps prolonged expiration or slight dulness on percussion; the temperature, sputum, history, weight, etc., all fail to aid us in our diagnosis. What are we to do ? Wait, as we would do in syphilis, until more positive signs appear? No, it may then be too late or the patient may not return. A tuberculin test, properly given, under such conditions is of the utmost value to both patient and physician.

A sputum examination giving negative results in itself, unless repeatedly made, is not an indication for tuberculin. All other means of arriving at a correct diagnosis should be employed before resorting to a tuberculin test; not that I believe this test is dangerous or that it ever aggravates the disease, but the depression of the reaction fever, nausea and other concomitant symptoms are not desirable in any one, and particularly is this true in a patient suffering from tuberculosis. The claim made a few years ago by various observers that a reaction excited a latent deposit or developed a quiescent disease into an active one has not been proved by facts and experience.

In joint troubles, bone disease, persistent wasting without pulmonary symptoms, chronic pleurisy, bladder trouble, and especially in adenitis, is tuberculin most valuable as a diagnostic measure. It is rarely necessary or advisable to use the tuberculin test in cases running a daily maximum temperature of over 100 F. I have never used the test in a suspected case of brain tuberculosis.

WHAT TUBERCULIN SHOULD BE USED.

After trying several makes and modifications, I have found that the tuberculin made by Koch and imported through Victor Koechl & Co., New York, is the most satisfactory and is apparently more nearly "standardized" than any other.

ADMINISTRATION.

The temperature of the patient should be taken once in three or four hours for a period of several days before giving the first injection. As a rule, I have not used the test in patients having maximum temperature over 100 F. Different observers advise dosage ranging from one to six milligrams, some giving the tuberculin in slowly increasing amounts over a period of a week or more, others going to the opposite extreme both in amount used and in the number of injections.

While I would not advise the use of the maximum dose as a test measure, I believe that the slowly increasing method of administration is faulty, in that many individuals quickly acquire more or less tolerance and fail to react (even in the space of a week or ten days) as they would had a larger amount been given earlier.

In the average adult I use 2 mg. at the first injection, preferably giving it late in the evening, continuing the temperature record for two days; if no reaction occurs, 5 mg. is then given on the third day. This plan, in my experience, avoids excessive dosage and obviates the possibility of developed tolerance. The injections are given with a graduated syringe in the subscapular region, the needle being inserted into the deep fascia, but not into muscle tissue.

The tuberculin is diluted with a 0.5 per cent. solution of carbolic acid and distilled, filtered and sterilized water; little local discomfort results, such hyperemia as follows subsiding in from twenty-four to forty-eight hours.

WHAT CONSTITUTES A REACTION.

A tuberculin reaction may be either local or general. If local, the symptoms may be confined to a small area and consist of congestion, swelling, pain, tenderness on pressure, or increased secretion. Local reactions, as a rule, are not clearly defined; they occur particularly in adenitis and in disease of the joints and of the larynx; it is not infrequent that increased moisture will be heard over a suspected area in the lung without other change in the character of the respiratory sounds. In a general reaction the symptoms may be slight or so severe as to give rise to grave apprehensions on the part of the patient or the friends. The symptoms usually occur in from twelve to twenty-four hours and consist of fever, pain throughout the body (particularly the back and joints), nausea, vomiting, headache, increased cough and expectoration, restlessness, chill, or the ordinary evidence of a common cold. Many of these symptoms may be entirely lacking, others existing either slightly or to a severe degree. The most distinctive evidence of reaction is usually presented in the change of temperature, a variation from one to even three or four degrees from the record for the previous days being taken as a positive evidence, other possible causes, of course, being eliminated.

The reaction may be retarded, not coming on until the second day, then appearing suddenly and presenting the most conclusive evidence. Even when the reaction is violent the maximum is reached in a few hours, the symptoms then subsiding gradually, so that in twenty-four hours from the outset the patient is again practically normal. I have occasionally had my attention called by the test to the larynx, where, beforehand, no suspicion of trouble existed, the reaction causing slight or marked local redness with such symptoms as occur in ordinary acute laryngitis. Slight chill, a rise of two to three degrees in temperature and more or less aching is the rule, nausea being less frequent and vomiting rarely seen.

ALL TUBERCULOUS PATIENTS WILL NOT REACT TO THE ORDINARY TEST DOSE.

As has already been pointed out, a recent case, or one presenting but a small or circumscribed deposit, will react more positively than will the usual well-developed case or one in which there is extensive involvement. In other words, in the advanced or extensively involved case, a certain degree of tolerance is established to tuberculin, an evidence that Nature produces in the body the same resistive element (call it partial immunity, if you like) that occurs when tuberculin is used in gradually increasing dosage.

WHAT PRODUCES THE REACTION.

With all that has been written, following innumerable experiments on lower animals, after the most painstaking laboratory experiments, as yet there is no satisfactory explanation for the phenomena of the tuberculin test. Empirically we know the results as we do with many remedies; scientifically we are in the dark here as we are with the "how and why" of the action of many of our simplest and commonest remedies.

In conclusion, I wish to affirm my belief in the efficacy, safety and positive diagnostic value of a properly conducted tuberculin test, and to state that, while a failure to react is not proof positive that the disease does not exist, a clearly defined reaction must be accepted as diagnostic proof of the existence of tuberculosis.

Special Article

WATER SUPPLY AND PUBLIC HEALTH.

CHAPTER I.

WATER AND DISEASE.*

The causal connection between water and disease has been impressed on the human race by a series of tragic occurrences. Throughout the Middle Ages a common explanation of any sudden outbreak of epidemic disease was that "somebody had poisoned the wells," and this unhappy hypothesis often led to a destruction of life which was even greater than that caused by the original epidemic. The belief that certain outbursts of a specific disease were somehow associated with drinking water did not, however, become general until about the middle of the nineteenth century, when a number of facts hitherto seen through a glass, darkly, first came into clear view in connection with the causation of Asiatic cholera.

(*a*) *Asiatic Cholera.*—This disease afforded an early and conspicuous demonstration of the relation between a specific disease and the use of a given water supply. The famous case of the "Broad Street Pump" in London in 1854 has long been celebrated as an epidemiologic classic.[1] It will be recalled that a remarkably concentrated and explosive outburst of cholera occurred among the persons who used the water from a certain well in Broad Street. The circumstances surrounding this outbreak were such as to foster immediately the suspicion, even in those prebacteriologic days, that the well water contained the "specific poison" of Asiatic cholera. Fortunately for the advance of preventive medicine, the investigation of the occurrence fell to the lot of several shrewd and competent observers, who succeeded in securing convincing evidence, amounting, indeed, to virtual proof, of the causal connection between the use of the water and the production of infection. It is with much reason that some writers date the beginning of modern epidemiology from the inquiry into the Broad Street pump epidemic of Asiatic cholera.

In more recent times the connection between drinking water and Asiatic cholera has been graphically shown in the famous Hamburg-Altona epidemic of 1892-3. Here similar population groups in the two cities, living under identical climatic and social conditions, were most diversely affected. The residents of Hamburg were supplied with unfiltered water from the River Elbe and suffered severely, while the inhabitants of Altona, who were supplied with filtered water from the same source, remained almost entirely exempt. Topographically and industrially the two communities were under identical conditions; the character of the water supply alone determined the presence or absence of infection. In those districts in which the Hamburg water mains passed across the boundary line for a short distance into Altona a tongue of cholera-infected houses projecting into Altona betrayed the presence of the infected water.

(*b*) *Typhoid Fever.*—The evidence connecting epidemics of typhoid fever with drinking water is intrinsically more difficult to secure than in the case of cholera, owing to the long period of incubation and the frequently obscure symptoms of the former disease. Nevertheless, an overwhelming number of cases is on record in which the association between the use of a particular drinking water and an outbreak of typhoid fever is so direct as to admit of no doubt as to the causal relationship.

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*[This is the first of a series of articles on the relation of water supply to the public health. Succeeding papers will treat of kindred topics, such as the methods of sanitary water analysis, the methods of water purification and similar themes. Many of the existing treatises on water and water supply have been written, primarily, for the engineering rather than for the medical profession, and it has seemed to us desirable to secure a presentation of this subject that shall be of especial value to medical readers. In most communities, physicians rather than engineers constitute the membership of the local board of health, and it is to the former, consequently, that the public must look for proper guidance in the matter of safe water supply. As a matter of fact, the water-supply problem is often of a hygienic rather than of an engineering character.—ED.]

1. Sixth Report of the River Pollution Commission. Appendix 10, p. 499. An excellent detailed review of this outbreak is given in "Principles of Sanitary Science and the Public Health," by W. T. Sedgwick. The Macmillan Co., 1902.

There is no need to recapitulate here in detail the features of the more familiar water-borne epidemics of typhoid fever. These are for the most part on file in easily accessible publications. Among the classic epidemics may be mentioned the one at Lausen, Switzerland, in 1872;[2] at Plymouth, Pa., in 1885;[3] at Worthing, Eng., in 1893;[4] at Ithaca, N. Y., in 1903,[5] and at Butler, Pa., in 1903.[6]

In addition to the evidence afforded by these epidemics of a circumscribed and definite character, there is a large body of evidence, less direct to be sure, but very cogent, derived from a study of the typhoid fever death rates in those cities afflicted with more or less polluted public water supplies. Attention has often been directed to the low typhoid fever rate in cities supplied with a surface water purified by sand filtration, as compared with the higher death rate in cities furnished with unfiltered surface water.

Table 1.

Cities Using Sand Filtered Surface Waters.—Typhoid Rate per 10,000.		Cities Using Unfiltered Surface Waters.—Typhoid Rate per 10,000.	
Berlin	0.50	Boston	2.79
London	1.40	New York	1.81
Hamburg	0.90	Baltimore	4.50
Rotterdam	0.20	St. Louis	4.70

Table 2 shows the death rate from typhoid fever in the principal cities of two large states. In one of these states the public water supplies were under the direct legal control of the State Board of Health; in the other such authoritative supervision was lacking.

Table 2.—Average Typhoid Fever Death Rates. (1898, 1899 and 1900.—Fuller.)

Pennsylvania.		Massachusetts.	
City.	Death Rate.	City.	Death Rate.
Pittsburg	108	Boston	30
Allegheny	86	New Bedford	30
Johnstown	83	Springfield	26
York	83	Lawrence	25
Chester	64	Taunton	25
Lancaster	59	Brockton	24
Philadelphia	54	Chelsea	24
McKeesport	53	Salem	23
Reading	50	Fitchburg	21
Allentown	49	Lowell	21
Harrisburg	41	Lynn	20
Altoona	33	Newton	20
Wilkesbarre	29	Cambridge	18
Erie	28	Worcester	18
Scranton	23	Fall River	15

An immediate and striking effect on the typhoid fever death rate has often been observed when a city has exchanged a polluted water supply for one of more satisfactory character. Thus the city of Vienna between 1851 and 1874 procured its public water supply from the River Danube, and during this period the typhoid rate ranged from 100 to 340. In the latter year a pure spring water was introduced and the typhoid rate at once became and has since remained consistently low, averaging only 5.1 in the years 1898-1902. In Chicago the typhoid fever death rate fell to the lowest point recorded in the history of the city in the year (1900) immediately following the opening of the Chicago drainage canal, which diverted a large portion of the city sewage away from Lake Michigan, the source of the city water supply.[7]

A singularly instructive condition existed at one time in the city of Paris. The main water supply was obtained then as now from various springs and small rivers and was of fairly satisfactory character, but during certain seasons this source proved inadequate, and the scanty supply was eked out with water from the polluted River Seine. In order that every part of the city should share alike, each *arrondissement* was supplied in turn with river water, due notice being given through the public press to the residents of the district concerned. That the authorities clearly recognized the situation is shown by fact that if the river water was supplied for more than twenty days of the year the householder had the right to demand a reduction in his water rates (Legge). The effect of the orderly distribution of the Seine water was manifested by a miniature epidemic of typhoid fever which followed the course of the Seine water from one section of the city to another. In 1889 an accident occurred to the conduit of the Vanne, one of the chief sources of the spring water supply, and all Paris received nothing but river water for five days. It is estimated that this caused 1,570 cases of typhoid fever.

(*c*) *Other Diseases.*—In addition to Asiatic cholera and typhoid fever a number of other diseases have been attributed with more or less reason to water-borne infection. Conspicuous among these is the so-called epidemic diarrhea. Various well-defined outbreaks of intestinal disturbance have been traced not infrequently to the use of polluted water. An interesting outbreak of a dysenteric affection ascribed to the use of well water has been reported by Lartigau.[8] This case is a particularly important one since the micro-organism apparently responsible for the infection (*B. pyocyaneus*), was isolated both from the discharges of the patients and from the contaminated well water.

The most extensive epidemic of this order yet described is one recently recorded by Thresh,[9] which occurred in the borough of Chelmsford, Eng., attacking about 1,400 persons, mostly adults, and causing 14 deaths. The practical limitation of the cases to definite sections of the population first threw suspicion on a certain portion of the water supply. The original sources of supply apparently were not exposed to pollution, but a small uncovered reservoir was found into which water from a deep well had been pumped and through which it flowed to mix with water from a spring in a large covered reservoir. The conditions surrounding the small reservoir are thus described: "This small reservoir was not bricked above ground level, hence during heavy rain water from the ground around would run into it. Adjoining one end of this reservoir was a patch of garden ground on which flowers were being grown. This I found was manured from time to time with road scrapings." The intimate connection between the onset of the epidemic and a particularly excessive rainfall was shown by the fact that the epidemic commenced between July 23 and 25, while the rainfall records show that after three rainless weeks 0.56 inches of rain fell on July 17, 0.45 on July 19, and no less than 2.1 on July 23. Table 3 sets forth the relation subsisting between the use of the contaminated water and the deaths from diarrhea.

Table 3.—Deaths from Diarrhea during Epidemic.

5,000 persons not using contaminated water	0
7,700 persons using the contaminated water	14
23,000 persons in the remainder of the union not using the contaminated water	0

Less convincing than such well-marked outbreaks are the instances that have been reported in which water-borne epidemics of typhoid fever have been preceded by a large number of cases of diarrhea. This circumstance has been regarded by some observers as indicating that the ingestion of polluted water causes in some persons a diarrheal disease with a short period of incubation and in others genuine typhoid fever. A critical re-examination of the evidence, however, is needed in most of these cases, especially since the bacteriologic data are strikingly incomplete. It is sometimes alleged, further, in communities in which typhoid fever has been rife, as in the cities of Chicago and Philadelphia, that cases of apparently non-specific diarrhea have been notably more common than in cities supplied with purer water. The so-called attacks of "winter cholera" should perhaps be placed in this category.

The degree to which infantile diarrhea can be rightly ascribed to the use of infected water must be considered an open question. Some facts, such as those recorded Reinke,[10] lend color to the supposition that infection sometimes comes by this channel. The danger must be recognized as a real one, although the relative frequency of water infection under ordinary conditions of infant nourishment has not yet been definitely ascertained.

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[2] Hägler: Deuts. Arch. f. klin. Med., 1873, 11, p. 237.

[3] First Ann. Rep., State Board of Health and Vital Statistics of Pennsylvania, 1886.

[4] Thomson, Ann. Rept. Med. Officer, Local Gov't Board, 1893-4, p. 47.

[5] The Journal A. M. A., March 21, 28, Apr. 4, 1903.

[6] The Journal A. M. A., Dec. 12, 1903; Eng. News, Dec. 21, 1903; Twentieth Ann. Rept. of Penn. State Board of Health.

[7] The Journal A. M. A., Dec. 20, 1902.

[8] Jour. Exp. Med., 1898, 3, p. 595.

[9] British Med Jour., Sept. 26, 1903.

[10] Bericht über die medicinische Statistik d. Hamburgisch, Staaten für 1892.

Both the bacillary and the amebic forms of dysentery are ordinarily water-borne infections. Although the two infections are etiologically and otherwise distinct, the sources of infection and the modes of transmission are probably very similar. In both cases the infectious elements are contained in the feces of the patient or convalescent, and the entrance of the bowel discharges into drinking water must constitute the most important mode of dissemination, precisely as in Asiatic cholera.

The somewhat rare affection known as Weil's disease or infectious jaundice has also been definitely traced to the use of polluted water.[11] The organism (*B. proteus fluorescens*) concerned in the causation of this disease is discharged from the body of the sick in the urine and feces,[12] and the same prophylactic methods, therefore, are necessary as in typhoid fever.

Anthrax in animals sometimes has been traced to the use of highly contaminated water, notably in a case reported by Diatroptoff.[13] River water may receive anthrax spores through the drainage from tanneries and the like, and when such infected water overflows meadow lands the spores may be deposited and taken up subsequently by grazing cattle. No instance appears to have been recorded of water-borne infection in man.

The opinion has often been expressed, especially by physicians in malarious regions, that water derived from marshy districts is the cause of malaria, but there is no real evidence that this is the case. Experimenters who have drunk water taken from swamps in malarial localities have experienced no ill effects, and even the swallowing of small quantities of blood derived from malarial fever patients and known to contain the specific parasite has not produced the disease. Furthermore, the demonstrated dependence of malaria on the bite of certain mosquitoes places the hypothesis of malarial water infection in the region of unverified myth.

It seems quite unlikely also that water ever serves as the vehicle of infection in yellow fever. In this disease, as in malaria, the transfer from man to the mosquito and back again to man seems to be the only means of propagation.

In the case of the bubonic plague it is very doubtful whether water plays any rôle in the transmission of the disease. The German Plague Commission was unable to discover evidence of any authentic case of alimentary tract infection in man, and, although perhaps the possibility of water infection can not be altogether excluded, this mode of conveyance must be so infrequent as to have little practical importance.

Infection with various animal parasites may sometimes result from the contamination of drinking water, especially in tropical countries. It is stated that the occurrence of the hydatid stage of *Tænia echinococcus* in man is usually due to the swallowing of the ova present in polluted water. The tapeworm form of this parasite inhabits the intestine of the dog and human infection is said to be common in countries where dogs abound, as in Australia and Iceland. Infection with *Ascaris lumbricoides* is also usually attributed to drinking water. The ova of this worm may pass directly from the intestine into sewage, and if such sewage enters a water supply a possible cycle of infection is clear. Other parasites, infection with which is attributed with more or less reason to water conveyance, are *Bilharzia hematobia*, *Ankylostomum duodenale*, *Trichocephalus hominis* and *Filaria mediensis*.

CHAPTER II.

SOURCES OF INFECTION.

The most common way in which water becomes infected is through admixture with sewage. The infectious elements or disease germs in sewage sometimes may be derived from street washings or from factory waste, but in the great majority of cases they enter the sewage directly together with the discharges from the human bladder or intestine. This is notoriously the case with the bacteria of typhoid fever and Asiatic cholera, diseases which are by far the most common as they are the most serious of the water-borne infections.

In Asiatic cholera, it is well known that the specific germ leaves the human body in the intestinal dicharges in which it is often present in large numbers. It has been shown also that the dejecta in mild and apparently simple cases of diarrhea, occurring in times when cholera is prevalent, may contain myriads of cholera spirilla, and that at such periods, moreover, cholera spirilla have even been found in the intestinal contents of perfectly well and healthy persons. It follows that such persons, migrating from a cholera infected district, although remaining healthy themselves, may be the means of scattering the seeds of infection. Any condition, therefore, chance or otherwise, that allows sewage to mingle with water used for drinking purposes may be the means of originating an outbreak. Those communities into whose water supply sewage enters are, hence, in greater or less peril at all times when cholera is rife in the surrounding region.

The sources of infection in typhoid fever are similar to those in cholera with the addition that the liability of carriage by mild or unrecognized cases is present in even greater degree. The evidence both from epidemiology and bacteriology indicates that the typhoid bacillus remains in the human body longer after convalescence than does the cholera spirillum. This is particularly true as regards its persistence in the urine. The investigations of the last few years have shown that in from 25 to 30 per cent of all cases of typhoid fever the urine contains typhoid bacilli. They are sometimes found here in enormous numbers, and may range as high as 500,000,000 per cubic centimeter (Horton-Smith). Examinations occasionally reveal their presence far into convalescence, and it is possible that in rare instances the urine of the patient may remain infectious for years after complete recovery. The broad epidemiologic importance of this fact has only recently become fully recognized. The evacuations of urine are more frequent and copious than the discharges from the bowels, are more highly infectious, and may remain infectious for a longer period. On the supposition that the urine of typhoid fever patients and convalescents may contain the specific bacillus, apparently mysterious cases of isolated infection and even obscure epidemic outbreaks become susceptible of plausible explanation. At least one instance is on record[14] where a well water apparently became contaminated from urine alone, since typhoid bacilli were found in the water without any admixture with colon bacilli, and this would hardly have been the case had any accompanying fecal contamination occurred. The relative facility with which infection may result from the urine of a case of walking typhoid or of a convalescent renders this source of evil a particularly insidious one, and one against which special precautions will doubtless soon be taken more generally both by health authorities and by physicians in private practice. The well-known fact that urine can be freed at least temporarily from typhoid bacilli by the administration of hexamethylenamine to the patient has been taken general advantage of, but other methods of disinfecting the urine after passage (e. g. with carbolic acid or mercuric chlorid) should not be neglected, especially in view of the fact that the bacilli may reappear in the urine when the hexamethylenamine is discontinued.

Perhaps the most common source of water-borne anthrax infection is the entrance into water of anthrax spores discharged in the drainage from tanneries. The spores may become detached in the process of cleansing hides imported from anthrax infected localities. Infection of well water with spores derived from the bodies of dead or diseased animals may also conceivably occur.

In considering the pollution of large bodies of water such as lakes or rivers, it has been customary to lay great stress on urban as opposed to rural sources. Thus, emphasis is often placed on the urban or sewered population on a watershed to the relative neglect of the dwellers in rural districts. There can be no doubt that so far as the amount of organic matter entering a river is concerned, the urban population is vastly more significant than the rural, but the question of infection is on a different footing. Many scattered farmhouses are provided with outhouses or privies which adjoin, or perhaps overhang small tributaries of the main stream. Disease germs may be introduced from this source, and owing to the relative neglect of disinfection in country districts, this may occur more readily than in urban communities. It may be noted that some of the greatest epidemics of typhoid fever have been caused by infection from rural sources; Plymouth, Ithaca and Butler are familiar examples. There is evidence, further, that typhoid bacilli introduced into water together with abundant organic matter, as in sewage, perish more quickly than when introduced into relatively pure water. From this standpoint also rural infection can hardly be regarded as a negligible quantity.

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[11] Jäger, Zeits. f. Hyg., 1892, 12, p. 525.

[12] Conradi and Vogt, Zeit. f. Hyg., 1901, 37, p. 283.

[13] Ann. Past., 1893, 7, p 286.

[14] Kübler and Neufeld, Zeitsch. f. Hyg., 1899, 31, p. 133.

CHAPTER III.

INJURY OF WATER SUPPLY BY ALGÆ AND RELATED ORGANISMS.

In certain regions and at certain seasons of year the appearance of disagreeable odors and tastes in drinking water is not an infrequent occurrence. These odors are particularly likely to develop in reservoir or storage basin waters, the affected waters often becoming so disgusting as to preclude their use on the table. It is usually popularly assumed that such odors or tastes are due to the active decomposition of matters of animal origin or even that the nauseous qualities are due to the admixture of sewage with the water. The presence of these odors consequently causes serious concern among water drinkers, but such concern, however, is not altogether justified. The malodorous or unappetizing emanations, which are quite various in character and are often picturesquely described by terms such as "fishy," are as a matter of fact due to the products of growth, or sometimes to the products of decomposition of microscopic algæ. These products, at any rate in the proportion in which they are found in natural waters, are not known to have any prejudicial effect on human life and health. The practical seriousness of the trouble, however, is shown by the fact that some supplies, representing large investments, have been rendered almost valueless by becoming infested with algæ. In other cases large expenditures have been found necessary to remedy the evil.

The organisms commonly found producing these odors belong to several distinct groups. Some of them are diatoms, some of them *Cyanophyceæ* (blue-green algæ) and some of them are infusoria. Among the diatoms *Asterionella* has been the genus most frequently associated with the occurrence of unpleasant odors. When this diatom is present in small numbers the odor has been described as aromatic, resembling the odor and taste of the geranium, but when it occurs in very large numbers it imparts a distinctly disagreeable, fishy odor to the water. *Asterionella* frequently multiplies in great abundance in pure ground waters which have been stored in reservoirs and which, owing to their nitrate content, and their exposure to light and air, afford a highly favorable medium for the development of diatoms. In some cities, e. g. Brookline and Newton, Mass., it has been found necessary to prevent the growth of this diatom by roofing over the storage reservoir and so excluding the light that is necessary for growth. Some other diatoms, such as *Tabellaria* and *Meridion,* are found to produce disagreeable odors in public water supplies, but *Asterionella* surpasses other organisms of this class both in the frequency of its occurrence and the offensiveness of its products. These odors arising from the presence of great numbers of diatoms are due to the products of growth of the living micro-organism and not to the products of decomposition. It has been well established that these products of growth are due to oily compounds (essential oils) secreted or excreted during the healthy metabolic activity of the organism.

Among the blue-green algæ (*Cyanophyceæ*) several species have been found implicated in the production of disagreeable odors. By far the most troublesome of these is the genus *Anabæna*, the natural odor of which is described as "mouldy" or "grassy," but which when the process of decomposition sets in evolves an extremely offensive stench, almost universally described as suggestive of the pigpen. This "pigpen" odor is produced by the decay of highly nitrogenous organic compounds, containing sulphur or phosphorus, of such compounds in fact as those which usually produce the evil smells proceeding from the decomposition of organic matter. Many hygienically excellent and otherwise highly desirable water supplies have been seriously injured by becoming infested with *Anabæna.* Other blue-green algæ which produce nearly or quite as offensive an odor are *Clathrocystis, Rivularia, Coelosphaerium* and *Aphanizomenon,* although they are not found so commonly as *Anabæna* in public water supplies.

Among the grass-green algæ (*Chlorophyceæ*) the general *Volvox, Eudorina* and *Pandorina* have been found associated with the production of more or less pronounced "fishy" odors, which, as in the case of the diatoms, are due to the qualities of the essential oils formed during the normal growth of the organism.

In the group of infusoria, *Uroglena* and *Synura* have proved specially objectionable as inhabitants of water supplies. A number of important public supplies have been rendered practically unfit for use through the presence of *Uroglena.* Middletown and Meriden, Connecticut, and Norwood and Plymouth, Massachusetts, are among the places where the organism has caused much trouble. The disintegration of the organism during its passage through the water pipes is often responsible for the liberation of the odoriferous materials. The water taken from pond or reservoir may swarm with colonies of *Uroglena* and yet emit no disagreeable odor, while the tap water drawn from supply pipes may be highly offensive. The odor produced by this organism is hence not really one of decomposition, although of an intensely offensive character. Other odors of growth have suggested to various observers the odors of ripe cucumbers, rockweed, Irish moss, salt marsh, and even in the case of infusorium (*Cryptomonas*) candied violets!

There is no reason for supposing that the odors and tastes due to the presence of large numbers of any of these microscopic organisms are in any degree dangerous to health; this is doubtless true whether the odor be caused by the products of growth or by those of decomposition. The proportion in which these substances occur in the natural waters in question is so small as to preclude any physiologic effect. In the actual operation of water works, however, the impairment of the esthetic value of water by these micro-organisms has often led to considerable expense, and has sometimes placed practically insuperable obstacles in the way of securing a supply that is both palatable and hygienically suitable.

Another micro-organism that is related only rather remotely to the algæ and infusoria just under consideration, but which has frequently caused much inconvenience in the conduct of water works is the so-called iron fungus or *Crenothrix.* This organism is one of the largest of the higher bacteria and, among other peculiarities, is characterized especially by the deposits of oxid of iron in the sheaths of the filament. The growth of this organism on the sides of the pipes and conduits of various public water works in widely separated localities has caused much annoyance. The rapid multiplication of this plant may suffice to cover entirely the walls of a reservoir or drain pipe with a thick felt, portions of which are dislodged at frequent intervals and swept along by the current as small, dark brown flocculent masses. As these appear in the tap water they are extremely unsightly. Decomposition of these particles may occur and produce offensive odors. Small pipes may become entirely clogged by the growth. The famous "water calamity" of Berlin in 1878 was the first occasion on which the production of trouble was definitely laid at the door of this organism. Other municipal supplies have since been attacked by *Crenothrix,* notably that of the city of Rotterdam, Holland, where the *Crenothrix* invasion was thoroughly investigated by the distinguished botanist, DeVries. At Rotterdam, the operation of a well-conducted sand-filtration plant has been grievously interfered with by the growth of this organism, which indeed is said still to cause trouble in spite of all efforts at its eradication. The cities of Lille, France, Rome, Italy; and some places in this country (e. g. Wayland, Mass., and Fairport, Ill.), have also suffered from the development of *Crenothrix* in pipes or reservoirs.

(*To be continued.*)

Clinical Notes

THE PREVALENCE AMONG SCHOOL CHILDREN OF DISEASES OF THE EAR AND THROAT.*

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A review of the following tabulated results of an ear and throat examination made in one of our largest preparatory schools brings to light some points of practical interest. The examination was systematically carried out, and, as gross defects alone were looked for and recorded, the tables show only such conditions as were undoubtedly harmful to the boys from the standpoint both of physical health and scholastic efficiency. The figures underestimate rather than exaggerate the amount of disease present. It may, perhaps, be said that the number of boys examined is too small to be of great statistical value; nevertheless the figures do give some idea of the relative prevalence of diseases of the ear and throat among school boys of the better class in whom it ought hardly be expected to find any harmful disease that prophylaxis can prevent or medical science cure.

TABLE SHOWING RESULTS OF AN EXAMINATION OF SCHOOL CHILDREN OF THE BETTER CLASS.

	39 examined 8 to 10 years of age, per cent.	91 examined 11 to 13 years of age, per cent.	117 examined 14 to 16 years of age, per cent.	50 examined 7 to 19 years of age, per cent.	297 total examined, per cent.
EARS.					
Normal	64.10	57.14	53.84	52.00	55.87
Deafness, slight, in one or both ears	10.25	20.87	27.34	26.00	22.88
In both ears	2.56	10.98	6.83	12.00	8.41
Deafness, marked in one or both ears	7.68	6.58	10.25	6.00	9.09
In both ears	2.56	2.19	0.00	6.00	2.02
History of purulent discharge	15.38	14.28	8.54	4.00	10.43
Impacted ear wax	10.25	5.49	2.56	2.00	4.37
NOSE AND THROAT.					
Enlarged tonsils, including adenoids	28.20	18.12	10.25	8.00	14.98
History of removal of tonsils	8.97	1.09	2.98	1.00	2.85
Abrasion septum (nose bleed	0.00	3.29	2.56	2.00	2.35
Chronic catarrh of nose	17.97	2.19	4.27	0.00	4.75
Obstructive lesions of nose	3.84	8.23	5.55	1.00	3.87
Hay fever	0.00	0.00	0.00	8.00	1.34
Chronic pharyngitis	5.12	9.89	11.96	6.00	9.42

Looking over the table in detail we find only 55.87 per cent. of these boys had approximately normal ears. The older boys were freer from ear disease than the younger ones, the explanation of which is found in the lower table, which shows a lessening of nose and throat affections as the boys outgrew childhood diseases and tonsillar enlargements—the most frequent causes of ear troubles.

Noticeable deafness for the voice, in one or both ears, occurred in an average of 9.09 per cent. of the boys, a high percentage in view of the handicap such deafness places on a student in his mental development. Impairment of hearing in one or both ears that was readily detected by simple tests was found in 22.88 per cent. of the boys. Impairment of hearing increases progressively up to the fourteenth and sixteenth year, after which it decreases somewhat. This decrease can be explained by the reasons already given above, namely, that they have passed the age when diseases of childhood and tonsillar hypertrophy are prevalent. A sufficient percentage of deafness continues into the older years to prove that an "outgrowing" of deafness can not always be counted on.

The percentage of children giving a history of purulent discharge from the ear also becomes smaller as they grow older. It may safely be assumed that the older boys are freer from purulent middle ear disease. For althought a larger percentage was affected when they were younger, later on they had forgotten about it, while the younger boys remembered the ear discharge because of its comparatively more recent occurrence. Hearing is not often seriously affected by purulent discharge from the ear, the chief danger lying in the possible extension of the purulent process to the brain.

The filling of one or both ears with ear wax was noted in 4.37 per cent. The percentage of pupils affected was larger in the young and became less as they grew older.

Cases of enlarged faucial and pharyngeal tonsils, the chief causes of mouth breathing and deafness in children, decreases at puberty, but disappearance of the tonsils does not invariably take place. The number of boys giving a history of removal of the tonsils lessens as they grow older, firstly, because many have forgotten about the operation performed in the past, and, secondly, because operation for adenoids and tonsils was not so frequently resorted to formerly as at present.

Examination of the nasal fossae of boys between seventeen and nineteen was not as carefully made as in the other children, a thorough examination entailing too much time and trouble; otherwise it is probable that a higher percentage of defect would be recorded under chronic catarrh of the nose and nasal obstructive lesions in the columns for those ages.

Four out of fifty boys between the ages of seventeen and nineteen gave a history of "hay fever." Perhaps other boys suffered from this affection, but had not yet recognized it in its incipiency.

In concluding we are justified in stating that a surprisingly large number of school children suffer from defective ears and throat, and that, therefore, all school children should be subjected to a thorough examination at least once a year. Many of these children are incapable of gleaning the full benefit of their school training because they are retarded in their progress on account of these defects and consequently require a greater amount of attention from their teachers, which is given at the expense of the other boys.

Therefore, it seems that it would be highly beneficial from a standpoint of prophylaxis to require a certificate of examination on a child's admission to the first primary grade, for that is the time when most good can be done in a prophylactic way by removing obstructive adenoids and hypertrophied tonsils. The examination should be made by a capable physician or medical inspector, with itemized reference to nose, throat and ear as well as the rest of the body. If defects were found, although the examiner might not be able to refuse the child admission to the school in case the parents refused the necessary means of correction, he could at least strongly advise treatment and send in with the child a certificate calling attention to each child's individual defect. These children could then be separated from the others for careful observation and frequent examination. If the child, receiving no attention at home, develops a severe attack of earache the teacher could explain to the parents the cause of the condition and perhaps gain their consent to the removal of the offending adenoids and tonsils. In this way the chances of serious middle ear disease with its many complications and sequelæ will be lessened and something will have been done toward lowering the very high percentages recorded in our tables.

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*Read before the Philadelphia County Medical Society, March 18, 1907.

AMYOTROPHIC LATERAL SCLEROSIS.

CLINICAL REPORT OF A CASE.

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If for no other reason, I would appear to be justified in reporting a case of this extremely rare nervous disease, when the statement is made that this case was diagnosed as locomotor ataxia by as many as five physicians, some of whom reside in various parts of the United States.

Patient.—J. K., white, married, aged 50, traveling salesman for Ferris wheels and merry-go-rounds, was examined Jan. 19 and 20, 1905. He has two children in good health, and has lost none. In the past ten years he has made seven trips to the tropics (Porto Rico, Cuba, Philippines, etc.), averaging about seven to eight months in each year in a tropical climate.

Family History.—Negative. Mother living, aged 87. Father died of chronic bronchitis at 69. One grandparent died from an accident, one died at 85, one at 82 and one at 65. No history of tuberculosis or nervous diseases in the family.

Personal History.—At the age of 15 he had a severe attack of pneumonia, and at 20 was critically ill with typhoid fever. Denies syphilis; no evidence of any specific infection. From the age of 20 to 49 he had not been confined to bed on account of illness. Injuries: In 1887, while lifting a very heavy log, the bolt in the cant-hook broke and his body was suddenly elevated, causing severe pain in the small of the back, which has continued to some extent up to the time of this examination—a period of eighteen years. Patient remarked that since this accident he noticed that "in lifting any moderately heavy weight, the muscles on the right side of the spine" (in lower dorsal and lumbar regions) "would swell up and get very firm, and the small of the back would feel sore for three or four days." He sometimes lived at a "pretty swift pace," drinking heavily; at other times drank nothing for weeks. Sexual habits usually moderate.

Present Illness.—In the early part of October, 1903 (at the age of 49), patient first noticed a little twitching of parts of the muscles of the right leg from hip to knee, and about three weeks later fibrillary twitchings of muscles of the left arm appeared. Three or four months after this came the fibrillary twitchings of the muscles of the left leg from hip to knee, and several weeks later the twitchings appeared in the muscles on either side of the spine and in the intercostals. A short time after the twitchings began, patient noticed more or less weakness of the muscles affected, and in the case of the arms, intercostals and muscles of the back, atrophy began to appear. With weakness of the intercostals, he noticed that his "lungs would not fill up as readily as formerly." He says that up to date of examination there has been very little twitching of the muscles of the legs below the knees, and careful examination failed to elicit any fibrillary movements of the calf muscles.

Patient's Condition Jan. 20, 1905.—A man of large frame, who had weighed a year or more previously 235 pounds, now shows at a glance some atrophy of the intercostals and of muscles of the back, neck, shoulders, upper arms and forearms, with wrist-drop on each side, the left being more marked than the right. There is also some shrinkage of the muscles of the buttocks and hips, and an apparent hypertrophy of the muscles of the thighs and legs, the contrast between the atrophy of the muscles of the arms, forearms and hands and the normal or slightly hypertrophied condition of the muscles of the thighs and legs being quite marked. There is a peculiar hoarseness of the voice and some fibrillary tremor of the tongue. He is unable to whistle. Fibrillary twitchings of the muscles of the arms, neck and thighs are noticeable at times. Spasticity of the legs is prominent. He is able to walk with assistance, the gait being markedly spastic.

Physical Examination.—This shows the heart normal. Some shortness of breath is present. Pulse 78, temperature 99. Bladder and bowel functions normal, sphincters all intact, and sensory conditions normal. Electric reactions: The left arm shows slight reaction to faradism in the deltoid, biceps and triceps; no response in extensors, but some in flexors of forearm; little or no response to galvanism, except a tetanic contraction in the deltoid. Right leg: All thigh muscles appear to respond to faradism; the thigh muscles showed marked A. C. C. to galvanism. The calf and other muscles of the right leg below the knee show some response to faradism. Left leg: Practically the same electric reactions as those of the right, but response is somewhat weaker. Eyes: Pupils, vision, fields of vision, and muscular movements normal. Ears: No deformities. Hearing normal in both ears; senses of smell and taste normal; memory good; logical powers good. Emotions: Extremely emotional at times, laughing and crying. Very anxious to get well, but if he must die, insists that he can not and must not be allowed to suffer. Sleep: Awakens about every two hours, when he becomes restless and irritable, desiring to be removed from bed to a chair and back again in a short time. Reflexes: Jaw jerk exaggerated. Elbow jerk exaggerated. Knee jerks very markedly exaggerated. Ankle clonus present on left side; not elicitable on right side because of former injury to right ankle joint (fixed joint). Babinski present in both feet. Wrist jerks absent, owing to extreme atrophy of extensor muscles of the forearms. Cremasteric present. Abdominal present.

As time advanced the condition grew progressively worse. The trapezius and other muscles of the neck grew weaker and weaker until he was unable to hold his head erect, a special pillow being arranged to support the head. The voice became so feeble that it was scarcely audible. Fibrillary tremors were often noticeable without tapping the muscles involved. Swallowing and respiration became extremely difficult. Finally pulmonary edema developed, causing death on July 21, 1905, the actual duration of the disease being twenty-two months. An autopsy was urgently requested, but was declined.

This would appear to be a typical case of amyotrophic lateral sclerosis. This disease is defined by Starr as a chronic form of spinal paralysis characterized by the symptoms of progressive muscular atrophy in the arms and of lateral sclerosis or spastic paraplegia in the legs. Oppenheim states that in typical cases bulbar paralysis occurs. All of these symptoms were present in this case.

ETIOLOGY.

Little is known of the causation of this disease. In this case we have perhaps two possible factors in the etiology, namely, prolonged exposure to heat in the tropics and the sudden wrenching of the spinal muscles eighteen years previous to the first symptoms. Examination of the spine failed to show any curvature or other injury, and I am led to the conclusion that this very remote accident was probably not the exciting cause of this condition. Whether prolonged exposure to tropical heat was a predominating factor in the etiology of this case, I am at present unable to determine.

AGE OF ONSET.

This case began at the age of 49 years, which is not an unusual age of onset. Collins, who has made an interesting study of nearly all the cases of record, found that of 100 unselected cases 29 occurred between 45 and 50, 30 between 30 and 40, 28 between 50 and 60, and only 2 under 30. McPhedran's case began at 47. Gordon reports a case in a boy of 15 with a history of acute anterior poliomyelitis in infancy.

DURATION OF THE DISEASE.

My case lasted 22 months, which is probably about the average length of this disease. Collins reaches the conclusion that the average duration is about two years. A few of the recorded cases lasted from six to nine months. A very small number lasted four to five years, while one case extended over a period of ten years. McPhedran believes most cases terminate in one year, but the case reported by him lasted two years.

A NEW METHOD OF OPERATING FOR ANORECTAL FISTULA.

PRESERVING THE CONTOUR OF THE ANUS AND THE FUNCTIONS OF THE SPHINCTER MUSCLES.

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I have learned from practical experience that much can be done to preserve the functions of the anal sphincters by operating as follows: The patient having been prepared in the usual manner, the fistula (Fig. 1) is injected, when deemed necessary, with a solution of methylene blue (methylthionin hydrochlorid, U. S. P.) or other coloring materials to aid in searching out the course of the tract or tracts. All of the fistulous tracts external to the sphincter are then divided. A probe-pointed director is then passed into the bowel through the remaining tract and an incision is made on its distal side. This incision should extend far enough distally to divide all or a part of the fibers of the external sphincter and in such a direction as to locate the transferred internal opening at or near the anal margin (Figs. 2 and 3). Then, turning the knife, make an incision—Salmon's "back cut"—on the proximal side of the tract. A seton is then passed through the opening entering the bowel and tied loosely around the tissues remaining and undivided (Figs. 2 and 3).

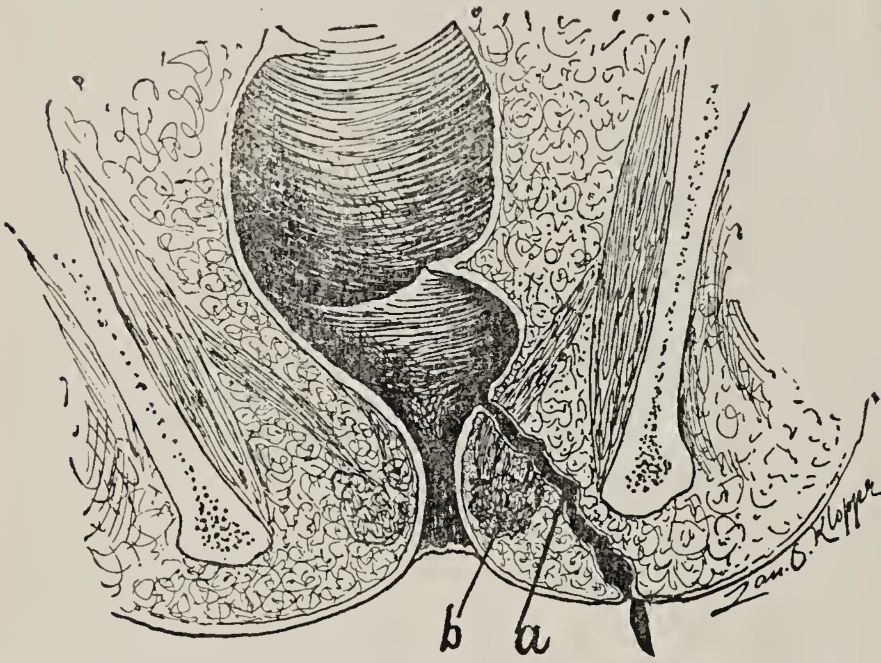

Fig. 1.—Diagrammatic: *a*, complete fistula; *b*, tissues between fistula and anal canal.

The wound is dressed as after the ordinary incision operation for fistula. At the end of twenty-four to thirty-six hours the wound is redressed, care being taken to dress it so that the opening entering the bowel will be made to heal from the proximal toward the distal side. The object in doing this is to advance the final fistulous tract as far distally (toward the skin) as the case will permit, so that, if possible, it will pass through or distally to the fibers of the external sphincter, when the healing process is complete.

As a rule the enlarged tract entering the bowel soon closes, with the exception of that part through which the seton passes. As soon as this has occurred the seton may be removed, and by the time the external wound is healed the tract entering the bowel will possibly have closed also. Should it not, at any time later this little tract, which will usually not be more than 1 inch in length, may be dissected out and the remaining fibers of the muscle sewed together, thus preserving the contour of the anus and the functions of the sphincters.

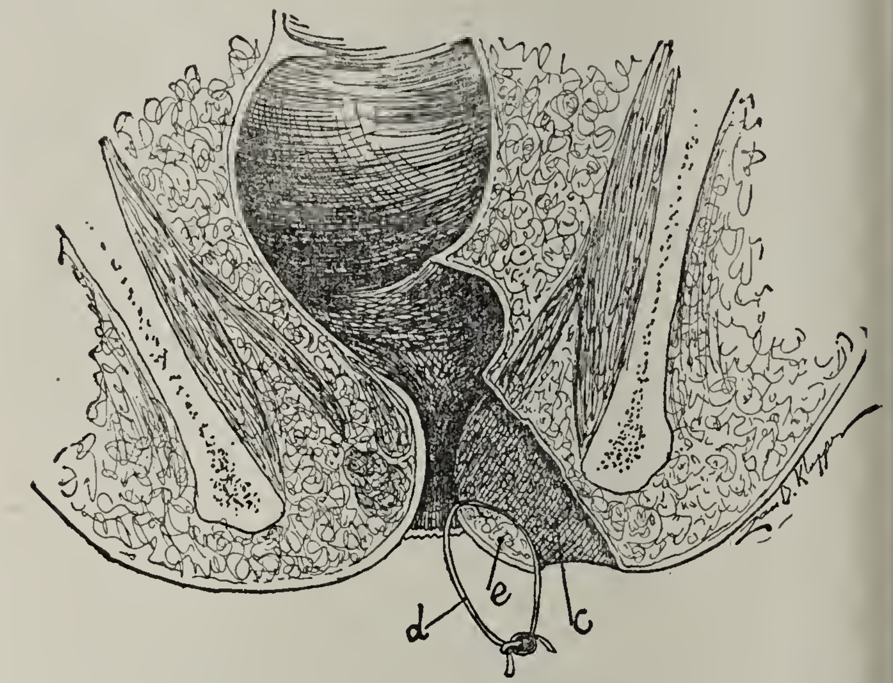

Fig. 2.—Diagrammatic: *c*, scope of incision on distal (toward the skin) side of the fistula; *c*, tissues remaining and undivided; *d*, the seton passed around them and tied.

By operating in this manner no deep sulcus is left to mutilate the anus as there frequently is following the usual incision method of dividing the muscle. Instead of this the contour of the anus is preserved. Should the seton be left *in situ* until the wound is completely healed a small non-secreting fistula will be seen entering the anal canal. This may be left alone or dissected out and sewed together at will. Sometimes this opening will give no annoyance and finally close without further interference.

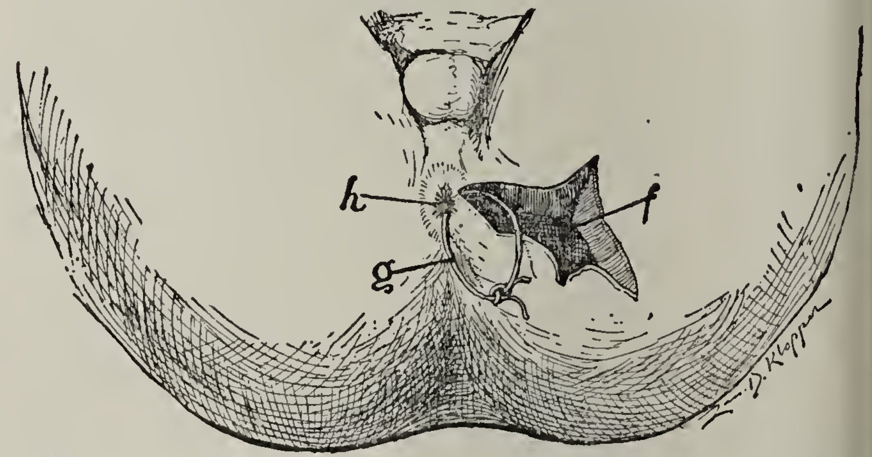

Fig. 3.—Diagrammatic: full view: *f*, incision of fistulous tracts external to sphincter; *g*, seton passed through the opening into anal canal and out through anus, *h*.

Should the remaining tissues in this case be simply divided without dissecting out the tract and sewing them together, mutilation of the contour of the anus and loss of control to a certain extent would most likely follow. In such a case the entire epidermis-lined tract should be dissected out and the ends of the muscle united. This may be done either under local or general anesthesia. It is best performed, however, under the latter.

The question might arise: What is the use of the seton? Would it not be just as well, or even better, not to use it? No; for by using it the opening into the bowel is transformed and transferred at the pleasure of the operator and the incision through its use made to heal from the proximal toward the distal side, or, in other words, with it you can direct and greatly control the healing process and the location of the final fistulous tract.

It might be objected theoretically that there would be constant reinfection from the setonized fistulous tract which would be inimical to the healing. Practical experience has not found this to be true. Besides, the tract is washed out daily with an antiseptic solution.

It is the consensus of opinion that the large majority of cases of incontinence following operations for fistula could be avoided if the external sphincter were cut squarely across and the ends sutured together or the postoperative treatment so directed that the ends of the muscle would be slightly separated by the cicatrix. The seton method provides for this procedure.

The anus not being divided aids the healing of the external wound and prevents much of the contraction and atrophy usually observed after these operations.

By operating in this manner we simply have an external wound with which to contend. The anus is not disturbed to any great extent, and in some cases not at all, and the patient is usually up and around in a few days. Moreover, the bowel movements do not soil the wound.

Finally, I have found that the employment of this method of operating greatly aids in preserving the contour of the anus and the functions of the sphincter muscles in operating on many cases of anorectal fistula.

THE BICYCLE PUMP IN INTUSSUSCEPTION.

H. T. GOODWIN, M.D.
Surgeon to St. Vincent's Hospital.
TOMPKINSVILLE, N. Y.

History.—Baby X., aged 13 months, was reported by his mother on the afternoon of Nov. 10, 1907, as having vomited several times during the day and being unable to retain anything in his stomach. I directed her, by telephone, to give the child calomel gr. 1/10 every twenty minutes. At 7 p. m. the mother asked me to see the child, as he was no better. No other than his usual food had been given him, and this had previously agreed with him, as evidenced by his weight, 32½ pounds. He had had one small bowel movement in the morning; prior to this his bowels had been regular.

Examination.—I could detect nothing to account for his symptoms. His temperature was normal, there was no tenderness over the abdomen, and but for the frequent vomiting his condition seemed good. Between the attacks of vomiting he was bright, though peevish, and wanted to be carried, which for him was unusual. I directed that the calomel be continued. On the following morning his temperature was 101.6 F., the vomiting had continued and his bowels had not moved. There was still no abdominal tenderness.

Treatment.—Calomel gr. ¼ was ordered every two hours until four doses had been given. As this produced no effect, the same dose was given every hour until one more grain had been taken. At 3 a. m. the child had one very small bowel movement. On the morning of November 12 there was no further movement. The temperature was 99.6 F. Saline enemas, one pint with the addition of an ounce of glycerin, were ordered every three hours. At 11 p. m. Mrs. X. called me up and asked me to come to the house, as the baby's bowels had not moved, and she was worried about him. When I arrived he still seemed in good condition, but kept his mouth open in a peculiar way, as though he was nauseated, and every few seconds yawned. It was this open mouth and yawning that worried the family. The enemas having produced no result, I had, at 7 p. m., ordered the addition of ox gall to every enema. The abdomen being very soft and free from tenderness, I performed massage, and directed that the enemas be continued, but in larger quantities.

By the morning of November 13 there was still no movement. Child retained albumin water, but was given only a teaspoonful at a time. Vomited occasionally. A mass, which the mother could also plainly feel, was made out in the right iliac fossa, a little below the appendix. Only slightly tender, but pressure produced gurgling. I advised consultation, and Dr. L. E. La Fetra was asked to come over. He arranged to be at the house at 4 p. m. At 1 o'clock I again saw the child. The mass, if anything, was larger, and was now very tender, the slightest touch causing the child to cry. Feeling now certain, of what for the past twenty-four hours I had suspected, that I had a case of intussusception to deal with, I took a bellows, attached to it a catheter, and introducing the latter into the rectum, attempted to inflate the intestines sufficiently to replace the telescoped gut. The bellows worked badly, and my efforts were unsuccessful. One of the boys in the family having a bicycle pump, I substituted this for the bellows. I had the father manipulate the pump slowly and carefully, while I kept up percussion over the abdomen. When I considered that sufficient air had been introduced, I withdrew the catheter, and directed Mrs. X. to wait a half hour and then give an enema. When I returned at 4 o'clock to meet Dr. La Fetra, Mrs. X. informed me that just after the enema the child had had a small fecal movement, and an hour after another. Dr. La Fetra examined the child, but finding no mass asked me to point it out. I attempted to do so, when I was surprised to find that it had entirely disappeared. There was no possible doubt that it was there before the pump was used; as not only I, but the mother, distinctly felt it; and I not only felt it, but distinctly mapped it out. Between 1 and 4 o'clock there had been a wonderful improvement in the child. There was but one conclusion to reach, and in this Dr. La Fetra said he thoroughly concurred, that it was a case of commencing intussusception, and the air driven in by the pump had forced the invaginated gut back to its normal position. That night the child had a large bowel movement, and from then on continued steadily to improve. There was no return of the trouble, and he has since been perfectly well.

54 Richmond Road.

A CASE OF VOLKMANN'S PARALYSIS AND CONTRACTURE.

FRANCES N. BOYNTON, M.D.
NEW HAVEN, CONN.

In view of the recent publication of an article[1] on Volkmann's paralysis and contracture, giving a history of the literature of the subject and a tabulation of cases, it was thought that the following case, which, through the kindness of Dr. E. H. Arnold, I am permitted to report, might prove of interest.

Patient.—A. L., girl, aged 5½, was brought to Dr. Arnold, March 1, 1901, with the left hand and wrist paralyzed and contracted.

History.—Family history and personal history up to time of accident, five months previous, were negative. On Nov. 10, 1900, patient fractured left humerus just above elbow joint. The fracture was reduced and the arm splinted and bandaged. It was not especially painful, but the hand soon puffed up, assumed a wax-like pallor and the fingers began to contract. The attending physician brought another in consultation and

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1. Powers (Charles A.): Ischaemic Paralysis and Contracture of Volkmann, The Journal A. M. A., March 2, 1907, p. 759.

the bandages were loosened, but not removed for some time. The exact time of removal of splints was not remembered by the mother, but the attending physician told her it was sooner than usual. At this time sloughing was found to have taken place on the anterior aspect of the forearm. The wrist and fingers were flexed and absolutely powerless.

Examination.—March 1, 1901, five months after the accident, the conditions were as follows: On the anterior aspect of the left forearm, slightly to the radial side and about two inches below the bend of the elbow, was a scar an inch in diameter. The flexor muscles were short, hard and adherent, the lower part atrophied, changing the contour of the arm. The fingers were flexed on the hand and the hand on the forearm. There was little power of voluntary movement and even passive extension was impossible.

Diagnosis.—Ischemic contracture.

Treatment.—Previous to this examination there had been some treatment by forcible stretching, but without effect on the contracture. Heat and massage, electricity and passive movements were now advised by Dr. Arnold and after some delay these measures were instituted. Good effect was soon apparent in lessening of the contracture and improved usefulness of the hand, but owing to temporary removal of the patient to another town there have been long intervals in the treatment. Since January, 1907, treatment has been pushed vigorously, and, although six years have elapsed since the injury to the muscle, improvement is noticeable. The treatment now consists of dry hot air, followed by cupping over the scar; effleurage, frictions, pétrissage and vibrations of the muscles; passive stretching and active movements with special apparatus. The muscle-bellies are becoming softer and less board-like, the lower forearm is rounding out, and the power of extension is increasing. It is still impossible to extend simultaneously wrist and fingers, but the wrist can be extended with fingers only moderately flexed at the terminal joint, and the hand is nearly, if not quite, as useful as its mate. This case is clearly one of Volkmann's paralysis and contracture, i. e., ischemic paralysis due to the pressure of too tight dressings.

In view of the great improvement already noted it would seem that an early institution and vigorous prosecution of appropriate non-operative treatment might have cured the deformity as well as restoring the functional ability. Indeed, even at this late day there is some hope of such a result. Of the cases tabulated by Powers 31 had non-operative treatment. Of these 4 are described as completely recovered, 1 as almost recovered, 6 as having good functional results with deformity, 12 as manifesting slight improvement and 8 as being unaffected by treatment. The case herewith reported falls at present in the third class of good functional results with some deformity. The latter has, however, been so much reduced that it may yet present complete recovery.

A NEW URETHROSCOPE TO BE USED WITH THE AID OF WATER DISTENSION.

GEORGE WALKER, M.D.
Associate in Surgery, Johns Hopkins University.
BALTIMORE.

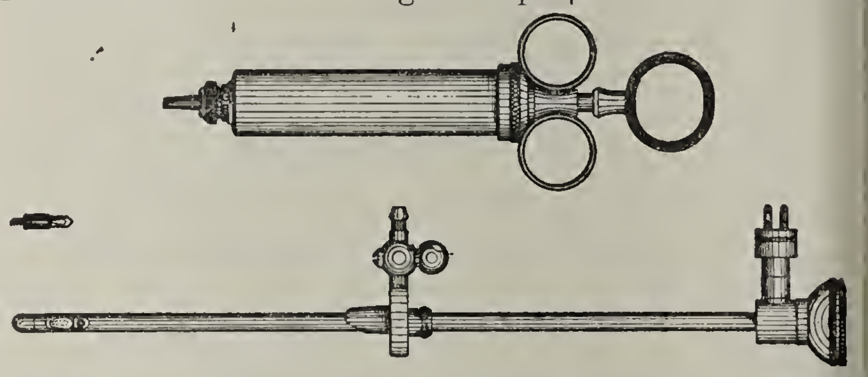
The accompanying cut represents a urethroscope based on the broad principles of the cystoscope, but so modified as to enable one to get a lateral view of the urethra and not that of the collapsed wall which we ordinarily see. At first I employed the ordinary tubes in which a window had been cut immediately opposite the prism, but this proving unsatisfactory, it occurred to me to distend the urethra with water and to discard the tube entirely. I then devised the metal cap to be fitted into the meatus. Water distension has proved to be very advantageous and superior in many ways to the tube.

DESCRIPTION OF INSTRUMENT.[1]

The urethroscope is No. 15 French; its full length is 20 cm. (8 in.); its length from the outer lens to the prism is 17.5 cm. (7 in.); it focuses at 1/8 inch, at which distance the amplification is 3 diameters. The prism is made after the modern double convex pattern. The lamp is turned around so as to be placed very near the prism, but separated from it in such a way that the setting of the prism does not get too hot. The connection with the cord is made by means of two metal rods, the adjustment at this point being such that a slight turn makes or breaks the connection. The instrument passes through a metal cap which is made so as to fit into the meatus; this piece has a second opening, which is provided with a cock into which a syringe fits and which can be opened or closed by means of the point of the syringe. The syringe is made of metal and holds 6 drams.

MODE OF USING.

The instrument is inserted into the urethra and the middle cap slipped down and fitted into the meatus. The glans is then pulled up so as to make the meatus watertight. The syringe having been filled with water, the point is adjusted into the cap and the urethra is distended. The amount of water to be injected is regulated by the degree of distension as felt by the finger on the outside of the urethra; as a rule 3 or 4 drams are required. The connection is now made and the lamp illuminated. In order to get the proper focus the lower end of the urethroscope is pressed against the wall of the urethra opposite to the point which is to be inspected. The metal cap is held together with the glans in the left hand and the telescope pulled up and down and rotated so that the whole urethra is passed under inspection. No pain is experienced, no cocain is necessary and all adult meatuses will admit the instrument easily.



This urethroscope can be used without the metal cap, in which case the urethra is distended with water and the meatus held closed by the fingers; after having been well lubricated with glycerin and a drop of glycerin having been poured on the meatus, the instrument can be slipped in without the escape of any water.

In view of the clear delineation of the blood vessels of the urethral wall and of the glands and follicles I believe that after one is accustomed to it and is able to interpret the pictures it will be found far superior to the urethroscope now in use.

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[1] When I presented my idea for the construction of a urethroscope to Mr. R. Wappler of New York I found that he had a small straight cystoscope similar to the one above described. I can not, therefore, claim originality in the cystoscopic part of my instrument. I wish to thank him for his valuable assistance.

Tuberculosis of the Uterus.—Reginald H. Lucy, Plymouth, England, asserts that tuberculosis of the uterus is more common than is suspected. He believes that as microscopic evidence accumulates it will be found that many ulcerations of the cervix, hitherto considered malignant, will prove to be tuberculous.—*Jour. Obst. and Gyn. of Brit. Emp.*

A NEW GRAPHIC URINE CHART

FOR THE URINE FINDINGS IN DIABETES MELLITUS.

FRANK SMITHIES, M.D.
Instructor in Internal Medicine, University of Michigan.
ANN ARBOR, MICH.

[From the Medical Clinic of the University Hospital.]

The chart here reproduced was designed (1) to facilitate the keeping of a concise record of the urine findings in diabetes mellitus; (2) to show the effects of treatment, by diet and medication, on the amount and character of the urine; (3) to show by curves the relation of the various urine findings to each other, and (4) to enable students to better appreciate the progress of the disease in respect to the urine and to perceive the modifying factors more readily.

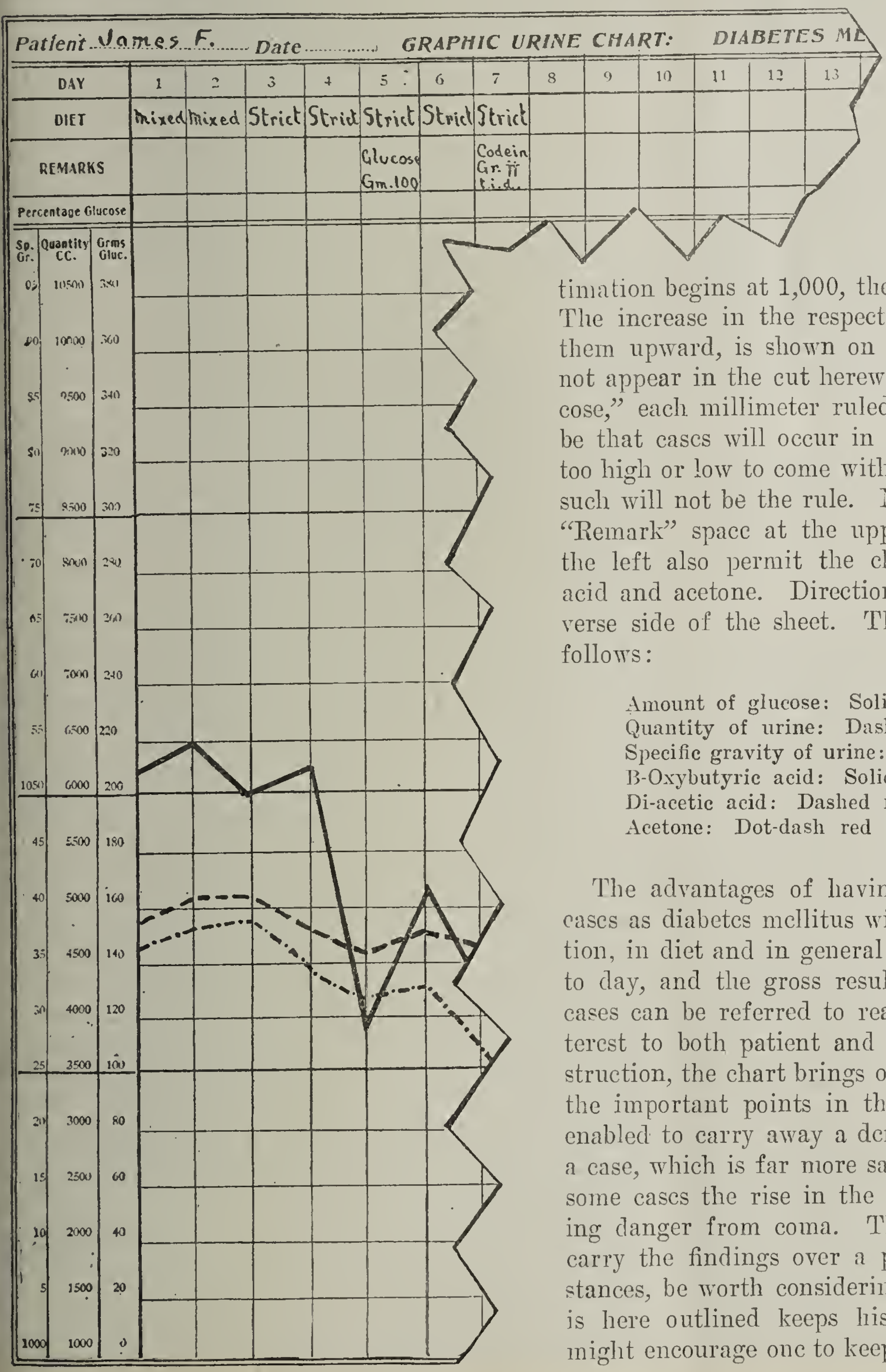
The chart has been made as simple as possible for the number of facts it embraces. A glance will show the general arrangement. It is printed on millimeter ruled paper. The sheets are of convenient size for filing in patients' histories. Appropriate headings permit the sheets to follow the course of the disease in a given patient over an extended period.

Roughly, the chart may be divided into two parts: (*a*) An upper section for clinical observations, and (*b*) a lower part for the purely laboratory work, the results in this part being expressed by curves.

(*a*) Arrangement is made to tabulate changes occurring over a period of four weeks, as expressed by the numbers heading the vertical columns; the words "Diet" and "Remarks," respectively, begin horizontal columns, in which variations in food, the administration of glucose for test purposes, or medication given, may be noted each day, and the effects watched; a fourth series of daily spaces permits the entering of the daily percentage of glucose eliminated.

(b) For convenience in reading and in entering findings, this space is divided by horizontal lines into four smaller sections. Vertically, the day columns are continued. To the left are columns, headed, respectively, "Specific Gravity," "Quantity" (of urine passed in twenty-four hours) in c.c. "Grams Glucose," and below the headings are the figures applying thereto. They read from below upward. It will be seen that the specific gravity estimation begins at 1,000, the quantity of urine passed, at 1,000 c.c. The increase in the respective columns of figures, as one follows them upward, is shown on the chart by fine blue lines, which do not appear in the cut herewith. For instance, under "Grams Glucose," each millimeter ruled in blue represents 4 grams. It may be that cases will occur in which the quantitative estimations are too high or low to come within the limits allowed on this chart, but such will not be the rule. Note may be made on such days in the "Remark" space at the upper part of the chart. The figures at the left also permit the charting of B-oxybutyric acid, diacetic acid and acetone. Directions for charting are printed on the reverse side of the sheet. The different findings are designated as follows:

Amount of glucose: Solid black line ————————————
Quantity of urine: Dashed black line — — — — — — — —
Specific gravity of urine: Dot-dash black line —.—.—.—.—.—
B-Oxybutyric acid: Solid red line ————————————
Di-acetic acid: Dashed red line — — — — — — — — — — —
Acetone: Dot-dash red line —.—.—.—.—.—.—.—.—.—.—.—



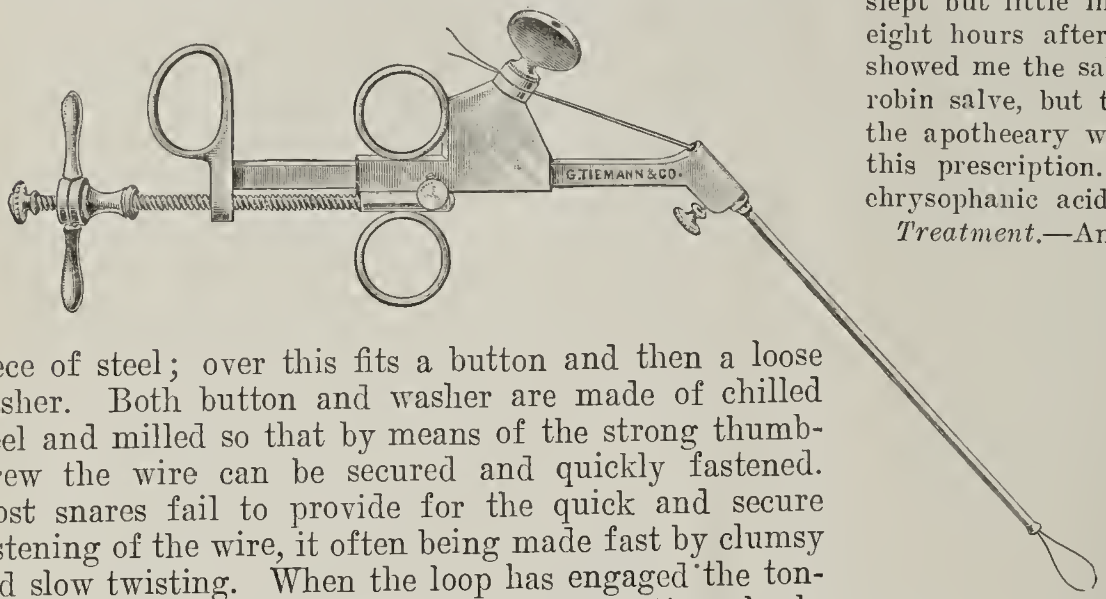
The advantages of having charted urine findings in such diseases as diabetes mellitus will readily be seen. Changes in medication, in diet and in general management can be watched from day to day, and the gross results over a long period compared. The cases can be referred to readily, and frequently facts of great interest to both patient and physician noted. For purposes of instruction, the chart brings out more forcibly than any other method the important points in the course of the disease. Students are enabled to carry away a definite mental picture of the progress of a case, which is far more satisfactory than an array of figures. In some cases the rise in the acid curves might foretell the impending danger from coma. The economic value of having one sheet carry the findings over a period of four weeks may, in some instances, be worth considering. In private practice such a chart as is here outlined keeps histories from becoming bulky—in fact, might encourage one to keep closer watch of these chronic cases.

TONSIL SNARE.

EDWARD C. SEWALL, M.D.
SAN FRANCISCO.

The use of the snare with a cold steel wire for the removal of the tonsil requires an instrument simple in construction and strong in all parts. The instrument here shown covers, I think, these requisites.

No provision is made for the re-use of the same wire because the snare can be so quickly threaded and a loop once used loses its best form. The general shape and mechanism is that of snares that are well known to be satisfactory. The parts have been adapted to the uses to which it is to be put. The canula is strong and has a button on the end to prevent its splitting. The screw for the attachment of the wire is set firmly into a strong piece of steel; over this fits a button and then a loose washer. Both button and washer are made of chilled steel and milled so that by means of the strong thumbscrew the wire can be secured and quickly fastened. Most snares fail to provide for the quick and secure fastening of the wire, it often being made fast by clumsy and slow twisting. When the loop has engaged the tonsil the wire is drawn taut and then the cutting slowly accomplished by the windlass. This crushes the vessels and makes bleeding less to be feared.



CHRYSOPHANIC ACID KERATO-CONJUNCTIVITIS.

CHARLES J. KIPP, M.D.
NEWARK, N. J.

The fact that chrysophanic acid or chrysarobin, when applied in the form of a salve to any part of the face and even to other parts of the body, will give rise in some individuals to a conjunctivitis of greater or less severity is known to dermatologists and is mentioned in many text-books on diseases of the skin. Recently this drug seems to have come into favor again, at least I have been told by apothecaries that it is prescribed more frequently now than for several years past, and this is one reason which has induced me to put the following case on record:

Patient.—N. C. L., aged 63, in good health, of temperate habits, a clerk by occupation, came to me on May 5, 1906.

Examination.—He was led into my office with a bandage over his eyes, and his companion told me that he was blind. I found that the eyelids of both eyes were red, shining and edematous. The edges of the lids were glued together by secretions. After soaking the lashes with warm water, the lids were opened and tears streamed from the conjunctival sac. There was not much secretion in the conjunctival sac. The palpebral conjunctiva was very red and swollen, the bulbar conjunctiva was edematous and intensely injected. The corneæ of both eyes were hazy, but the epithelial layer was apparently intact. The pupil was small, but there was no iritis and no disease of the posterior half of the eye. Both eyes were in about the same condition. The patient was complaining bitterly of pain and intense burning in his eyes and of photophobia. He was unable to keep his eyes open long enough to determine the refraction of the eyes and the amount of vision.

History.—This is the first time in his life that his eyes have been inflamed. For some years the tip of his nose has been somewhat red from enlargement of the blood vessels in the skin, and this has annoyed him a good deal, especially as he never indulges in alcoholic drinks. He was told that this condition could be removed, and thereon he consulted his family physician, a homeopath, who prescribed a salve which was to be applied to the skin of the nose every night and washed away again the following morning. He applied this salve only once, and on the following morning tried to wash it off, and in doing so he probably got some of it in his eyes. His eyes, which previous to this time had been in normal condition, began to give him pain soon afterward, and the lids began to swell in the afternoon of the same day. The pain and the swelling of the lids increased very much during the following night. He slept but little in consequence of the pain. I saw him forty-eight hours after he had rubbed the salve in his eyes. He showed me the salve he had been using. It looked like chrysarobin salve, but to make sure of its composition I applied to the apothecary who had compounded the salve for a copy of this prescription. It showed the salve to be composed of chrysophanic acid ʒii and lard ʒvi.

Treatment.—An examination of the secretion from the conjunctiva showed it to contain a few pneumococci. I advised the patient to apply cold compresses to his lids, a salve of ammoniated mercury to the edges of the lids, and to put a drop of a 0.5 per cent solution of sulphate of atropin and 1 per cent. cocain in each eye six times daily. The cold application failed to give relief, and I substituted for them compresses wet with a warm solution of boracic acid. During the next two days his condition remained unchanged. I brushed the excoriated edges of the lids with a 1 per cent. solution of nitrate of silver once daily. On the third day the epithelium of the cornea was wanting in a number of places, mostly in the horizontal meridian, and in the right eye somewhat more than in the left, and the whole cornea appeared somewhat more hazy. The lids were now less swollen and much paler than previously. On the fifth day the deficiency in the epithelial layer of the cornea extended across the whole cornea and was about 1 mm. in width. The adjoining parts of the cornea were decidedly hazy; both eyes were in about the same condition. At this time there was but little secretion from the conjunctiva. On the sixth day the entire lower half of the cornea of the right eye was very hazy. The deficiency of the epithelial layer had not increased in extent. The left eye remained as before. He had but little pain, but the photophobia continued. On the ninth day there was a decided improvement in the condition of the corneæ of both eyes. There was less haziness, and the deficiency in the epithelial layer was gradually filling in. On the fourteenth day the corneæ were clear and there was no longer a defect in the epithelial layer, the lids were normal or very nearly so, and there was no secretion from the conjunctiva. He was free from pain, but still had photophobia. On the twentieth day both eyes were normal. The refraction was hypermetropia 2 D. S. 6/5, both eyes alike.

There can be no doubt, I think, that the eye disease was caused by the entrance of the chrysarobin salve in the conjunctival sac. Whether the corneal disease was due to the direct action of the chrysarobin or was caused by the conjunctivitis, I am unable to say. The disease of the cornea certainly made the case a much more serious one, as it endangered the sight of the eye. Fortunately, it passed away without leaving even a slight opacity of the cornea.

With regard to the treatment given in this case, I may add that I should not use cocain in such a case unless the pain could not be relieved by the other means employed. The tendency to exfoliation of the epithelium of the cornea is always great in such cases and is doubtless increased by the cocain, especially if the eyes are kept open. In this case the eyes were kept closed for several days and I do not think that the shedding of the epithelium was caused by the use of the cocain. Holocain, which is also a local anesthetic for the cornea, is said to be free from this objectionable quality, but my experience does not confirm this. In most cases atropin and warm applications to the lids is all that is required to subdue the pain.

A primary disease of the cornea as the result of the application of a 20 per cent. chrysarobin salve to other parts of the body than the head, beginning after four weeks' use of the salve, is described by P. Krause.[1] In this case a ring-shaped opacity developed in the parenchyma of the cornea, which disappeared in a short time under the use of warm applications and instillation of atropin, but returned after the applications of the chrysarobin were resumed, and again disappeared under the above mentioned treatment in eleven days. He reports also another case in which furrows running radially somewhat like herpetic eruptions on the cornea were present. In this case the eye disease developed on the fifth day after the beginning of the chrysarobin application. The eyes were normal in about a month.

The fullest account of this affection is to be found in the recent work of Lewin and Guillery.[2] It is there stated that the development of a conjunctivitis has been observed after the external use of chrysarobin, even in cases in which it was not applied to the face. In 4 to 5 per cent. of patients treated with chrysarobin chloroform solution, a conjunctivitis was observed after twelve to twenty-four hours first in one eye, and a few hours later in the other. In the beginning the patient experiences an intense smarting and burning and edema, unpleasant sensations of heaviness in the eyes. The pain increases, blepharospasms appear, lachrymation is increased, and sometimes there is also a slight degree of photophobia. The conjunctiva of the eyeball and of the lids, especially that of the lower lid, is intensely injected. The conjunctiva of the upper lid may be intact. The cornea need not be affected, although ulcers of the cornea have sometimes occurred in connection with the conjunctivitis. The ante-period of this affection lasts three to four days. The injection of the conjunctiva continues for a longer period. The eyes are normal again after eight to ten days with or without treatment. There is no secretion from the conjunctiva. In the eye last affected the symptoms are usually less severe and disappear more quickly than in the eye first affected. The affection may disappear spontaneously, but may also be followed by unpleasant sequences. This conjunctivitis is to be regarded as a resorptive action, more especially since small quantities of the chrysarobin chloroform solution when introduced in the eye produce a mucopurulent inflammation, but such is not the case in the chrysarobin conjunctivitis, also because an infection by means of the fingers could be excluded, because the conjunctivitis reappears with every new application of the chrysarobin and because the resorption from the skin was proved. If chrysarobin enters the conjunctival sac in the form of a powder or as a salve, a catarrhal conjunctivitis is developed which may be followed by chemosis and even by ulcers of the cornea.

In the discussion following the reading of a paper entitled "The Therapeutic Value of Chrysophanic Acid in Dermatology," read by Dr. Charles James Fox,[3] Dr. Henry C. Baum said that he thought the chrysarobin should be used on the scalp only in exceptional cases. Kaposi himself had warned his pupils regarding the possible dangers of applying the drug in that locality. Dr. Baum said that he had seen a number of cases of violent dermatitis follow the use of chrysarobin on the scalp. He recalled an instance where a physician had applied a small amount of chrysarobin to a ringworm on the nose of a young woman. It produced a violent dermatitis, which extended to the eyes and culminated in complete blindness. In every instance in which this drug was applied to the face or scalp the case should be watched with the greatest care, and only a small area treated at a time until the individual idiosyncrasy of the patient can be determined. In the same discussion Drs. R. A. McDonald and Edmund L. Cocks said that they had applied the drug to the scalp with very satisfactory results and without producing conjunctivitis. Dr. L. Weiss said that in using chrysarobin on the face and scalp the possible resulting dermatitis could be prevented from spreading by the application of zinc gelatin which acts as a compress.

My patient, after he had recovered from his eye trouble, commented on his own case as follows: Vanity caused me to apply to a doctor to remove the redness from my nose; his salve did not cost much, but it disabled me for work for three weeks. I have suffered much pain and I still have my red nose.

MALIGNANT TUMOR OF THE TESTICLE.

DAVID L. WALMSLEY, M.D.
DETROIT.

Two cases of this disease are reported in The Journal February 9 and March 30. I wish to add a third case:

Patient.—On July 22, 1906, Mr. W., aged 40, married, one child, healthy up to the present, consulted me for the first time.

History.—The case dates back to injury to the right testicle by a baseball during high-school days. Pain and swelling followed the injury, and atrophy followed the subsidence of the local symptoms. The left testicle was normal. The man became reconciled to his injury, and being fully developed in every respect, paid no further attention to the deformity until the beginning of July, 1906, when his attention was drawn to it by a feeling of fulness and slight uneasiness of the atrophied organ. His family history is good. I advised close watching of the parts. On September 20 I again examined the patient, finding the atrophied testicle the size of an ostrich egg. The tumor was semisolid, smooth and egg-shaped. Light, not transmitted, slightly tender on pressure.

Treatment and Result.—Feeling suspicious of malignancy, I removed a specimen and submitted it to Dr. E. H. Hayward, pathologist to the board of health, whose examination determined malignancy, and I operated Sept. 22, 1906. The patient made a good recovery and was dismissed with instructions to return for inspection.

Dec. 4, 1906: He returned complaining of slight uneasiness in the stump, which he thought was enlarging. I discovered a nodule on the end of the stump and advised removal at once; this, however, was delayed until Jan. 6, 1907, when I removed the cord high up and with it the lymphatic glands and adipose tissue, hoping thereby to ward off recurrence. To date of writing (April 25) there are no indications of recurrence. The patient feels well and enjoys living, were it not for the eternal dread of returning trouble.

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[1] Ztschr. f. Augenheilkunde, xv, 233.

[2] Die Wirkungen von Arzneimitteln und Giften auf das Auge, ii, 775.

[3] The Journal A. M. A., June 23, 1906, p. 1909.

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SATURDAY, MAY 18, 1907.

UNIFORMITY IN THE STRENGTH OF TETANUS ANTITOXIN.

Tetanus antitoxin is undoubtedly of great value as a prophylactic and immunizing agent, its efficacy having been fully confirmed by both laboratory studies and numerous clinical experiences. It is highly important, therefore, that a standard unit for this serum should be provided such as now renders the administration of diphtheria antitoxin so accurate and satisfactory. The necessity for such a standard is evidenced by the fact that in this country, until recently, there were as many methods of standardizing tetanus antitoxin serum as there were manufacturers.

The standardization of this serum is a very difficult problem, and a vast amount of study has been devoted to its solution. Work on this subject has been carried on in the Hygienic Laboratory of the Public Health and Marine-Hospital Service for the past two years, with the result that a stable tetanus toxin has been obtained. This toxin, when preserved under conditions of absolute dryness *in vacuo,* and in the cold and dark, retains its strength for many months, and under ordinary conditions loses its strength very slowly. A satisfactory official standard is thus made possible, and we note with pleasure that the Public Health and Marine-Hospital Service[1] has now undertaken the important task of establishing an American standard.

As we have previously stated,[2] the official unit went into effect April 1, 1907, the committee of experts appointed by the Society of American Bacteriologists having recommended that "tetanus antitoxin be standardized by the tetanus toxin furnished by the Public Health and Marine-Hospital Service. The unit is ten times the least amount of serum necessary to save the life of a 350-gram guinea-pig for 96 hours against the official test dose of the standard toxin. The test dose is 100 minimal lethal doses of a precipitated toxin preserved under special conditions at the Hygienic Laboratory of the Public Health and Marine-Hospital Service. It was decided that the minimal immunizing dose for a case of possible infection through a wound should be 3,000 of such units. It was decided that after April 1 the new unit should be adopted by all producers of tetanus antitoxin."

The necessity of establishing uniformity in this respect is strikingly shown in the results of examinations of different serums sold on the market. The units claimed per cubic centimeter by the manufacturers of seven samples varied from 0.1 to 6,000,000 and the units per c.c. actually contained in these samples, according to the American standard, varied from 2 to 769. It is evident from these figures that there has been a marked difference in the potency of the serum found on the market, due to the great discrepancy in former systems of measurement.

With the adoption of the new standard an accurate dosage of antitetanic serum will be made available for both prophylactic and therapeutic purposes, and more reliable data will be secured regarding its beneficial effects. With the preparation of this standard and its subsequent supervision by the Public Health and Marine-Hospital Service a serum of undoubted purity and definite potency is assured.

THE NOMENCLATURE OF SYNTHETIC MEDICINES.

The difficulties and disadvantages connected with the present nomenclature of the rapidly increasing number of synthetic chemicals introduced into medicine is forcibly presented in a recent issue of the *British Medical Journal.* Three phases of the difficulty present themselves: 1. The distinctive and systematic chemical terms are too meaningless to the ordinary physician and too long and cumbersome for common use. 2. The shorter names introduced by the manufacturers are arbitrary and, being protected by registration, are intended to prevent the use of the products of rival houses when the patents expire. 3. If a preparation shows any degree of popularity it is likely to be introduced by other firms under new names so that the multiplicity of names for the same article becomes confusing. Further, it is possible that a substance which has proved unsatisfactory may be again introduced under a new name and be considerably used before its true character and worthlessness is discovered. This has often been done. Frequently, also, a substance is introduced in various countries under different names; therefore, an international nomenclature is needed. As a remedy for these evils it has been proposed that unregistered coined names be provided for the new synthetics and that such names be published in the *Chemist's Annual,* which is a special yearly issue sent to all members of the Pharmaceutical Society of Great Britain.

The question is one that concerns the medical profession more than the pharmaceutical, since the physician must first use the name in prescribing, and while the pharmacist will be justified in using any preparation of the chemical if it is prescribed under a non-protected name, his knowledge of such a name will not justify him in substituting if the physician, ignorant of such a name, has used the protected one chosen by the proprietary manufacturer. Some medium is needed to secure wide publicity of these names among the members of the medical profession. The names should be authoritative, convenient and systematic, but should not indicate, as suggested by the *British Medical Journal,* the therapeutic properties of the drug. In rare cases in which the chemical composition is not too complex a name indicating its derivation might be chosen. That something should be done no one will deny, but just what, and how, is a difficult problem to solve. Conditions are getting to be almost unbearable; new names are coined daily, and no one is consulted, except as suits the manufacturer or the one who introduces the product.

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[1] Public Health Reports, P. H. and M.-H. S., vol. xxii, No. 3, Jan. 18, 1907, 43.

[2] The Journal A. M. A., Jan. 26, 1907, 338.

The coined names themselves are very often misleading, giving false indications of origin or quality, and under the Food and Drugs Act such names as these are excluded from interstate commerce. The chief difficulty is the property right in a registered name. This opens up an inviting field of gain by permitting the sale of the same article under as many different names as the imaginative manufacturer can create. The whole system is intolerable from the scientific view of medicine and pharmacy.

Until recently there has been no person or organization that could take up the matter. At present the Council on Pharmacy and Chemistry, if it were authorized to do so by the American Medical Association, might take up the subject and work it out. Or some central body might be organized which would represent the American Medical Association, the American Pharmaceutical Association, the American Chemical Society, the Society of Chemical Industry and the Committee of Revision of the United States Pharmacopeia. In this way definite, practical results would follow and an end be put to the hopeless confusion that now exists.

MEDICINAL FOODS.

The report on medicinal foods by the Council on Pharmacy and Chemistry of the American Medical Association, which was printed in The Journal last week (page 1612), contains information of vital importance to all practicing physicians. In order that when they use these preparations they may do so on a rational basis, it would, indeed, be well if every doctor in the country would read and read again, first, the report of the Council, and then, as a comment thereon, Dr. Edsall's letter in this issue (page 1694). It has been said that publicity is the best remedy for certain public evils. The facts in regard to so-called medicinal foods—their failure to measure up fully to what has been and is claimed for them, their great relative cost, their dangerous alcohol content, and the likelihood that some physician following blindly the optimistic suggestions of those commercially interested will do his patients harm—these facts are now public, and every intelligent physician who becomes familiar with these facts may be counted on to take the necessary steps to guard himself and his patients against placing more confidence in these articles than they deserve.

But, in order that publicity in this case shall have the desired effect promptly and decisively, it must be made general and the facts, humiliating as they are, must reach the rank and file of the profession all over the country. In view of the importance of this matter it is nothing less than a duty that those who, as active workers and leaders, are committed to the promotion of general professional efficiency and progress, take special pains to direct the attention of their colleagues to the facts now presented in regard to medicinal foods. Clearly greater general interest must be taken in the homely but important subject of dietetics. The manufacturers have shown themselves very active dietetic teachers, but the place assumed by them should be reclaimed by the therapeutist, who should take deeply to heart Dr. Edsall's plea for greater exactness and thoroughness in dietetic teaching and practice.

On the other hand, let us as physicians not forget to take on ourselves the blame which lies at our door. Some of these manufacturers have stated exactly the content of the products, and the physician is presumed to draw his own conclusions as to whether it is possible for the products to do what the manufacturers claimed for them. It should be further said to the credit of some of the manufacturers that when the Council called their attention to certain statements they readily complied with the suggestion to modify such statements.

This general subject was taken up by the Council, and a special committee appointed to report on it, because, when it faced the problem of passing on certain of these articles, it realized that it was a problem that did not apply to one product only but to all as a class. The results of the experimental work of the committee and its deductions and conclusions will, of course, not be startling or new to those who have been especially interested in the question; but it is the first time that the subject has been brought directly to the attention of the medical profession in a practical manner. We understand that some of the products mentioned in the table will be approved by the Council, but in the description published in New and Non-Official Remedies a definite statement will be made not only as to the alcoholic content, but as to the caloric or actual food value of the product, so that the physician will be able to use his judgment as to whether or not it is what he wants in individual cases.

LATIN DERIVATIVES IN MEDICAL WRITING—THE USE OF THE INTERNATIONAL MOTHER TONGUE.

The attention of medical writers is directed to the interesting plea on page 1714 for the use of Latin derivatives in order to facilitate the reading of articles by foreigners. The immediate advantages of the plan are so evident and they are so well stated in the "plea" itself that further elaboration really is unnecessary except by way of emphasis. The importance of exact titles for medical and scientific articles has often been discussed. Many an important observation has escaped deserved notice and remained buried in the literature deprived of opportunity to influence the development of knowledge because of misleading, incorrect or inadequate title. On account of the enormous extent of the current medical literature of the present day, it is more important than ever that the title should reveal at a glance the special topic and the scope of the article. Otherwise the article is likely to remain unnoticed by those who would profit most by it and who would make the best use of it, namely, the special worker in the same special field as that with which the article is concerned. Exact, specific titles also help to lighten the labors of librarians and of others who perform the useful functions of indexing medical literature so as to make its contents readily available for the student. Furthermore, the effort on the part of the author to formulate an expressive title—often a difficult task—may serve to concentrate the attention on the construction and order of his article and on the important question, only too commonly neglected, whether the article conveys in the briefest form consistent with clearness the real message he desires it to bring. Now, in view of the increasing extent as well as importance of American medical literature, our authors certainly will further its recognition and, what is more important, aid general scientific progress by the use, especially in the titles of their articles, of terms the meaning of which is grasped readily by educated physicians elsewhere. The value of cooperation in medical progress needs no emphasis and by proper attention to details like those spoken of here medical writers will do much to promote general cooperation.

THE ARMY MEDICAL DEPARTMENT.

Although the Fifty-ninth Congress enacted some useful measures which had long been desired and needed by the country, the credit due therefor is somewhat offset by its neglect to grant relief in other directions; and among the latter the failure on the part of the lower house to provide a more effective organization for the Army Medical Department can not be regarded otherwise than as a very grave omission. This failure is entirely due to the action of Mr. Cannon, the speaker, who for some occult reason has either failed to understand the necessity for the legislation, or understanding it, has some personal reason for not favoring it. The Army Medical Department was reorganized in February, 1901, at which time the Army was largely increased, the peace footing being placed at 60,000 men and that for war at 100,000, while the medical department was organized for an army of only 40,000 men. Moreover, the lower ranks in the medical department were increased out of all proportion to the upper ranks, so that now as regards the prospect of promotion the department offers less inducements than any other in the Army. Owing to the shortage of commissioned medical officers it is necessary to employ from 150 to 200 civilian physicians by contract to supply the existing deficiency. The necessity for relief in this matter is patent and urgent. The medical profession of the country, as represented by the American Medical Association, has time and again urged that the needed law be enacted. The President, Secretary Root, Secretary Taft and others have urged it. The Senate passed the bill twice and the House was willing to pass it, but the speaker refused to let it come up. Mr. Cannon is, therefore, wholly responsible for its failure and on him must rest the entire blame and responsibility. It is impossible to get competent young physicians to fill the vacancies in the grade of assistant surgeon, notwithstanding that every possible effort has been made to do so. The number of candidates for these positions this year is surprisingly small. The War Department believes the explanation of this is to be found in the neglect of the medical department by Mr. Cannon, the speaker of the House, and that unless the condition of the Army Medical Corps is improved it will be more and more difficult to fill the vacancies.

A REMOTE DANGER OF PARAFFIN PROSTHESIS.

A few cases are coming to light which indicate a possible accident from the use of paraffin for prosthetic purposes, which might have been anticipated, but which apparently has been entirely overlooked. This consists of a connective tissue overgrowth at the site of the paraffin injection, as a result of the long continued slight irritation produced by the presence of the paraffin. Heidingsfeld[1] has recorded two cases of this sort in which paraffin had been used by "beauty doctors" for the removal of wrinkles or hollows about the face and neck. In these two cases there had developed at the site of the injections reddish tumor-like masses from the size of a pea to that of an English walnut and of the appearance of keloids. A similar case was recently shown at the Chicago Dermatological Society by Armsby. In this case a beautifier had injected paraffin into the lower lids and between the eyes to remove wrinkles. The result was eminently satisfactory for about a year; then, however, tumors began to develop at the sites of the injections, and when the patient was exhibited there existed in either lower lid and in the glabella an oval tumor of the size of a large olive. These masses were hard and dense, the skin over them was of a purplish color, and they bore a striking resemblance to sarcomata. At the time that this patient was shown the tumors were still growing and had been increasing in size for several months. The amount of deformity produced by these large purplish swellings can readily be imagined. Sections from these cases show a connective tissue overgrowth, like a granuloma, with many giant cells and other evidences of a chronic inflammatory process produced by a long-continued irritation of low grade. The tumors present many similarities to keloid and it is possible that their treatment will be by no means satisfactory. These accidents, of course, belong in a different category from those in which deformity is produced from the unskilful use of paraffin or from accidents which result in the deposition of the paraffin in improper places or to an excessive amount. The formation of these tumors is an accident which can not be guarded against or prevented, and the accidents suggest that before one uses paraffin for the relief of trivial troubles like wrinkles he should ponder the possibility of an untoward result. In fact, this possibility makes it exceedingly questionable whether the use of paraffin prosthesis is justifiable for the treatment of slight cosmetic troubles.

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[1] Jour. Cut. Dis., November, 1906.

Medical News

ALABAMA.

Personal.—Dr. M. L. Tidwell, Evergreen, has been assigned to duty as an interne at Bryce Hospital, Tuscaloosa.——Dr. Willis W. Scales, formerly quarantine physician at Fort Morgan, has been assigned to duty at Colon, Panama.——Dr. Gregorio M. Guiteras has taken charge of the Marine Hospital, Mobile.——Dr. James J. Peterson, Mobile, is reported to be dangerously ill with appendicitis at the Inge-Bondurant Sanitarium.

CALIFORNIA.

Commencement.—The commencement exercises of Cooper Medical College, San Francisco, were held May 8. The address of the evening was delivered by Rev. George W. Stone, and a class of 28 was graduated.

Spinal Meningitis.—Spinal meningitis is reported to be epidemic in the Sacramento Valley. A largely attended meeting has been held in Woodland to investigate the cause of the disease and to discuss the situation.

Society Meeting.—Butte County Medical Society, at its annual meeting in Chico, elected Dr. Buchanan Caldwell, Biggs, president; Dr. Lewis Q. Thompson, Gridley, vice-president; Dr. Ella F. Gatchell, Chico, secretary-treasurer; Dr. Oscar Stansbury, Chico, censor and delegate to the State Medical Society; and Dr. Labon C. Perdue, Chico, alternate.

Personal.—The Board of Health of Chico has organized with Dr. John W. Harvey as president, and Dr. Wasley, health officer (re-elected).——Dr. O. D. Hamlin, chief surgeon of the Oakland Receiving Hospital, has been given 90 days leave of absence and will visit the Atlantic seaboard.——The City Council of Alameda has appointed the following board of health: President, Dr. J. Emmet Clark; Drs. Harold A. Miller, James K. Hamilton and Ernest M. Keys. The board has appointed Dr. L. W. Stidham city physician.——Dr. Ernest Barry, San Francisco, while visiting in Monterey, April 26, fell from a balcony, fracturing the pelvis.——Dr. John H. Kuser, Novato, has been appointed physician of Marin County, vice Dr. William J. Wickman, San Rafael.

Hospital News.—The University of California Hospital, San Francisco, was opened to receive patients, April 15. The institution has a capacity of 42 patients and the attending staff includes the faculty of the University of California Medical Department.——The Saint Caroline's Hospital, Redding, will be completed early in September at a cost of more than $20,000. It is a two-story and basement structure, 56 by 72 feet, in the mission style of architecture. There will be two wards of six beds each and also ten private rooms.——The Santa Monica Bay Hospital, erected by a corporation composed of local physicians, at a cost of $25,000, with a capacity for 25 patients, will be open to the public early in May.——The Mammoth Copper Company has completed a hospital with two private wards, and a ward containing eight beds with accommodation for operating rooms for physicians and nurses at a cost of $10,000 at Kennett.——The cottage hospital, at San Rafael was formally opened May 9. The medical staff consists of Drs. Harry O. Howitt, William J. Wickham and William F. Jones.

DISTRICT OF COLUMBIA.

March Mortality.—During March, 1,558 deaths were reported, 42 less than in February, 69 more than in March, 1906, and 308 more than the average number of deaths for the month during the five years preceding. This is equivalent to an annual death rate of 18.06 per 1,000. The deaths reported from infectious diseases were 293, or 18.8 per cent. of the total mortality. Chief among the death causes were pneumonia, 242; nervous diseases, 173; heart diseases, 165; consumption, 143; influenza, 87; accidents and violence, 78; and bronchitis, 63.

To Help Internes.—Commissioner McFarland has provided a plan to improve the status of internes at the Washington Asylum Hospital which provides for their promotion to resident physicians and physicians to the poor. The plan provides that internes shall be appointed by competitive examination; that when an interne has served one year and passed the district examining board and licensing board he shall be promoted to the position of resident physician for six months; then he shall be transferred to the Home for the Aged and Infirm for a like term, and then to the Tuberculosis Hospital, serving six months as a resident physician. If, at the end of this time, his record, moral and professional, is good, he shall be appointed physician to the poor.

GEORGIA.

District Society Meeting.—The next meeting of the Sixth District Medical Association of Georgia will be held at the Wigwam Hotel, Indian Springs, June 12.

Change in Medical Journal.—Dr. Miller B. Hutchins, Atlanta, has disposed of his entire interest in the *Atlanta Journal-Record of Medicine*, and retired from its management May 1.

Tuberculosis Prevention.—The Atlanta Sanitary and Tuberculosis Prevention Society was organized May 6, when a constitution presented by a committee consisting of Drs. Rufus R. Kime and J. E. Summerfield, and Eugene Mitchell was presented for adoption.

Medical Club Formed.—An organization known as the Emory Club was organized March 21 by the students of the Atlanta School of Medicine. The club is composed of graduates of Emory College and will work in the interest of that college and of the Atlanta School of Medicine.

In Memory of Pioneer Anesthetist.—At a meeting of the Jackson County Medical Society, held in Jefferson, April 10, a monument to the memory of Dr. Crawford W. Long was presented by the society to the city of Jefferson and Jackson County. The monument is to be erected on the spot where Dr. Long first performed a surgical operation under anesthesia.

Commencement Exercises.—The commencement exercises of the Medical College of Georgia, Medical Department of the University of Georgia, Augusta, were held May 1, when a class of 21 was graduated. Diplomas were presented by Chancelor David Barrow, and the address of the evening was delivered by Rev. S. R. Belt.——The annual commencement exercises of the Atlanta College of Physicians and Surgeons were held April 27, and a class of 37 received diplomas. The address of the evening was delivered by Hon. Robert C. Alston, and the diplomas were conferred by Judge Howard Van Epps.——The commencement exercises of the Atlanta College of Medicine were held April 23, when a class of 20 received diplomas from the hands of Bishop C. K. Nelson, vice-president of the board of trustees. Rev. James W. Lee delivered the annual oration.

ILLINOIS.

Maternity Opened.—The Elizabeth Williams Memorial Hospital, the maternity department of the Evanston Hospital, just completed at a cost of $25,000, was formally dedicated May 9.

Smallpox.—A case of smallpox has occurred at Rushville, said to have been imported from Beardstown.——On account of the prevalence of smallpox at Tremont, the commencement exercises at the high school have been postponed.

Personal.—Dr. and Mrs. Robert A. Noble, Bloomington, have returned from abroad.——Dr. Frederick W. Werner, Joliet, who has been ill with sciatica, is reported to be improving.——Dr. T. J. Fenton, Philo, is reported to be critically ill at the Burnham Hospital, Champaign.——Dr. Leigh E. Schwartz, Highland Park, sailed for Europe May 2.

Civil Service Examination.—The State Civil Service Commission announces that it will call an examination for assistant physicians in the hospitals for the insane, internes, and possibly a psycho-pathologist, in June. These positions pay from $75 to $125 per month and board, in the majority of cases. The position of psycho-pathologist will, it is believed, pay not less than $3,000 a year. The new institute is to be located at Kankakee and the psycho-pathologist will live there.

Society Meetings.—The thirty-first annual meeting of the Brainard Medical Society was held at Lincoln, April 25, jointly with the Logan County Medical Society. The following officers were elected: President, Dr. Calvin C. Montgomery, Lincoln; vice-presidents, Drs. Archibald G. Servoss, Havana, Don W. Deal, Springfield, and John W. Bozarth, Mount Pulaski; secretary, Dr. Harry S. Oyler, Lincoln; treasurer Dr. Charles C. Reed, Lincoln, and censors, Drs. John M. Wilcox, Clinton, William A. Mudd, Athens, and Charles M. Noble, Bloomington.——At the thirty-third annual meeting of the Central Illinois District Medical Society, held in Pana, April 20, the following officers were elected: President, Dr. Frank P. Auld, Shelbyville; vice-presidents, Drs. Ben B. Griffith, Springfield, and Don W. Deal, Springfield; treasurer, Dr. John N. Nelms, Taylorville, and secretary, Dr. Roscoe C. Danford, Pana.——At the regular monthly meeting of the Champaign County Medical Society, April 11, the following resolutions were unanimously adopted:

> Whereas, In certain parts of the county, fees are allowed for treatment of pauper cases, while in other parts of the county the payment is refused; be it
>
> *Resolved*, That it is the sense of this society that operation fees and full fees for attendance be charged for treating pauper cases on orders from supervisors; be it further
>
> *Resolved*, That this resolution be binding on the members of this society immediately on its adoption; be it further
>
> *Resolved*, That a committee of three be appointed to confer with the board of supervisors at their next meeting.

Chicago.

Bequest to Hospital.—By the will of James Henry Smith, $100,000 is bequeathed to St. Luke's Hospital, of which he was a trustee.

Contagious Diseases.—During the week ended May 11, 99 cases of scarlet fever, 66 cases of diphtheria and 117 cases of measles were reported. Measles and whooping cough are reported to be very prevalent.

Promotions in University of Chicago.—Dr. Robert R. Bensley has been made professor of anatomy, Edwin O. Jordan professor of pathology and bacteriology, and Drs. Howard T. Ricketts and Norman M. Harris assistant professors in pathology and bacteriology.

Personal.—Dr. Albert I. Bouffleur has returned after a few months in California.——Dr. and Mrs. Alfred C. Croftan are visiting in Pasadena, Cal.——Dr. William H. Knapp is reported to have been seriously injured in the accident on the Mexican Central Railway, at Bermejillo, Mexico, May 11.

Deaths of the Week.—During the week ended May 11, 47 fewer deaths were reported than during the previous week, the respective numbers being 717 and 764, equivalent to annual death rates of 17.74 and 18.90 per 1,000, respectively. Pneumonia caused 153 deaths, consumption, 92; heart diseases, 59; nephritis, 49; violence, including suicide, 46; cancer, 31; diphtheria and scarlet fever, each 10; whooping cough, 8; typhoid fever, 6, and influenza, 5.

INDIANA.

State Association Meeting.—The fifty-eighth annual meeting of the Indiana State Medical Association will be held at Indianapolis, May 22, 23 and 24.

Society Meetings.—At a meeting of the Eighth District Medical Association, held at Union City, April 18, Dr. General W. H. Kemper, Muncie, was re-elected president; Dr. Maynard A. Austin, Anderson, was elected secretary-treasurer; Dr. Etta Charles, Summitville, censor, and Dr. Frank G. Keller, Alexandria, commitee on arrangements.——At a meeting of the Third District Medical Association, held in Bedford, Dr. Charles P. Cook, New Albany, was elected president, and Dr. William C. Cauble, Salem, secretary.

KANSAS.

Personal.—Dr. Matthew R. Mitchell has been appointed city physician of Topeka.——Dr. Charles B. Van Horn has been made president, Dr. Matthew R. Mitchell, secretary, and Dr. May Stout, a member of the Topeka Board of Health.——Dr. William S. Fleming, Arcadia, sustained serious bruises in a runaway accident April 23.

Graduation Exercises.—The seventeenth annual commencement exercises of the Kansas Medical College, Medical Department of Washburn University, Topeka, were held April 16, when a class of 14 was graduated. Dr. William S. Lindsay, dean of the college, conferred the degrees, and the address to the graduates was delivered by Dr. Henry B. Ward, Lincoln, dean of the Medical Department of the University of Nebraska.

Communicable Diseases.—During the first quarter of 1907 317 cases of measles were reported in Topeka.——Smallpox is reported at Buffalo Gap, Sycamore, Avoca and Stamford.——Two cases of smallpox have occurred among the convicts at the State Prison, Lansing.——On account of a case of smallpox in Elmdale, April 26, the city schools were closed.——The prevalence of measles in Kansas City threatens the closure of the public schools. During the last week of April six deaths resulted from the disease, and on the first two days of the week 52 cases were reported. It is believed that there are at least 400 cases in the city.

KENTUCKY.

Delegate to Milk Commission.—The milk commission of the Jefferson County Medical Society has appointed Dr. Henry E. Tuley a delegate to the Conference of Milk Commissions of the United States, to be held at Atlantic City, June 3, at which time an association will be formed. Dr. Henry L. Cort of Newark, N. J., is temporary chairman.

Personal.—Dr. Homer Blaine, mayor of Cadiz, has been appointed captain and assistant surgeon, Ky. N. G., and assigned to duty with the Third Infantry.——Dr. Henry C. H. Gunkel, Newport, fractured two of his ribs in a fall down stairs May 3, and, on account of his advanced age, his condition is considered serious.——Dr. George W. Ronald, Louisville, is reported to be critically ill with congestion of the brain.

Tuberculosis Dispensary.—The dispensary for tubercular patients, established under the auspices of the Kentucky Anti-Tuberculosis Association, will open June 1. The committee reports that a suitable house has been found on Chestnut Street, between Brook and Floyd. No patients will be housed in the building, but individuals suspecting that they have tuberculosis will come to the dispensary to be examined by the physician on duty.

State Hospital Changes.—Announcement has just been made of the following appointments by the State Board of Control of Charitable Institutions: Dr. Lewis H. Mulligan, Lexington, superintendent at the Central Kentucky Asylum for the Insane at Lakeland; Dr. J. W. Stephenson, Todd County, superintendent at the Western Kentucky Asylum for the Insane at Hopkinsville, and Dr. Alexander Bailey of Franklin County, superintendent of the Feeble-Minded Asylum, Frankfort, to fill vacancies caused by resignations. The board also formulated rules for the governing of the institutions under their charge; business methods, according to the system of an audit company, have been installed in all, and they will be controlled from the central office. The institutions have been placed in the complete charge of the superintendents.

MARYLAND.

Baltimore.

Disposition of Tuberculosis Fund.—The Maryland Association for the Prevention and Relief of Tuberculosis will use the fund of $10,000 recently raised, to maintain three tuberculosis nurses, to display throughout the city and state a tuberculosis exhibit with daily addresses by the secretary, to distribute literature and to establish two or three tuberculosis dispensaries.

Personal.—Dr. Henry Barton Jacobs sailed from New York for Europe May 8.——Dr. David Street was thrown from his carriage in a collision May 9, and severely bruised.——Dr. William N. Hill is head of the "mosquito brigade" sent out by the health department.——Among the medical men who will receive honorary degrees from the University of Maryland at the approaching centennial are: Drs. William T. Councilman and J. Homer Wright, Boston; Major James S. Carroll, surgeon U. S. Army; Dr. J. Ford Thompson, Washington, D. C.; Drs. Charles P. Noble and Alexander C. Abbott, Philadelphia; Drs. Nathaniel G. Keirle and Thomas C. Gilchrist, Baltimore.

MASSACHUSETTS.

Scarlet Fever Closes Schools.—On account of the existence of scarlet fever the Mary A. Livermore grammar school, Melrose, has been closed for four days.——The prevalence of scarlet fever among the students and attendants at Lawrence Academy, Groton, caused its closure on May 3 for ten days.

To Investigate Light in Schools.—As a result of numerous complaints that the coloring of the walls and the bad lighting of the English High School were injurious to the eyes of the pupils the Boston School Board has appointed a committee to investigate conditions and report to the board. The committee includes two expert electricians and Drs. George S. Derby, Frank I. Proctor and Myles Standish.

MICHIGAN.

Graduation Exercises.—The eleventh annual commencement exercises of the Grand Rapids Medical College were held May 2, when a class of ten was graduated. The address was given by Dr. George L. McBride, and the degrees were conferred by Dr. Francis J. Lee.

Communicable Diseases.—More than 200 cases of measles are reported at Elmira.——More than one-fourth of the school children of Morris are reported ill with measles.——The physician of Houghton County announces a number of cases of smallpox in Houghton, Keweenaw and Baraga counties.——Two students at the State Normal College, Ypsilanti, have smallpox.

Personal.—Dr. and Mrs. Theodore E. Sands, Battle Creek, returned from Europe April 20.——Dr. A. Marion Allen, the oldest practitioner of Adrian, has decided to retire from active practice.——Dr. C. Henri Leonard, for more than 25 years a member of the faculty of the Detroit College of Medicine, has been made emeritus professor of the diseases of women and clinical gynecology.

MISSOURI.

New Hospital.—Work has begun on the new St. Mary's Hospital, Kansas City. The plans call for a three-story and basement structure, to cost about $200,000.

Interne Examination.—A competitive examination for positions at the St. Louis City Hospital will be held by the board of health May 20. Thirty-two appointments will be made following the examination, which is open to students of the various medical colleges of the city.

Graduation Exercises.—A class of 26 was graduated at the thirtieth annual commencement of the Ensworth-Central Medical College, St. Louis. The address of the evening was delivered by Rev. Sanford P. Cresap, and Dr. Jacob Geiger, the dean, conferred the degrees.——The annual commencement exercises of Barnes Medical College, St. Louis, were held May 11, when a class of 76 received diplomas. The alumni banquet of the college was held May 7.

Personal.—Dr. Walter C. G. Kirchner assumed charge of the St. Louis City Hospital May 1, vice Dr. John Young Brown, resigned.——Dr. Henry S. Brookes has succeeded Dr. Eugene J. Neville as surgeon to the St. Louis fire department.——Dr. David W. Scott, St. Louis, was run over by a wagon May 1, while attempting to save a small child from being run over.——Dr. Elias Potter Lyon has been elected dean of the medical department of the St. Louis University, vice Dr. Young H. Bond; Dr. William G. Moore has been re-elected vice-dean.——Dr. William B. Winn has been confirmed as assistant health commissioner of St. Louis.——Dr. G. Wilse Robinson, Kansas City, has been made superintendent of State Hospital No. 3, Nevada, vice Dr. Larkin H. Callaway; Dr. Frank Devilbiss, Eugene, has been chosen assistant physician at the hospital, vice Dr. V. A. Williams, resigned.

NEBRASKA.

Medicine Vendors Barred.—Itinerant medicine vendors have been barred by the city council from obtaining licenses to sell their wares on the streets of Omaha.

Personal.—Dr. Lorenzo C. Voss has been appointed city physician of Columbus, vice Dr. Charles H. Platz, resigned.——Dr. George L. Miller, Omaha, has resigned as president of the Nebraska Humane Society.

Commencement.—At the annual commencement of the Creighton Medical College, Omaha, May 4, a class of 37 was graduated. At the banquet which was given the graduating class and alumni, Dr. Henry B. Jennings, Council Bluffs, Iowa, was toastmaster.

NEW YORK.

Signed by the Governor.—The governor has signed the Dunn bill providing that managers of state charitable institutions who fail to attend the meetings of their boards, or to make visitations for three successive months, shall be deemed to have vacated their positions unless the absence is excused by the governor.

Two Anticocain Bills Passed.—Without discussion or opposition, the senate passed the bill making it a felony to sell cocain and eucain except on a physician's prescription; also the Whitney bill which also prohibits the sale of these drugs except on a physician's prescription, but provides a different system of prosecution and less severe penalties.

Hearing on the Medical Board Bill.—A hearing on the bill, which proposes to create one medical board of examiners for all schools of medicine, was held before the governor on May 9. The homeopaths and eclectics bitterly opposed the bill on the ground that it is class legislation. The speakers for the bill included Drs. Arthur Root of Albany, for the Medical Society of the State, Frank Van Vleet of New York, for the Medical Society of New York, and Howard J. Rogers.

Recommends Long Lease of Ward's Island.—The Hospital Commission, at its last meeting, recommended that a fifty years' lease of Ward's Island to the state be entered into by the city on condition that the state construct on the island a modern hospital for the insane poor of the city. This commission has been in existence for about a year, and one of its tasks is to decide what to do about a new Bellevue Hospital and to simplify hospital regulations. It will recommend whether a central hospital, to take the place of Bellevue, be constructed at a cost of twelve to fifteen million dollars, using the site now occupied by Bellevue, or whether the money shall be spent in erecting three or four hospitals in various parts of the city.

New York City.

Large Gift to Hospital.—The will of the late James Henry Smith bequeaths $100,000 to the Orthopedic Hospital. The testator was a trustee of the hospital.

Hospital Removal Bill Vetoed.—Mayor McClellan disapproved of the bill passed by the legislature to prevent the removal of dying patients from different hospitals to Bellevue.

Mayor Approves of Milk Stations.—Mayor McClellan has signed the resolution adopted by the Board of Aldermen asking the Board of Estimate and Apportionment to issue special revenue bonds for $8,000, the proceeds to be used for the erection of milk stations in the parks.

Alleged Unlicensed Doctors Held.—Charles Conrad and Paul Schmitt were arraigned before the Yorkville police court charged with practicing medicine without a license. It is alleged by the prosecutor of the County Medical Society that the men posed as physicians and claimed that they could cure glanders.

Police Surgeons Districted.—The twenty-five police surgeons who make up the medical corps of the police department, and who heretofore have been compelled to go from one end of the city to the other, according to where policemen lived, will hereafter have to attend only men living in districts to which they have been assigned.

Changes in Faculty.—At a meeting of the faculty of Columbia University, the resignation of Dr. George H. Fox, professor of dermatology, was accepted. Dr. Francis Huber was appointed professor of clinical medicine; Dr. Frederick Peterson, professor of psychiatry; Dr. Andrew J. McCosh, professor of clinical surgery, and Dr. Pearce Bailey, adjunct professor of neurology.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended May 4, 492 cases of scarlet fever, with 19 deaths; 445 cases of tuberculosis, with 180 deaths; 534 cases of measles, with 12 deaths; 342 cases of diphtheria, with 38 deaths; 88 cases of typhoid fever, with 23 deaths; 56 cases of whooping cough, with 9 deaths; 27 cases of cerebrospinal meningitis, with 20 deaths; 74 cases of varicella and 3 of smallpox, making in all 2,061 cases, with 310 deaths.

Personal.—Dr. Robert W. Hall and Dr. John J. White have been appointed fire surgeons at salaries of $3,300 a year. Dr. J. Bayard Clark sailed for Europe on the *Blücher*, May 11.——Dr. Joseph D. Bryant had the degree of doctor of laws conferred on him by the chancellor of the New York University at a meeting of the faculty of the University and Bellevue Hospital Medical College, April 30.——The Medical Society of Athens, Greece, in recognition of the labors of Dr. Achilles Rose in medical onomatology, has elected him a corresponding member.——Dr. Louis W. Bremerman has resigned as associate professor of genitourinary surgery in the New York School of Clinical Medicine on account of his removal to Chicago.

NORTH DAKOTA.

Changes at State Hospital.—Dr. Louis B. Baldwin, superintendent of the North Dakota Institution for the Feeble-Minded, Grafton, has been appointed superintendent of the State Hospital for the Insane of North Dakota, Jamestown, vice Dr. Dwight S. Moore.

Society Meeting.—The Sheyenne Valley Medical Society held its annual meeting at Valley City and elected the following officers: President, Dr. Carl L. Brimi, Cooperstown; vice-president, Dr. Albert A. J. Lang, Sanborne, and secretary-treasurer, Dr. Willis C. Nolte, Dazey.

Smallpox.—Owing to the fact that occasional cases of smallpox have been found in the towns around Grand Forks, and by reason of the risk involved of its spread at the breaking up of the lumber camps, the Grand Forks Board of Health has decided to insist on the state law requiring the vaccination of all children attending public schools.

OHIO.

Public Policy and Legislation.—The state and auxiliary committees on public policy and legislation of the Ohio State Medical Association will hold a joint meeting May 22 at Columbus. The chief subjects to be discussed are: "A Summary of Medical Legislation," Dr. John W. Clemmer, Columbus; "Illegal and Fraudulent Practitioners," Dr. Walter H. Snyder, Toledo; "Education of the Public as a Check to Evils of Venereal Diseases," Dr. Benjamin R. McClellan, Xenia; "Medical Practice Legislation," Dr. Charles A. L. Reed, Cincinnati; "Criminal Abortion," Dr. Robert H. Grube, Xenia; "The Advertisement of Venereal Cures in Public Press," Dr. David R. Silver, Sidney; "Proprietary Medical Legislation," Dr. George H. Matson, Columbus; "The Public Health Service," Dr. Walter W. Brand, Toledo; "Tuberculosis Legislation," Dr. Charles C. Probst, Columbus, and "Medical Service in Public Institutions," Dr. Gilbert E. Robbins, Chillicothe.

County Secretaries' Meeting.—The secretaries of seventy-five county medical societies of the state met at Columbus, April 25. Dr. J. H. J. Upham, Columbus, was made temporary chairman, and Dr. Charles J. Shepard, Columbus, temporary secretary. It was decided to hold another meeting at Cedar Point at the time of the meeting of the state association in August, and to effect a permanent organization. Among the papers read were the following: "Address of Welcome," Dr. Frank Winders, Columbus, secretary of the Ohio State Medical Association; "The Relation of the Secretary to the Society and to the Profession," Dr. Clyde E. Ford, Cleveland, secretary of the Cleveland Academy of Medicine and the Cuyahoga County Medical Society; "The Relation Between Local and District Societies," Dr. Joseph S. Rardin, Portsmouth; "How the Secretary's Work May be Made Easier," Dr. Carrie Chase Davis, Sandusky, secretary of the Erie County Medical Society; "My Plans for the Struggle," Dr. Cornelia B. Kennedy, Findlay, secretary of the Hancock County Medical Society; "What Can a Secretary Do to Secure More Members?" Dr. John B. Donaldson, Lorain, secretary of the Lorain County Medical Society. After luncheon, which was served at the Neal House, Dr. Charles A. L. Reed, Cincinnati, spoke on medical legislation; Dr. John B. Donaldson, Canonsburg, Pa., secretary of the Washington County (Pa.) Medical Society, spoke on "The Secretary and His Opportunity." Papers by Dr. Hirschel Fisher, Lebanon, secretary of the Warren County Medical Society, on "How Can We Make Open Meetings More Successful?" Dr. Horace Bonner, Dayton, councilor for the second district, on "The Social Factor in the Life of the Successful Physician;" Dr. O. M. Wiseman, Zanesville, secretary of the Muskingum County Medical Society, on "Our New Doctors;" Dr. R. H. Grubb, Xenia, secretary of the Green County Medical Society, on "How Does Postgraduate Study Help the County Medical Society?" and Dr. N. Worth Brown, Toledo, secretary of the Toledo-Lucas Academy of Medicine, on "How Does Postgraduate Work Help the City Medical Society?" comprised the afternoon's program. The large attendance and the evident value of the meeting proved most encouraging and it is probable that meetings for conference and mutual helpfulness will be held regularly.

PENNSYLVANIA.

Consumptive Camps.—The senate approved the appropriation of $600,000 for sanatoria for indigent persons infected with incipient tuberculosis.

Anti-Vaccination Bill.—A bill to permit the admission to schools of pupils whose physical condition makes vaccination dangerous to their health was passed finally by the senate, May 7.

Regulation of Marriage.—The senate passed the bill to prohibit marriage on the authority of licenses issued more than 30 days prior to such ceremony, providing that no marriage licenses shall be issued unless the parties shall first give certain information, and requiring this information to be certified to the department of health.

Free Patients Barred.—It is stated that the White Haven Hospital for Consumptives will receive no more free cases after June 1. The cause is said to be due to want of funds and because the state appropriations during the past several years have not been sufficient to allow the institution to continue to receive the great number of poor patients applying for admission.

For Hospital Investigation.—The House of Representatives, May 6, adopted a joint resolution providing $20,000 for an investigation of the expenditures by asylums, hospitals and all semi-public institutions which receive state aid. The commission will report at the next session, suggesting new laws to govern the appropriations.

Appropriations for Hospitals.—The following appropriations were presented to the senate and approved by the house: Jefferson Hospital, Philadelphia, $300,000; Douglass Hospital, Philadelphia, $32,000; Bellevue Hospital, $15,000; Warren State Insane Hospital, $250,000; Harrisburg Hospital, $53,500; Ridgway Hospital, $15,000; Philadelphia Lying-in Charity Hospital, $20,000; Philadelphia Home for Aged Veterans, $23,000; Wills Eye Hospital, $70,000; Garrettson Hospital, $42,500; Philadelphia Sanitarium, $5,000; Philadelphia Maternity Hospital, $6,000; St. Mary's Hospital, $30,000; St. Vincent's Home, $10,000; West Philadelphia Hospital for Women, $10,000; Philadelphia Gynecean Hospital, $25,000; Kensington Hospital, $15,000; St. Christopher's Hospital, $20,000; Philadelphia Home for Incurables, $45,000; Coatesville Hospital, $17,500; Easton Hospital, $30,000; State Hospital, Hazelton, $45,500; Williamsport Hospital, $65,000; Lebanon Hospital, $16,502; Chester County Hospital, West Chester, $16,000; State Hospital, Scranton, $166,878.74; Phoenixville Hospital, $15,000; York Hospital, $20,000; Norristown Hospital, $32,000, and Danville Hospital for the Insane, $429,300.——By the will of the late Rev. Samuel A. Heilner the Methodist Hospital, Philadelphia, will receive $10,000.

Philadelphia.

Interne Examination.—An examination for positions as resident physicians in the Philadelphia Hospital will be held June 4. The examination is open to any medical graduate.

Jefferson Alumni Announcement.—The General Alumni Association of Jefferson Medical College announces a meeting at Atlantic City during the session of the American Medical Association. The annual business meeting will be held in the college June 1, and the annual banquet will be held in the Bellevue-Stratford the same day.

The New Jefferson Medical College Hospital.—The dedicatory exercises of the new Jefferson Medical College Hospital, which has just been completed at a cost of $1,500,000, will be held June 7. A picture of the building appeared in The Journal, May 4. Addresses will be delivered by Hon. William Potter, president of the board of trustees; by Dr. William H. Welch, professor of pathology in Johns Hopkins University, representing medical science, and by Dr. J. Chalmers Da Costa, professor of surgery in Jefferson Medical College, representing the faculty and alumni.

Gifts and Bequests.—Mr. Stephen Green, ex-president of the board of trustees of the Methodist Hospital, has presented a building to that institution to be used as an isolation ward. The building is to be one story high, of brick and terra cotta and will be erected at a cost of $6,000.——By the will of the late John Simmons the Methodist Hospital will receive $5,000 for a free bed to be known as the "John Simmons Bed."——In memory of the late Theodore Spencer, vice-president and general manager of the Bell Telephone Company, the employés of the company have endowed a free bed in the Pennsylvania Hospital.

Philadelphia to Entertain.—Intending visitors to the meeting of the American Medical Association at Atlantic City will benefit by many events planned to occur in Philadelphia before and after the Atlantic City meeting. Specially arranged series of clinics will be given at all of the teaching institutions, hospitals, etc., on June 3, 7, 8 and 12. The dedicatory exercises of the new Jefferson Hospital will be held June 7. The Medical Club of Philadelphia will entertain the retiring and newly elected presidents of the American Medical Association June 7 at a reception at the Bellevue-Stratford.

Personal.—Dr. and Mrs. Wharton Sinkler sailed for Europe May 11.——Dr. William S. Newcomet has been elected president of the Oncologic Hospital, and Dr. Charles W. Sheppard was elected assistant physician to the same institution.——Dr. Charles Nassau has been appointed demonstrator of applied anatomy in Jefferson Medical College, and Dr. Hoffmann assistant demonstrator.——Dr. Albert E. Roussel has been honored by the French government with the decoration of the purple ribbon, which confers on the holder the honorary title "*Officier de l'Académie.*"——Dr. George B. McClellan, professor of applied anatomy in Jefferson Medical College, was presented with a silver case by his students, May 8.

Bureau of Health Report.—The report of the bureau of health for March shows that in the division of medical inspection 3,720 inspections were made, excluding schools; 615 fumigations were ordered, and 63 cases were examined for special diagnosis. The medical inspectors made a total of 5,301 visits to the different schools, and of this number 683 children were excluded from school. The inspectors collected 371 cultures, made 130 injections of antitoxin and performed 231 vaccinations. During the month 2,613 deaths and 2,392 births were reported. In the division of milk inspection 7,496 examinations were made, which comprised 159,755 quarts of milk, 834 of which were condemned. The report of the bacteriologic laboratory of the bureau shows that 1,653 diphtheria cultures and 560 specimens of suspected typhoid blood were examined; 865 bacteriologic examinations of milk and 147 bacteriologic examinations of sputum were made; 6 disinfection tests were performed and 2,700,500 units of antitoxin were distributed throughout the city.

Treated the Sick for 156 Years.—On May 6 the contributors of the Pennsylvania Hospital held their one hundred and fifty-sixth annual meeting. The Pennsylvania Hospital was the first hospital established in America, and at a period when there were but few such establishments in England or continental Europe. Public opinion had been prepared for it by Benjamin Franklin, who had written in his newspaper of its utility and desirability, and whose connection with the assembly enabled him to secure the passage of an appropriation of £2,000 for its foundation, conditioned on the movers securing a like amount. The plan for the hospital was drawn in London. Franklin was not himself the projector of the hospital. It had its origin in the mind of Dr. Thomas Bond. The annual report of the hospital shows that the number of patients admitted to the receiving wards during the year was 27,660, of whom 4,100 were transferred to the wards. The report of the out-patient department shows that 10,861 surgical cases were treated, 2,345 medical, 2,015 eye, 612 ear, 1,216 nose and throat, 424 gynecologic, 47 mental and nervous, 1,388 dermatologic, in all 18,908. The total number of visits in the out-patient department was 60,631. The total expenses of the hospital for the sick and injured were $152,124.47, or $9,339.01 more than the expenditures of last year.

Pathological Society Semi-Centennial.—The Pathological Society of Philadelphia commemorated the fiftieth anniversary of its founding May 10 and 11. The exhibition meetings began May 9 and continued until May 11. The formal exercises were opened by the president, Dr. W. M. Late Coplin, at 10 a. m., May 10, when the society went into scientific session, a report of which will be found in this issue under Society Proceedings, page 1709. At 7 p. m. a dinner, at which 157 covers were laid, was held in the Clover room of the Bellevue-Stratford. The following committee had this dinner in charge: Drs. W. M. Late Coplin, Allen J. Smith, Joseph McFarland, Warfield T. Longcope, Courtland Y. White, Alfred Stengel, David L. Edsall, David Riesman, J. Dutton Steele and Albert P. Francine. Dr. George E. de Schweinitz of the University of Pennsylvania was toastmaster and called on the following to answer to the toasts of the evening: Dr. S. Weir Mitchell, Philadelphia, "The Founders of the Pathological Society;" Dr. William H. Welch, Johns Hopkins University, "The Pathologic Era in Medicine;" Dr. J. Collins Warren, Harvard Medical School, "The Surgeon and Pathologist;" Dr. Simon Flexner, Rockefeller Institute, "Experimental Pathology," and Dr. Alfred Stengel, University of Pennsylvania, "The Pathological Society of Philadelphia." Informal toasts were responded to by Dr. Reginald H. Fitz, Harvard University; Dr. George Dock, University of Michigan; Dr. Frank Billings, University of Chicago; Dr. Alonzo E. Taylor, University of California, and Dr. Abraham Jacobi of New York. The guests of the society were: Drs. Reginald H. Fitz, president Congress of Physicians and Surgeons, professor of medicine, of Harvard University; J. Collins Warren, Harvard University; Abraham Jacobi, New York; Simon Flexner, Rockefeller Institute; George Dock, University of Michigan; William H. Welch, Johns Hopkins University; Frank Billings, University of Chicago; Fred G. Novy, University of Michigan; Frank B. Mallory, Harvard University; Alexander Blackader, Montreal, Canada; Woods Hutchinson, Redlands, Cal.; James Ewing, Cornell University; Alonzo E. Taylor, University of California; Philip K. Brown, University of California; Richard M. Pearce, Albany, N. Y.; Milton J. Rosenau, Marine Hospital, Washington, D. C.; James R. Hunt, New York City; H. M. Christian, Harvard Medical School; Robert B. Greenough, Boston; Herbert C. Moffitt, University of California; J. Collins Warren, Jr., Boston; Philip Marvel, Atlantic City, N. J.; Richard O. Reeve, Toronto; Edmond Souchon, Louisiana, and Joseph H. Pratt, Boston.

SOUTH DAKOTA.

Personal.—Dr. F. Arthur Van Buren, Lead, has resigned his position in the Home State Hospital.——Dr. Clark B. Alford, Huron, has retired from practice on account of failing health.

Sanitarium Established.—A number of the physicians of the Black Hills have formed an organization for conducting a sanatorium and hospital at Hot Springs. A residence with 26 rooms has been leased, which will be converted into a sanatorium and properly equipped.

State Board Appointments.—The governor has appointed Dr. William H. Lane, Miller, a member of the State Board of Health, and Drs. Frederick W. Freyburg, Mitchell; Joseph M. Walsh, Fort Pierre, and Leslie G. Hill, Watertown, members of the State Board of Medical Examiners.

District Society Meeting.—At a meeting of the Fifth Councilor District Medical Society, held at Madison, Dr. Lars J. Hauge, Howard, was elected president; Dr. Frederick O. Kap, Winfred, vice-president; Dr. Henry H. Freudenfeld, Madison, secretary-treasurer, and Dr. Alonzo E. Clough, Madison, censor.

TENNESSEE.

Commencement.—At the annual commencement exercises of Chattanooga Medical College, Medical Department, Grant University, April 29, Hon. Henry Clay Evans delivered the address of the evening, Dr. G. Manning Ellis spoke on behalf of the faculty, and Dr. S. Holtzclaw delivered the valedictory.

Charter Asked For.—The Baptist Memorial Sanitarium Association, Memphis, has applied for a charter. The organizers wish to erect a building to cost $250,000, directly east of the College of Physicians and Surgeons, to be used as a hospital building. The site for the hospital was donated by the college, which has also pledged $25,000 for the equipment and maintenance of the hospital. In return the college is to have exclusive clinical facilities at the hospital.

VERMONT.

Analyses at State Laboratory.—The pure food law has caused a great increase in the samples of food, milk and liquors sent to the state laboratory at Burlington for analysis. More than 1,000 samples were examined during March.

Personal.—Dr. Edward O. Whipple, Danby, is still in active practice, although in his eighty-seventh year.——Dr. Clarence F. Ball has been appointed health officer of Rutland, vice Dr. R. Halford Miner, resigned.——Dr. Everett E. Potter has resigned as selectman of North Pownal.——Dr. Joseph W. Jackson, health officer of Barre, has resigned.

WASHINGTON.

Elections.—The Asotin County Medical Association at its annual meeting, held in Clarkston, elected the following officers: President, Dr. Lafayette Woodruff, Asotin; vice-president, Dr. Paul W. Johnson, Clarkston; secretary, Dr. Isaiah U. Temple, Clarkston; treasurer, Dr. Stephen D. Brazeau, Asotin, and censors, Dr. David H. Ransom, Clarkston; John S. McElvain, Anatone, and Henry C. Fulton, Asotin.

Hospital Notes.—The Sisters of Providence, Seattle, are about to erect a new hospital, to cost not less than $300,000.——Drs. Adelbert J. McIntyre, Franklin L. Carr and F. McDonald are about to build a hospital at Hoquiam, to cost $30,000.——Old Fort Spokane is to be transformed into a sanitarium for Indian children from the Spokane and Colville reservations as well as the reservations in eastern Washington and northern Idaho.——The trustees of the Children's Orthopedic Hospital, Seattle, who have already $20,000 in the treasury toward the hospital, have decided to increase the cost of the building to $50,000. A site for the institution has been donated by Samuel L. Crawford.

WISCONSIN.

Smallpox.—Smallpox of mild type is reported to be epidemic at Grand Rapids.——The public schools of Royalton, which had been closed two weeks ago on account of the prevalence of smallpox, were reopened April 18.

Personal.—Dr. W. C. Winters has been appointed pension examining surgeon at Augusta, vice Dr. Ernest M. Adams, resigned.——Dr. Wendell A. Anderson has been elected mayor of La Crosse.——Dr. John E. Meany has been elected health officer of Manitowoc, vice Dr. Max Staehle.

Medical College Urged.—At a joint hearing by the committees on education of the senate and assembly, April 9, the measure providing an annual appropriation of $50,000 for the establishment of a college of medicine at the University of Wisconsin, was discussed. The president of the university and the chairman of the State Board of Health declared that the University of Wisconsin is the only state university of importance that does not provide adequately for students who desire to study medicine.

GENERAL.

Honors to Americans.—The Russian Surgical Society, at its twenty-fifth anniversary meeting in St. Petersburg, May 9, elected Dr. Nicholas Senn, Chicago, and Dr. William H. Watson, Utica, N. Y., honorary members.

Raise Money for Hospital.—The society women of Monterey, Mexico, cleared $8,000 in the fête given April 27 and 28 in the Porfirio Diaz Alameda. This sum will be given to support the San Vincente De Paolo Hospital.

Grand Island Surgeons Meet.—At the annual meeting of the Society of Surgeons of the St. Joseph & Grand Island Railway, held in St. Joseph, Mo., April 18, Dr. B. Pearne Hatch, Beattie, Kan., was elected president; Dr. George A. Birdsall, Alexandria, Neb., vice-president, and Dr. Luther A. Todd, St. Joseph, Mo., secretary-treasurer. The next meeting will be held in St. Joseph in June, 1908.

Hospital Car.—The Erie Railroad Company has put in service a hospital car, to be used primarily for employés of the railroad in case of accident, and also as an adjunct to the equipment of wrecking trains. The car is 40 feet long, fitted with six-wheel trucks, made almost entirely of steel, with a ward room accommodating 11 patients and furnished with lavatory and toilet. It also has an operating room thoroughly equipped.

Warning Concerning Magazine Solicitor.—A Boston correspondent states that a number of physicians in his vicinity have been victimized by a proposition to supply the London *Graphic* for their reception rooms for the cost of the postage, viz., $1.04. When none of the copies were forthcoming our correspondent wrote to the alleged headquarters in New York City (International Foreign News Co., Washington Square), but his letter was returned to him undelivered.

Navy Medical Bulletin.—The Navy Department has begun the publication of a quarterly, known as the *United States Naval Medical Bulletin*, issued for the information of the naval department of the service. It is limited to professional matters as observed by medical officers at shore stations and on board ship in every part of the world, and principally to the physical welfare of the navy personnel. The first issue appeared in April and contains special articles on "The Gross Pathology of Samoa, with Comments on Sanitary Features and Treatment," by P. A. Surgeon A. M. Fauntleroy; "A Preliminary Note on Flagellates," and a report of a case of "Tropical Febrile Splenomegaly," by Assistant Surgeon H. W. Smith; also clinical notes and comments on medical progress and current events.

Smallpox in the Philippines.—Dr. V. C. Heiser, chief quarantine officer, reports that a few sporadic cases of smallpox continue to occur in Manila. An investigation of the cases usually shows that the infection was contracted in one of the provinces in which the population has not yet been completely vaccinated. The crew and passengers detained in quarantine at the Mariveles quarantine station, on account of a patient with smallpox, who was removed from the steamer *Ban Yek*, on which they were traveling, were held for 14 days, being released Feb. 22, 1907. As a precautionary measure all the troops were vaccinated, as well as all persons in the immediate vicinity of the place in which the troops were stationed. So far no case which could be diagnosed as true smallpox has made its appearance.

Special Quarantine Regulations for Fruit Vessels.—As a concession to vessels engaged in the fruit trade, provision has been made in the quarantine regulations, according to the reports of the U. S. Public Health Service, to obviate the injurious detention of perishable cargoes in the southern ports. While these regulations are stringent they do not impose an embargo on the fruit traffic. The success of the new regulations is dependent on the reliability of the information as to health conditions at the various ports from which the vessels come. The government, therefore, reserves the right, when dissatisfied with the information furnished, to recall from such a port the medical officer there detailed. In such a case the special certificates required could not be issued and the vessel on arrival would have to be subject to the general quarantine regulations.

Health of the Isthmus for March.—Col. W. C. Gorgas, chief sanitary officer, reports that the general health of the Isthmus was excellent during March. The number of men constantly sick among the employés has decreased steadily since August, 1906, the rate for March being 19.40. This, says Gorgas, is as low as they can ever hope to get it. Among the 4,600 American whites there were only two deaths. Among the American women and children living in commission quarters there were no deaths and very little sickness of any kind. Pneumonia was the disease which caused the greatest mortality; during the month it caused 53 deaths, all among the negro employés. The negroes showed the highest mortality and the American whites the smallest. No case of yellow fever has occurred in the Isthmus since May, 1906. There were no quarantinable diseases during March.

Academy of Medicine Election.—The Academy of Medicine, formed at Springfield, Mass., with over 200 charter members from western Massachusetts, Vermont and New Hampshire, which we mentioned on page 428, Feb. 2, 1907, has elected the following officers: Dr. Walter A. Smith, Springfield, president; Drs. John A. Houston, Northampton, and Ralph H. Seelye, Springfield, vice-presidents; Dr. Joel I. Butler, Springfield, secretary; Dr. Harvey W. Van Allen, Springfield, treasurer; Drs. Oscar W. Roberts, Springfield, Oliver W. Cobb, Frederick W. Chapin, Springfield, Edgard H. Guild, Springfield, and Walter R. Weiser, Springfield, board of directors, and Drs. Theodore S. Bacon, Springfield, James B. Atwater, Westfield, Louis H. Clark, Holyoke, and Frederick B. Sweet, Springfield, censors. The Academy expects to establish a graduate course in medicine and to furnish a home for medical clubs and societies.

Seeking National Health Department.—The committee of one hundred, appointed by the American Association for the Advancement of Science to further the establishment of a national department of health, met at New York City, April 18, and organized by the adoption of rules, the election of officers, and the appointment of an executive committee. Prof. Irving Fisher, New Haven, presided as the temporary chairman and was subsequently elected president. Ten vice-presidents were elected, as follows: President, Charles N. Eliot, Harvard University; Felix Adler, New York; Dr. William H. Welch, Baltimore; Rev. Lyman Abbott, New York; President James B. Angell, University of Michigan; Miss Jane Addams, Chicago; Hon. Joseph H. Choate, New York; Rt.-Rev. John Ireland, St. Paul; Hon. Ben. B. Lindsey, Denver; Hon. John D. Long, Boston. Mr. Champe S. Andrews was elected secretary. Prof. Irving Fisher, Dr. Thomas Darlington, Prof. J. P. Norton, Dr. John S. Fulton, Dr. Richard C. Newton, Prof. F. F. Westbrook and Champe S. Andrews were elected executive committee to further the establishment of a national department of health. The committee on publicity is to spread information through the public press and otherwise. At a meeting of the executive committee Dr. Charles A. L. Reed told of the work done by the American Medical Association in advocacy of a national department of health. He urged that a department, not a bureau, should be sought. The Council on Medical Legislation of the American Medical Association is in communication with a physician in each county in the United States, who is laboring in the interest of this work and has an index of the men in each county who are active in politics. As secretary of this council, he offered these resources to the executive committee. The official office of the secretary of the committee of one hundred was established in the office of the Public Health Defense League at 105 East Twenty-second Street, New York.

CANADA.

Hospital News.—The new hospital at Saskatoon, Sask., is to be conducted by the Grey nuns.——Much success is attending the endeavor to establish in various hospitals in Canada memorial cots to the memory of the late Lady Grenfell, daughter of Governor-General and Lady Grey.

New Medical Laboratory for Queen's University.—Lieut.-Gov. Mortimer Clark of the province of Ontario, will lay the corner-stone of the new medical laboratory of Queen's University, Kingston, Ont., April 28. The Ontario government contributed $50,000 toward the erection of this new medical building.

FOREIGN.

Smallpox in China.—Acting Assistant Surgeon Ransom reports that smallpox is prevalent in Shanghai, Nanking and Tientsin. The figures obtainable, he states, can only be taken as an index of the prevalence of the disease and represent but a small percentage of the number actually suffering from smallpox.

Joint Meetings of Medical and Legal Societies.—At a number of places in Germany, physicians have taken the initiative and summoned a joint conference of lawyers and physicians to discuss various questions of forensic medicine, especially criminal psychology. Arrangements are being made to hold these joint conferences quarterly, as they are proving extremely instructive and valuable.

Gratitude for Private Instruction.—A. Bienfait of Liege, Belgium, found time outside of his duties as general practitioner, neurologist and secretary of the *Gaz. Méd. Belge*, to deliver a course of lectures on the pathology of the nervous system. The thirty or more physicians who attended the lectures descended on his house one evening and presented him with an up-to-date Roentgen equipment as a token of their appreciation of his kindness.

Bequest for Convalescent Home.—The great benefits of a home for patients during convalescence are appreciated by physicians more than any one else, and several physicians have left money for that purpose in their wills in the last few years in various countries. The latest is Dr. Buhl of Heidelberg, whose will bequeaths his property to the university of Heidelberg, subject to a life pension for his wife. After her death, about $75,000 becomes available for the construction of the home and about $50,000 for its maintenance.

International Anti-Alcohol Congress.—The last anti-alcohol congress was held at Budapest in 1905. The next will convene at Stockholm, July 28 to Aug. 3, 1907, the eleventh international gathering, to discuss the evils of alcohol. Communications for the congress are to be sent to Prof. C. Wallis, Tegnergatan 2, Stockholm. The crown prince will preside, and a large number of communications have already been received, including those on "Alcohol and Responsibility;" "The Burdens Imposed on the Community by Alcohol;" "Alcohol in the Rural Districts;" "Alcohol in Lapland," etc.

Organization of the Profession in Bohemia.—The Journal has already referred to the recent organization in German Bohemia of a society with the same aims and purposes as the German *Leipziger Verband*. It is doing good work and has accomplished valuable results already in its brief span of existence. A national election is impending, and the society has issued a circular which has been sent to every physician in the country acquainting him with matters of importance to the profession depending on his vote and influence. By this concerted action it is hoped that legislation promoting public health and the welfare of the profession can be secured.

Glasgow Maternity Hospital.—Like almost every other hospital in Glasgow, Scotland, the Maternity Hospital is appealing to the public for funds to complete the additional buildings in course of erection. This hospital was originally started in 1834 and the present building was erected in 1840. For a number of years both patients and students have been crowded. According to the *Lancet*, the directors believe that the buildings now being constructed will enable them to meet the pressure on their present inadequate accommodation for patients and at the same time to provide a school thoroughly equipped for the teaching of practical obstetrics and gynecology. Toward the cost of the new buildings and equipment $200,000 has been subscribed and $175,000 more is required.

Surgical Congress of the Northland.—The Nórdisk Kirurgisk Forening will hold its annual congress at Christiania, Aug. 7-10, 1907. The subjects appointed for discussion are "Resection of the Large Intestine;" "Indications, Technic and Results of Prostatectomy," and "Treatment of Inflammatory Affections of the Adnexa." Bloch and Borelius will open the discussion on the first topic, and A. Gunderson of La Crosse, Wis., will deliver the address on the second subject, while the third will be introduced by Engstrom and Kaarsberg. Further particulars can be learned from the president, K. Jervell, Christiania, or the secretary, Dr. Tscherning, Copenhagen. Borchgrevink announces a communication on the subject of "Ambulant Extension Treatment of Fractures of the Upper Extremities."

Consultations for Infants in Every French Town.—The French minister of the interior has notified all the prefects throughout France that they must organize a "mothers' dispensary" or consultation for infants, similar to the one founded by Budin in Paris, which has been frequently mentioned in these columns. Budin devoted much time and energy to the extension of the system of "nursling consultations," and the sickness and death rate among infants was materially reduced wherever they are introduced. Since his recent death, testimony in this line has been accumulating more and more, until now the French authorities have decreed the universal adoption of the system. Budin actually gave his life for the cause, as he died of pneumonia contracted on a trip to a neighboring city to lecture on the subject.

The Cocain Evil in Calcutta.—The Indian correspondent of the *Lancet* states that the cocain habit has obtained a great hold on the lower classes in India. The *Lancet's* correspondent states that this is the more remarkable, as but a small part of the population drinks tea or coffee. In 1900 the sale of cocain was limited to medicinal purposes, and only certain persons were granted licenses to sell it. In 1902 the possession of more than 60 grains was made illegal. Notwithstanding the strict rules against importation the drug is said to find its way into the country from Germany through unscrupulous dealers in the native states and in the little strips of foreign territory which remain in India. It is said that the principal trade is through Delhi. The profit is large and the cocain is never sold pure, being mixed with phenacetin or other drugs.

Bier Succeeds von Bergmann in Chair of Surgery at Berlin.—A cable dispatch states that August Bier has been appointed professor of surgery in the University of Berlin, to succeed the late von Bergmann. It has been known for some weeks that the choice wavered between Bier and von Eiselsberg of Vienna. The latter was called to Berlin some years ago, but declined, as his mother was a loyal Viennese, and he did not wish to leave her and she would not leave Vienna. She has since died. The Journal published April 28, 1906, page 1299, a portrait of Bier and a brief sketch of his career. The cable dispatch adds that Bier's summary dismissal of von Bergmann's assistants as his first official action has aroused much unfavorable comment. He is only 46 at present, but has occupied in turn the university chairs of surgery at Kiel, Greifswald and Bonn.

Physicians Win in Long Conflict at Gera.—One of the first cases in which the German *Leipziger Verband* was called on for its services after it was organized was at Gera. The medical officers of a certain sickness insurance society protested against the addition to the medical force of a non-qualified "nature healer," directly contrary to their contract with the society. As the superintendent of the society paid no attention to their protests, the physicians resigned, and the *Leipziger Verband* championed their cause. The society held back half of the last quarter's payments due the medical officers, and the latter sued for the amount due them. The case after four years has finally been decided in favor of the physicians. The judge stated that the society had acted contrary to its contract—not the medical officers—and ordered the society to pay the amount still due the physicians, with interest to date, and also imposed the costs of the suit on the society.

International Congress on Stomatology.—An international congress of stomatology has been organized to meet at Paris Aug. 6 and 7, 1907. The executive committee includes prominent dentists from various countries, and an exhibition of appliances and objects of historical and educational interest will be held in connection. The official language of the congress is French, but English and German will also be admitted if the article presented is followed by a brief summary in French. It is stated also that Esperanto will be allowed in the discussions. The international congress is to be preceded by a national French Congress of Stomatology, arranged in honor of the twentieth anniversary of the French Société de Stomatologie. The chief aim of this national congress, it is said, is to demonstrate and emphasize that a general medical education is indispensable for the practice of stomatology, as well as for laryngology and ophthalmology. Stomatology is as much a medical and surgical specialty as these other branches of medicine. Further details can be obtained from the secretary, M. Chompret, 182 Rue de Rivoli, Paris, or from Dr. Eugene S. Talbot, 103 State Street, Chicago.

Alliance for Social Hygiene.—The Alianza de Higiene Social is a newly organized society in the Argentine Republic whose aim is to coordinate and promote all efforts in favor of public health and hygiene. The official program includes measures to combat "averia" (the newly coined Spanish term for venereal disease, similar to the French "avarie"), tuberculosis, alcoholism, malaria and infantile mortality; to promote the care of child life in every way; to improve the dwelling places and food of the poor; to promote physical training and to organize centers for the education and protection of the public, with exhibitions and permanent museums of everything relating to puericulture, hygiene, etc. The society also intends to use its influence for the adoption of compulsory insurance against sickness, accidents and old age. E. R. Coni is the leading spirit in the movement, and is making every effort that the society may be able to present a fine showing of tangible results when the world is invited to help the republic celebrate in 1910 the anniversary of the independence of Argentina. The *Semana Medica* for March 21 contains his address on the subject presented at the Third Latin-American Medical Congress recently held at Montevideo. Coni was the president of the second congress.

A Representative Board of Health.—The national board of health for the grand duchy of Baden has recently been enlarged to make it more representative. It has hitherto consisted of representatives of the medical faculties of the two universities, the president of the national medical society and several members appointed by the national authorities. The additional members now to be added are representatives from the departments in charge of the water supply and roads, the presidents of the university institutes of hygiene and the technical college at Carlsruhe; three members instead of one to be appointed as representatives of the medical profession, and one each from the dental, veterinarian and apothecaries' national associations. Besides these the organized employers of labor and also the wage earners are to have each a representative. The members are elected for a four-year term and serve without remuneration, except that mileage and $3 a day are allowed to those who do not live in the city where the meetings are held. The *Deutsche med. Wochschr.* adds to the above that the minister of the interior is *ex officio* president of the board, and he can invite expert talent from outside at any time to discuss questions that may arise.

Antiquackery Legislation Adopted in Germany.—The German authorities are on the point of adopting a decree applying throughout the empire certain regulations requiring that all persons—not registered physicians—who make a practice of treating the sick, must notify the police authorities when they locate in a place, and must give information in regard to their "practice," and must keep a set of books. They are forbidden to use "distant treatment," to treat contagious diseases, especially venereal diseases, and to use narcotics, hypnosis, suggestion, etc. The right to practice can be refused to persons who have previously been convicted of misdemeanors or crimes, or have been deprived of their civil rights for any cause. The right to practice can also be withdrawn at any time for the same reasons or for injury from their practices. Penalties up to $375 and imprisonment can be enforced. Our German exchanges state that it is a pity that the regulations do not entirely forbid the treating of the sick by unqualified persons, but even as proposed, they represent great progress in the antiquackery movement. The question of "secret medicines" is next to be taken up, and a bill similar to the regulations in force in Austria is now being discussed which prohibits public advertising of such remedies and the importation of certain "secret remedies."

Cancroin Suit Decided.—The Journal mentioned at the time the suit brought against the firm of E. Merck by A. Adamkiewicz, formerly professor at Cracow, inventor of cancroin, a remedy for cancer. He signed a contract with the Merck firm for the production, advertising and sale of the remedy, the contract to run for twenty-five years, with the proviso that if the firm lost money by the deal they could withdraw from the contract at the end of five years. This they did in 1896, when Adamkiewicz at once brought suit for $60,000 damages, the penalty for non-fulfillment of contract, claiming that the firm had not fulfilled its contract, as it had failed to advertise and push the remedy in such a way as to bring it duly before the public. The Merck firm stated that it had lost money on the contract and that it had been deceived in respect to the curative value of the remedy. Professors von Eiselsberg and von Neusser testified that cancroin is merely a preparation of neurin, and that the after history of cases published by Adamkiewicz as "cures of cancer" showed that the remedy had not materially retarded the fatal progress of the disease. It was first put out as a secret remedy, and Adamkiewicz's methods of procedure led to his being dropped from the rolls of the Vienna Medical Society. The judge promptly decided in favor of Merck.

Congress of German Orthopedic Society.—The sixth annual meeting of this society was held at Berlin April 2, with Bardenheuer in the chair. The remote results of plastic operations on the tendons was one of the topics presented by various speakers. Hoffa exhibited a number of patients to show the fine results when the operation on the tendons was preceded by careful and prolonged correction or over-correction of the deformities. He prefers total to partial transplantation of the tendon, and thinks that suture of the tendon to the periosteum gives sometimes a firmer hold and better results than suture of tendon to tendon. In the after-treatment a plaster cast must be worn for at least 6 weeks and then a splint, with massage and active gymnastics. If there is enough reliable muscular tissue on hand, permanently good results may be counted on. Schanz reported that plastic tendon operations on the quadriceps had given him exceptionally fine results. Vulpius stated that he had had better results from transplantation of tendon on tendon. Lorenz emphasized the necessity for prolonged preliminary treatment with overcorrection. This will show the muscles best adapted for transplantation. In quadriceps paralysis he has found that osteoclasis of the femur helped very much in overcoming the functional obstacle. Fat embolism after bloodless operations was discussed also. Some of the speakers warned against attempting to accomplish too much at a single sitting. It is much better to proceed gradually. Under the age of 14 the danger of fat embolism is comparatively slight, as the bone marrow contains very little fat. Vulpius, however, stated that he had had 2 fatal cases in children under 10. Lorenz remarked that the previous use of a wheeled chair, by inducing extreme atrophy of the bones, causes a predisposition to fat embolism and other complications. Bardenheuer expatiated on the benefits of extension and early active movements to prevent ankylosis of the adjacent joints in case of fracture of a long bone.

German Congress for Internal Medicine.—The twenty-fifth German Congress for Internal Medicine met at Wiesbaden, April 15, and the silver jubilee was celebrated by the election of 15 honorary members and by an inaugural address from E. von Leyden, the founder of the Society for Internal Medicine and of the congresses. The first subject discussed was "Neuralgia and Its Treatment." Schultze referred to arteriosclerosis as an occasional source of severe neuralgia, and stated that in sixteen cases of rebellious neuralgia of the first branch of the trigeminal nerve he had found the frontal sinus diseased in six instances. He also mentioned that brachial neuralgia is sometimes observed in the initial stage of paralysis agitans. Physical measures, he said, are more effectual than drugs, although aconitin has sometimes given good results. In some cases massage does wonders, in others electricity, in others application of heat, and Bier's hot air massage. Bier has reported the cure by hot air massage of twelve out of twenty patients who had entered the hospital for operative treatment of neuralgia. The hot air massage was described recently in The Journal on page 653. In some cases Schultze has cured rebellious neuralgia with hot sand baths, Scottish douches, etc. He has abandoned operative stretching of the nerve, but finds orthopedic stretching sometimes useful. Schlösser reported the present status of the treatment of neuralgia by local injection of 70 or 80 per cent. alcohol. This induces degeneration of the nerve, and the segment involved is absorbed, although the neurilemma remains intact, the effect being a medicinal resection of the nerve. Later it regenerates from the periphery toward the center. He has thus operated on 202 patients with chronic neuralgia, injecting from 1 to 4 c.c. of alcohol. In case of sensory nerves he injects from 2 to 4 c.c. of alcohol at different points, trying to destroy the nerve over as large an extent as possible. With motor nerves the aim is to induce paresis, and small amounts are injected through the cannula left in place, repeating every five minutes until there is paresis. In 38 cases of sciatica recurrence was observed in 2 patients after 3 or 6 months, the others have been cured to date; permanent cure has resulted in 16 cases of occipital, 8 brachial, 1 intercostal and in 2 of lancinating neuralgia in patients with ataxia. In the 11 cases of facial clonus recurrence followed in 9, but 7 of the patients proved to be hysterics and treatment had been suspended as soon as the hysteria was diagnosed. In 123 cases of trigeminal neuralgia—bilateral in 2—the average duration of the cure has been a little over 10 months. He advocates this "chemical resection" of the nerve as worthy of trial before resorting to such a serious operation as removal of the Gasserian ganglion. (Previous communications on the subject were mentioned in The Journal, page 1243, of vol. xlvi, 1906.) Lange reported good results from his method of injecting from 50 to 150 c.c. of physiologic salt solution in treatment of sciatica. Patients thus treated should remain in bed for a time. Improvement follows the first injection, and the cure is sometimes complete by the end of the third day. Quincke confirmed his statements and added that experiments on the cadaver had shown that the injections act only on the sheath and not on the nerve, so the technic is simple and easy. Alexander prefers injection of 10 c.c. of Schleich solution; he ascribes the pain to a combination of neuralgia and a myopathy, the muscular affection being generally overlooked. Krause reported the removal of the Gasserian ganglion in 56 cases, and stated that 48 of the patients are alive and free from recurrence to date, but 8 died during or in consequence of the operation. He has never observed regeneration of the nerve after this operation. Brieger stated that physical measures cure in about 80 per cent. Absolute repose should be enforced in the acute cases; in the chronic forms a course of baths and dietetic measures are useful. Hanau reported great benefit from dry cupping in acute sciatica, and Minkowski from spinal anesthesia. Large doses of methylene blue proved successful in curing infectious neuralgia in von Noorden's experience, especially after influenza. Treupel has found repeated cocainization of the nasal mucosa of great benefit in cases of trigeminal neuralgia, even when the accessory cavities seemed to be entirely sound. Gara asserted that unless the lowest lumbar vertebra is sensitive to pressure there can be no sciatica, as he has found this sign constant in genuine sciatica. Bäumler called attention to the neuralgia due to venous stasis, cured by improving the heart action with digitalis or other heart tonic. His has had occasion to observe neuralgia evidently due to a family tendency, and best combated by dietetic measures. "Edema in Nephritis" was the second subject discussed, and von Noorden emphasized the necessity for discriminating in treating nephritic patients by suppressing salt chlorids in the diet. He had witnessed cases in which reduction of albumin and chlorids in the diet induced great debility while, on return to an ordinary diet, the patients rapidly regained their previous strength. Naegeli of Zurich stated that later experience has confirmed his previous assertions in regard to the prevalence of tuberculous lesions. He found tuberculous lesions in 97 per cent. of 1,000 cadavers, as reported in 1900, and this same proportion has been maintained through all his subsequent investigations and for all classes of society. Honigmann related that at the convalescent home for Russian officers at Wiesbaden 20 patients with serious traumatic hysteria have been under treatment and 23 others with severe neurasthenia. He commented on the fact that there is no record of such traumatic neuroses among the officers after the wars of 1866 and 1870. The above summary is culled from the nearly 6-page report of the congress in the *Semaine Médicale*, April 24—the first journal to appear with an account of the proceedings.

LONDON LETTER.

(*From our Regular Correspondent.*)

London, April 20, 1907.

Enlargement of the Library of the College of Surgeons.

The library of the Royal College of Surgeons, which is the largest medical library in Great Britain and the largest in Europe, with the exception of the library in Paris, has outgrown the space allotted to it. It now contains 100,000 publications, made up of 60,000 volumes and 40,000 pamphlets. It increases at the rate of 1,000 volumes a year. A large room has been added over the library, which in former years consisted of a suite of apartments occupied by a clerk who lived in the college, a custom no longer followed. This room will be principally devoted to works on public health and official government reports. Thus space has been obtained for another 10,000 volumes.

The Jacksonian Prize.

The Jacksonian prize of the college for 1906 on "The Diagnosis and Treatment of Those Diseases and Morbid Growths of the Vertebral Column, Spinal Cord and Canal, Which Are Amenable to Surgical Operations," has been awarded to Mr. Donald Armour, F.R.C.S. The following subject has been chosen for 1908, "The Pathology and Treatment of Those Conditions of the Colon Which Are Relievable by Operative Measures." The subject for the next triennial prize is, "The Histologic Anatomy of the Lymphatic and Hemo-lymphatic Glands, More Especially with Reference to the Changes Which These Glands Undergo in Acute Infective Processes." Prof. William Wright will deliver three Hunterian lectures on "The Prehistoric and Early Historic Inhabitants of England," on May 6, 8 and 10.

Effective Organized Effort.

The method, adopted largely at the instance of the British Medical Association, of preventing poor-law authorities, friendly societies and others, who contract for medical services obtaining them at rates deemed inadequate, is to form combinations of medical men in the various districts who decide that no one shall apply for an appointment of this kind which happens to be vacant. Warning notices are inserted in the medical journals asking physicians who, being strangers, may know nothing of the battle waged with these contracting bodies, to communicate with the secretary of the local medical society before applying for the post. Sometimes, however, a physician declines to fall in with the combination and takes a proscribed appointment. In the language of the trades unions, he is a "blackleg." His position with regard to his medical brethren is then far from enviable, and he may be treated with all the rigor which trades unions adopt toward non-union workers. In a country district the guardians, who recently appointed Dr. Charlton to the post of medical officer of the workhouse, received a letter from the physicians of the district, who refused to apply for the appointment, as they considered the salary inadequate, stating that they refused absolutely to recognize Dr. Charlton professionally or in any way whatever, either by acting as his deputy or in cooperation with him over any patient. If in any case of emergency additional medical aid should be required by the guardians, the local physicians will not refuse to attend, provided the entire control of the case is for the time being placed in their hands independently of Dr. Charlton. In such cases they will charge such fees as they consider reasonable and adequate. The guardians decided to take no action in the matter, the chairman observing: "Of course, if the doctors refuse to recognize Dr. Charlton, that is a matter of no concern whatever to us."

The Milk Supply.

Public opinion and the government appear at last to be awakening to the perils of the milk supply. A committee of the National League for Physical Education has been formed by Sir Lauder Brunton. This committee has now formed a joint committee with the National Health Society, the Infants' Health Society, and the Liverpool Infants' Life Preservation Committee. The chairman is Sir Frederick Treves. The committee is composed of men chosen from among the experts on milk, including health officers. The object is to secure a universal supply of milk, pure, fresh from the cow and free from disease germs—"clean milk." An annual system of licenses to dairymen, renewable only if their premises are kept in sanitary condition, is recommended. The corporations of the great cities such as Manchester, Liverpool and Sheffield, have already obtained special parliamentary powers to enable them to exclude from their districts the milk of cows suffering from tuberculous udders. Such milk can be sold elsewhere. It is proposed that such powers should be extended to the whole country.

VIENNA LETTER.

(*From our Regular Correspondent.*)

Vienna, April 24, 1907.

Distant Treatment by Letter or Telephone.

The Vienna "Aerztekammer" (Medical Council) in one of its recent meetings discussed the question of treating patients without seeing them. It has been brought to the knowledge of the council that in several instances physicians, not quacks, have been asked by patients residing at a distance in the country for professional aid, and these doctors had thought fit to prescribe for diseases, the symptoms of which they could not possibly have found out except by regular examination. The council is of the opinion that such a way of treating is not to be approved of, since the art of the physician is founded on the consideration of the patient as an individual, and the treating of symptoms, instead of the disease, will not add to the dignity of the profession. In a similar way, consultations by telephone, unless the patient be known to the doctor, should be discarded. The council has sent a circular to all members of the profession in Vienna informing them of the resolutions voted, and it proposes to deal summarily with all members complained of in the future, by fining them about $100.

Scarcity of Hospital Beds.

The enormous increase of infectious diseases in Vienna, especially of influenza, measles and scarlatina, during the last few weeks has swamped the hospitals. The number of beds is usually sufficient for ordinary needs, but hundreds of patients were seeking admission to the hospitals and had to be turned away. This condition of affairs was not allowed to last more than five days by the public and the press. The municipality finally consented to open "emergency hospitals," especially for scarlet fever and diphtheria, while non-infectious patients are tended at their homes by municipal doctors and nurses. This system has been in existence only a short time. It is called "Distriktkrankenpflege," and the expense hitherto has been borne by the municipality. In spite of the two new pediatric hospitals, erected quite recently by private donations (the two buildings together can accommodate only 200 children), the scarcity of hospital beds is an undeniable fact. There are, for instance, only 42 beds available for nurslings, with a yearly birth rate of 50,000! These conditions have at last appealed to the conscience of the public.

Pharmacology

TYREE'S ANTISEPTIC POWDER.

Discrepancies Between Facts and Claims—Unfortunate Attempts of Mr. Tyree at Explanation.

A report from the Council on Pharmacy and Chemistry on Tyree's Antiseptic Powder appeared in The Journal, Oct. 20, 1906. This showed that the preparation, advertised as a "scientific combination of borate of sodium, alumen, carbolic acid, glycerin and the crystallized principles of thyme, eucalyptus, gaultheria and mentha, in the form of a powder," was essentially a mixture of boric acid and sulphate of zinc—approximately four-fifths of the former to one-fifth of the latter. "The carbolic acid, thyme, eucalyptus, wintergreen, etc., if present, are present only in sufficient amount to give the compound a satisfactory odor." As will be remembered, in the correspondence published at that time, Mr. Tyree attempted to explain the discrepancies between his statements and the proven facts by intimating that he had recently changed the formula, and that it was his intention "on or about the first of February to state to the medical profession his reasons for changing the formula," and that the change had been made "a short time ago," at the suggestion of several prominent gentlemen." Since that time, through circulars and other advertisements, Mr. Tyree has attempted to explain the matter in various ways. In his latest circular letter he seems to make a deliberate attempt to mislead our profession and to misrepresent facts to a degree that makes it almost impossible to believe that the circular came from a man who claims to be honorable.

First, however, we shall take this opportunity to publish some matter which we have had in reserve since the first exposé was made last October. When it was realized that Mr. Tyree intended to defend himself by claiming that a change had recently been made in the powder, we took occasion to try to secure some of the preparation that had been on the market for a long time. In this we succeeded very well. From a Chicago druggist one package was bought which had been in the store at least since July, 1902—how much longer is not known. The druggist from whom the powder was obtained bought the drug store in July, 1902, and this powder was on hand at that time, none having been bought since. This particular powder was analyzed by a chemist, who found the composition practically the same as that given in the Council's report, this chemist estimating that it contained approximately 81 per cent. boric acid and 14 per cent. anhydrous zinc sulphate. Bearing in mind that for at least four years and ten months Tyree's Powder has been essentially the same as it is to-day, this letter is very interesting: (The comments in brackets are, of course, ours.)

"J. S. TYREE,
"Chemist,
Washington, D. C.

"April 16, 1907.

"Dr. ———— ————,
"————————,

"*My Dear Sir:*—Doctors and medical publications of extreme and prejudicial minds often hold and express opinions in honorable faith, but like all critics, they are not always familiar with the conditions composing their opinions, and are often given to expressing them without complete knowledge of the true motives and facts in the case.

"If you will read an article that apppeared in one of the medical weeklies some time ago [The Journal of the American Medical Association, of course] and which has been copied by several of its offsprings, [not many, we regret to say] relating to Tyree's Antiseptic Powder, you will see that I had previously informed the editor as well as his council of investigators, that at the suggestion of prominent physicians, extensive clinical experimenting [sic] were being made with some slight [! ! !] change in my powder, the object being to develop and extend its usefulness in new lines. [It had already been recommended for about everything.[1]] and at the same time make it more acceptable to the general run of the profession. I also notified this editor that these investigations would not be completed until the first of the present year, after which time these slight [! ! !] changes in the formula of Tyree's Powder would be announced. [It is now the middle of May; when and where were the changes announced?[2]]

"There is nothing new, startling or dangerous in such changes in formulas. The Pharmacopeias and national books of authority are continuously improving their formulas. It is the same with every preparation on the market. [Mr. Tyree, as a nostrum maker, is in a position to know. His plea evidently is: "I am no worse than others."] The apparent difficulty in my case is caused by my exceptional frankness ["exceptional frankness" is good under the circumstances] with the profession in telling them [when and where?] about this improvement before I was ready to announce full details and particulars, or place my improved [sic] powder on the market. Yours very truly,

"J. S. Tyree."

For years Mr. Tyree has been misleading physicians by making false statements regarding the composition of his powder, and regarding its value as a therapeutic agent. When exposed he tries to defend himself and his business by statements and excuses that are worthy of a schoolboy trying to get out of a bad scrape. We would respectfully suggest to him that he either take his wonderful powder off the market, or—which probably would amount to the same thing—tell the truth, and the whole truth, about it.

Tennessee Pure Food Law a Model.

The Tennessee Legislature has adopted the pure food bill introduced by Dr. W. B. Marr and known as House Bill 141. The bill as adopted is an admirable one and can not but accomplish much good in the state. It is worthy of note by members of the profession interested in pure food bills in other states. A professional lobbyist, whose presence has been noted in other state capitals at the time that similar legislation was being considered, "happened" to drop into Nashville at the time that the bill was before the legislature. He announced that he was a philanthropist, and that his mission in life was to harmonize the medical profession and the various drug interests. "He had the effrontery," says our correspondent, "to ask for an interview with some of the leading physicians of Nashville and to announce that he would address a joint meeting of physicians and druggists." It appears that his efforts were mainly devoted to lobbying against the bill by attempting to bring personal influence to bear on various members of the legislature. Efforts to coerce the local druggists were also futile. Evidently not enjoying the atmosphere of Nashville, the genial philanthropist left before the bill came to a vote. He has doubtless "happened" to go to other state capitals, where pure drug bills are pending.

Regarding the bill itself:

Section 1 provides that it shall be unlawful to manufacture, sell or give away any article of food or drugs which is adulterated or misbranded.

Section 2 defines drugs to include all medicines and preparations recognized by the United States Pharmacopeia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation or prevention of disease in either man or animals. Food is so defined as to include all articles used for food, drink, confectionery or condiment, either mixture or compound.

Section 3 defines adulterations in a drug as any deviation from the standard of the United States Pharmacopeia or National Formulary or deviation from the professed standard and quality under which it is sold. Such adulterations are specified as follows:

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[1] From the circular accompanying a package bought over a year ago, we find the powder recommended for the following conditions: "For Leucorrhea, Gonorrhea, Vaginitis, Pruritus, Ulcerated conditions of the mucous membrane, . . . Scrofulous, Syphilitic and Varicose Ulcers. . . . for Spraying the Nose and Throat, . . . for immediate deodorizing and disinfecting, . . . for prickly heat, poison oak, squamous eczema and other conditions of similar nature. . . . As a deodorant and prophylactic in dental work, . . . for disinfecting offensive cavities, . . . for profuse and offensive perspiration, swelling, soreness and burning of the body and feet. . . . As a delightful toilet preparation after the bath and shaving."

[2] Last January the national Food and Drugs Act went into effect; one of its provisions is that the label must not lie. This is not the exact verbiage, but it means the same thing. So, instead of repeating the old false statements, the new label of Tyree's antiseptic powder contains nothing whatever about the composition; the law does not require that it should—unless the preparation contains certain specified drugs. Why is the formula omitted?

The presence of any ingredient deleterious or detrimental to health.

The presence of any substance which would reduce, lower or injuriously affect the quality or strength of the article.

The substitution in any manner, either in whole or in part of any other substance for the substance claimed.

The substitution of any valuable constituent in whole or in part, or the addition of any matter, whereby damage or inferiority is concealed or the addition of any poisonous or deleterious ingredient which may render it injurious to health or the presence of any filthy, decomposed, or putrid animal or vegetable substance or any portion of an animal unfit for use or of any product of a diseased animal or one that has died otherwise than by slaughter.

Section 4 takes up the question of misbranding, which is specified to be:

1. Offering for sale any article under the name of another article.

2. Removing the original contents of a package in whole or in part and placing other matters therein or failing to state on the label the quantity or proportion of alcohol, morphin, opium, cocain, heroin, alpha or beta eucain, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivative or preparation of any such substance. This provision does not apply to prescriptions of regularly licensed physicians, dentists and veterinary surgeons when filled for the individuals for whom written, nor to such drugs as are regularly recognized in the United States Pharmacopeia and sold under the brand by which they are recognized.

3. Misbranding, in the case of food, is defined as the imitation or offering for sale of an article under the distinct name of another article; the labeling or branding so as to deceive or mislead the purchaser or purporting that the article is a foreign product when it is not, or where the contents, as originally put up, have been removed, in whole or in part, and other materials placed in such package or the failure to place on the package a label stating the proportion and quantity of any of the above named drugs. Contents must be stated on the outside of the package. The label must bear no statement, design, or device which is false or misleading in any particular. Preparations marked "compound," "imitation," or "blend"' may be sold, providing the fact is stated on the label. A guarantee provision for the protection of the retail dealer similar to the section found in the national Food and Drugs Act is found in Section 5.

Section 6 defines the scope of the act, and Section 7 provides for the appointment of a chemist of established reputation and ability who shall be the pure food and drug inspector and who shall establish an office and laboratory in Nashville.

It is noteworthy that this bill contains no exemption clause, such as the druggists in many states are endeavoring to introduce into a bill which is otherwise not objectionable. The exemption clause, however, practically nullifies the bill.

Members of the profession in Tennessee are to be congratulated on the fight which they have made and the victory which they have won. The Tennessee bill is one of the strongest and most praiseworthy which has yet been adopted by any state.

A Wide-Awake Medical Magazine Comments on Labordine.

The report published in The Journal, March 30, by the Council on Pharmacy and Chemistry on Labordine, was republished in full in the May *Medical World*. Editor Taylor added the following trenchant comment:

"The profession should appreciate the above important service rendered by the national organization, the American Medical Association. We have not advertised 'labordine' this year, and we will never admit it to our columns again. As soon as the Council on Pharmacy and Chemistry published its report on the other acetanilid mixtures (antikamnia, bromo-seltzer, etc.), *The World* immediately republished the same, and it was the only journal besides The Journal of the American Medical Association which did so for a long time, as most of the other journals, including many of the state society journals, carried the antikamnia advertisement. About a year after the report appeared, most of the state society journals, under pressure, were induced to publish it. Let us see what journals, including state society journals, will suppress this report, for the sake of advertising patronage, present or hoped for. It is strange how a fraud like this could exist for so long by means of the patronage of a learned profession, and not be found out. It is the legitimate field of a national medical organization to make investigations like the above. It is a duty which belongs to a public organization of national scope, rather than to private initiative."

Death from Taylor's Anti-Headache Powders.

Drs. M. J. Sanford and D. V. Van Wagman of Suffern, N. Y., writing independently of each other, report the following case of poisoning from headache powders:

C. M., male, aged 7 years, awoke in the morning complaining of headache. His mother gave him some Epsom salts and a cup of coffee. As he was no better at 9 o'clock she gave him one of "Taylor's Anti-Headache Powders." The boy was given another powder at 10:15 and another at 11 o'clock. Soon after taking the third powder the child complained of faintness and lay down. At 11:45 his lips and tongue became very blue: his face was yellowish and his eyes staring—protruding—and unseeing. He was put on a lounge and apparently went to sleep, as he snored. At 12:15 he commenced to jerk, twitch and scream. The convulsive movements became worse, especially of the right side, and the boy died shortly before 1 o'clock 10 minutes before a physician arrived.

On the box containing the powders and on the circular accompanying it the following is printed:

"Taylor's Anti-Headache Powders. Guaranteed Absolutely Harmless. Contain no Opium, Chloral, Cocaine, Antipyrine, Morphine, Phenacetine, Bromide or Other Injurious Substance.

"Never known to fail in curing Bilious, Sick or Nervous Headache and Neuralgia in a few minutes.

"Directions.—Take one powder dry on the tongue and drink a little water. Repeat if not entirely relieved in twenty minutes.

"None genuine unless Signed W. Scott Taylor.

"The Taylor Drug and Chemical Co., Manufacturing Chemists—Laboratory—Trenton, N. J."

Dr. Van Wagman sent us a box of the powders; examination indicates that they contain as active constituents, acetanilid, approximately 30 per cent., and caffein, approximately 2.5 per cent. Each powder weighs approximately 15 grains and, therefore, contains about 4½ grains of acetanilid.

Personal Liberty and "Patent Medicine."

Although a vast majority of newspaper proprietors still seem to have no regard for the harm they do by allowing fraudulent and misleading "patent medicine" advertisements to appear in their papers, more and more are coming out on the side of cleanliness. A few remarks on the subject of personal liberty in the Detroit *Civic News* work up to a climax that is worth quoting. After remarking that those citizens who are most strenuous for "personal liberty," meaning by that, liberty to make public nuisances of themselves, are likely to protest against "goody-goodies" at the first approach of restrictive legislation, administration, or agitation, the editor goes on as follows:

"'Personal liberty' may involve the right to drink liquor, but it does not involve the right to get drunk and beat one's family, make a spectacle of one's self on the public street, or go off to a bawdy house on a carouse. 'Personal liberty' may give one the right to smoke, but it does not give one the right to blow his smoke into another man's face, or to vitiate the atmosphere in a room where another man, who does not like smoke-polluted air, has a right to be. 'Personal liberty' may give a man a right to cultivate 'art' in any way he sees fit, but it does not give him the right to make a public nuisance of himself or to post pictures in his windows or on the billboards to smite our eyes, and to school our children in the ways of vice and crime, whether we like it or not. 'Personal liberty' may give people the right to corrupt their own bodies and fool with their own health, but it does not give quack doctors the right to issue circulars and newspapers to print advertisements full of base lies calculated to mislead the young and inexperienced into the notion that Nature's laws can be violated with impunity."

The Slaughter of the Innocents Continues.

Dr. S. D. Barnes, Seattle, Wash., sends us an account of the death of twin babies which, he says, occurred from an overdose of Mrs. Winslow's Soothing Syrup.

On March 31 the children were found dead in the perambulator in which they had been put to sleep. Deputy Coroner Wiltsie and Police Sergeant Bannick investigated the affair. At first they believed that the children had been smothered, but later were informed that they had been given a dose of soothing syrup before being put to bed the night before. The stomach contents were analyzed, and the report of the analysts stated that small quantities of opium were found. The coroner decided that an inquest was unnecessary and signed the death certificate giving accidental poisoning as the cause of death. In commenting on this case, the Seattle *Sunday Times* states that indiscriminate use of sleeping potions for infants in many cases leads to child murder, unintentional it is true, but none the less murder. The *Times* also deplores the fact that in Washington there is no law regulating the sale of these deadly "patent medicines."

Correspondence

Medicinal Foods.

PHILADELPHIA, May 11, 1907.

To the Editor:—The report of the Council on Pharmacy and Chemistry in regard to medicinal foods in THE JOURNAL, May 11, 1907, is exceedingly important and most instructive. The knowledge that we had before was such as to have led very many exact and thoughtful clinicians to consider these foods of extremely limited value. The report gives most clear and impressive evidence that this is indeed true. In the teaching and practice of dietetics we need more than anything else, I think, greater exactness. We need this most of all in those cases in which the diet is necessarily very restricted and in which, consequently, inaccuracies may be dangerous. The report is especially welcome, therefore, for it is in this class of cases that these foods are most likely to be used and misconceptions regarding their value are very general. The common use of these medicinal foods, so far as I have been able to learn from my contact with those who have some dependence on them, is due chiefly to three things:

1. Their nutritive value is thought to be very great. Often, indeed, it is believed that the very few ounces that can be given provide a reasonably large day's ration. This misconception, which is a dangerous one, has been fathered and fostered by many of the manufacturers, and some of them, I have been rather pleased to find, have an honest, though sadly mistaken, belief in the truth of their statements. The report of the Council definitely straightens out this matter. It is of very real and earnest importance that the results of their analyses should become generally known and should be properly appreciated. I have repeatedly had occasion to calculate the actual calorific value of the day's ration of patients whom I found using these foods, by the advice of their physicians, as a more or less considerable part of their diet. In such instances I have found, almost as a rule, that they were taking, at most, one-third of what they actually required in order to maintain nutrition; usually, indeed, it was less than this. One of the most serious things, therefore, that they were suffering from was more or less severe starvation. I find, in fact, from this report of the Council, that I have usually been too generous in the approximate figures that I have used in calculating the value of these foods. It is true, as we are often told—particularly by the manufacturers—that the calorific value is not the only consideration regarding foods; but it is equally true that it is the first and the most essential consideration. No matter how pleasing to the palate or to a disordered digestion a food may be, the amount of it must be sufficient, or the patient's nutrition will suffer; and if the deficiency is very great he will die of starvation. I have long been most thoroughly convinced that many a patient has suffered severely when preparations such as these were being used, and that not a few of them have died chiefly of starvation; while the medical attendant, believing what he has been told as to their nutritive value, has attributed the fatality, not to the starvation, but to the disease for which the patient was being treated. This report of the Council makes it impossible to escape the feeling that this has occurred even more frequently than had been suspected.

2. A not uncommon cause of the use of these preparations is the fact that it is very easy to remember the names of a number of proprietary foods and to order them, while it is a little more difficult to acquire ready knowledge of a variety of simple preparations that can easily and cheaply be made in the home. If one faces this matter fairly, however, it is apparent that to do this is merely to require the patient to pay dearly in money, and perhaps in health, for one's laziness or ignorance, and I think that this plea for their use can scarcely be urged very strongly. On this point, however, I think many a practitioner can throw the responsibility for his use of such preparations back on his medical education. His *alma mater* has treated the teaching of dietetics in such a stepmotherly way that, while it might have been made easy for him to use simple and cheap foods properly, it seems actually difficult to him, because largely unknown; and he grasps at the tangible, even though it be costly to his patient and of unknown composition. Much of the use of these foods depends simply on imperfect teaching of dietetics.

3. It is frequently believed—and this belief is most energetically encouraged by the manufacturers—that the medicinal foods are often borne by disordered digestive tracts, when other foods are not. On the contrary, I think that most clinicians that have attempted to use other foods carefully have found themselves continually growing more effectually weaned from the use of such preparations, because others do better. If one acquires a very moderate degree of skill and resource in using simple and comparatively cheap home-preparations, one rarely has the slightest temptation to use the proprietary preparations. It is true that if one believes that a few teaspoonfuls of the medicinal foods are equivalent, for example, to a quart of milk, one may readily believe that it is much easier to nourish a patient thoroughly with them than with milk or various home-preparations, but such a belief is ridiculously erroneous. If the actual food value of a diet that has been ordered be carefully determined, one finds that one can get more into the patients by other means than by using these foods.

At most, there is but one limited sphere, to my mind, in which they have any usefulness: In those very exceptional cases in which capriciousness on the part of the patient, uncertain appetite and irritable digestion combine to make it very difficult to get anything like enough food into him—cases in which even very small added quantities of food are very important and it becomes necessary to provide a great variety—they are sometimes useful, even at a high price, simply because they increase the number of things from which one can choose. If one realizes that the few drams that can be given of these preparations are equal in value to only the same number of drams, or less, of milk, one can properly make the patient pay a high price for even a little increase in variety. Such cases, however, are rare. If the same amount of time that is often devoted to studying the advertisements of these foods were given to learning the variety of ways in which more valuable and less expensive foods can be prepared at home, the number of such cases would become very small indeed.

A very important disadvantage of these foods, and one that leads me to avoid them almost as much as does their low nutritive value, is their alcohol content. The report of the Council dwells on the fact that if an amount of these preparations sufficient to maintain nutrition were given, the patient would often be made continuously drunk. But even in the small doses that are customarily used the quantity of alcohol is often irritating to the stomach and may be disadvantageous in other ways—particularly in nervous cases. The figures given by the report show that when one gives food in the form of these preparations, he must give, at the same time, approximately, from one to five times the quantity of alcohol that is given of the simple non-toxic foods. Would it not be utterly irrational to be obliged to give a small dose of strychnin, for instance, with each small portion of food; and to be obliged also, every time that one increased the food, to increase coincidently from one to five times the amount of strychnin that one was giving? This is what happens with these preparations in regard to alcohol, and it is so frequently disadvantageous that this objection alone can not but be an exceedingly weighty one.

I have no doubt that, in answer to the report of the Counci and to any comments that may be made on it, many practitioners will recall cases in which these preparations have beer used in small amounts, and the patients seem to have beer kept alive by them. I think we may ask such persons to remember the fact that human beings can live for some weeks without any food at all, if only some fluid is given them, anc that temporary starvation often does actual good in suitabl instances. But even temporary starvation is a dangerous prac tice to employ without realizing that one is using it, and pro tracted starvation is highly dangerous.

DAVID L. EDSALL, M.D.

Danger of Fire in Formaldehyd Disinfection.

Philadelphia, May 2, 1907.

To the Editor:—The increased efficiency of formaldehyd disinfection as applied at the present time by means of the formalin-permanganate method of evolving the gas has brought with it a new danger, uncertain, yet none the less real, in consequence of the fact that on several occasions at least, the mixture has been known to take fire spontaneously.

During the winter of 1906-7 Dr. Courtland Y. White of Philadelphia, in connection with some disinfection work which he was doing for the Department of Health of the state of Pennsylvania, observed on three occasions that the mixture caught fire after the combination of the constituents had begun and the room had been closed. It was fortunate that the fact was discovered on one of these occasions, as the flame was so high as to endanger nearby articles in the room. Suspecting the possibility of impure ingredients, he wrote to Health Commissioner Dixon concerning the matter, and Dr. Dixon referred the matter to me for consideration and investigation.

It is well known that there is considerable uncertainty connected with reactions in which potassium permanganate plays a part and that even with inorganic substance, as in the Kjeldahl method for the estimation of nitrogen, there is sometimes a spark or flash of fire when the permanganate is added to the other constituents. In the formalin-permanganate method it has been customary to use two parts of formalin to one part of permanganate, adding the latter to the former and quickly leaving the room before the violent evolution of gas which shortly takes place has time to affect the operator. Working with quantities in some cases as high as one pound of permanganate, the amount of heat developed must be very great and if there are any uncertain factors present, such as organic matter in the container which has been imperfectly cleaned, the danger of possible ignition is that much greater.

The flame which appeared on the occasion described by Dr. White was a pale blue flame, reaching several feet into the air from the generating container. This agrees with the appearance of the flame of formaldehyd gas which burns freely when ignited even if mixed with a fair proportion of steam, as is usually the case.

The gas may be ignited from a 40 per cent. solution of formaldehyd by simply heating it and applying a match to the surface after ebullition has begun. And when the formalin-permanganate disinfection proportions are used in as small quantities as one ounce of formalin and one-half ounce of permanganate, using a beaker for a generator, the flame of the ignited gas has been observed to have a length of more than one foot.

In view, therefore, of the uncertainty regarding the cause of the ignition of the vapor in these observed cases and in recognition of the hitherto overlooked fact that formaldehyd vapor is very inflammable, it would be well to practice this method of disinfection with the precautionary measures of using small quantities of the ingredients (not over ¼ or ½ lb. of permanganate to a charge) in several containers, surrounding these containers with larger ones containing water, being careful to extinguish all gas jets, pilot lights, fire and other possible causes of ignition and to keep the generators away from the sides of the room where a flame might be communicated to inflammable material. I do not believe that this method of disinfection need necessarily be abandoned, but it is essential that its limitations and dangers be not overlooked in its future use.

Charles H. La Wall,
Consulting Chemist to Dr. Samuel G. Dixon, Commissioner of Health of the State of Pennsylvania.

The Review of Dr. Babcock's Book on Diseases of the Lungs.

Chicago, May 5, 1907.

To the Editor:—In The Journal, April 27, page 1453, there appears a review of Dr. Robert H. Babcock's recent work on "Diseases of the Lungs." In common justice to this excellent treatise and in fairness to the author himself, I beg leave to reply to this review.

In the first place, the reviewer of Dr. Babcock's book fails to take into account the fact that it is not a system that the author offers us, but a monographic treatise on a special topic, and that in consequence of this he has been subject to certain restrictions of space and scope which prevent him from exhausting in full the diseases under consideration. He has apparently neglected, as well, to read the author's preface, in which is distinctly outlined the limitations of the book. Instead of finding fault, as does this reviewer, with the fact that certain diseases, such as bronchial asthma and pulmonary emphysema, are not considered in full detail, we should record our obligation to the writer that he has not burdened his text with encylopedic dissertations on all points, but has in place furnished us with practical readable discussions from a mature judicial standpoint, of the clinical aspects of the various diseases dealt with according to his prefatory claim. The reviewer inadvertently misleads by the statement that pulmonary emphysema is not given more space than is devoted to atelectasis and pneumonoconiosis, whereas the fact is that 23 pages are devoted to emphysema, while but 15 to the two latter diseases together. He criticises the scant space given to the consideration of acute miliary tuberculosis, apparently forgetting that it is a book on diseases of the lungs that he is reviewing and not a treatise on general medicine, and unmindful of the author's explanation in his text of his reasons for excluding it from extended description. The reviewer again deprecates the comparatively large amount of space devoted to symptomatology, apparently having little faith himself in purely clinical aspects of disease. In this criticism he fails to allow for the fact that the case illustrations, which are especially rich and varied and add greatly to the interest of the book, are included in the sections on symptomatology, thereby swelling their bulk.

The reviewer next criticises the author for mentioning the names of physicians to whom he is indebted for the referred cases in his clinical reports. In thus signifying his professional obligations, the author follows an old custom which has characterized the amenities of English and American medical literature for many decades. It is one of those customs of which, unfortunately, there are too few surviving in this busy age, which mark the pleasant courtesies of other times.

The review closes with a commendation of the author's style, but evidently the reviewer can not permit himself an unqualified approval, for abashed apparently at his one indulgence in praise, he proceeds to charge a lack of emphasis and force to the "author's elegance and fluency." "Emphasis is the insistence of a weak argument," and the intelligent reader will acknowledge his obligations to the distinguished author for leaving something to his discrimination and understanding. "There is not a single epigram in the book," says the reviewer in closing. The making of epigrams in medicine is a dangerous business. In no branch of science is truth so relative a thing as in medicine. What is to-day an epigram becomes a glaring half-truth to-morrow. "Experience is fallacious and judgment fleeting," wrote Hippocrates many centuries ago.

It must be humiliating to the author to have the only unqualified approval of his work consist of a commendation "of the author's advocacy of infection (in tuberculosis) as opposed to the old idea of hereditary predisposition." Thus, again, are the common virtues applauded, while the many higher excellences are passed over in silence. Dr. Babcock has already made good in his excellent work on "Diseases of the Heart," which has met with a most favorable reception at the hands of the profession. "Good meat needs no basting," and those who read his companion work on the diseases of the lungs will not be disappointed.

Arthur R. Elliott, M.D.

[I have no wish to enter into any controversy with Dr. Elliott about the book itself, but I wish to correct certain impressions which his letter may make. It is true that I did not recognize in Dr. Babcock's book a monograph. I looked on it rather as a systematic account of the diseases of the lungs and pleuræ, noting in consequence the necessity of restrictions, both in space and matter. Moreover, I read carefully both preface and text. I still feel that the detailed accounts of numerous cases without postmortem notes might well have been omitted, so that space might have been spared for more important matter. Of what value, for example, is the case "recently seen in Elgin, Ill., in consultation with Dr. O. T. Pelton," since "at present writing it is too soon to report the outcome of this case"? (p. 164). And "the only excuse for so detailed a narration" of another case, stretching over two and three-fourths pages, "is its instructive portrayal of one of the modes in which this truly terrible disease (secondary pneumonia) slays its victims," (pp. 210-212). Moreover, I am ready to repeat that relatively too little space is accorded both to pulmonary emphysema and to acute miliary tuberculosis of the lungs. On page 550 I fail to find any explanation in the author's text of his reasons for excluding acute miliary tuberculosis of the lungs from extended description, Dr. Elliott to the contrary notwithstanding. But I do find expressed a reason why "it is considered practical to recognize" it; and in this I thoroughly agree with Dr. Babcock. Dr. Elliott censures me for criticising Dr. Babcock for mentioning the names of physicians who called him in consultation. Yet why should these names be given? Why burden the reader with them? What matters it where the patient lives, whether in Macomb, Ill., or Ottumwa, Iowa? And surely the amenities of English and American medical literature scarcely demand the name of an earlier consultant, proved to have been in the wrong by a subsequent postmortem examination (p. 239), even though the family physician and Dr. Babcock also fell into the error.

Dr. Elliott's last paragraph is not just. Several commendations of the book appear in the original review, to which the reader is referred. It is true that I stated that "at times the author's elegance and fluency get the better of strength and force." This I fully believe, and I count it not wholly a disparaging criticism. And as for the epigram, Dr. Elliott, I thank you for the illustration. Do you believe that this ancient epigram of Hippocrates, "Experience is fallacious and judgment fleeting" is to "become a glaring half truth to-morrow?"—The Reviewer.]

The Neglect of the Anamnesis.

Scranton, Pa., April 26, 1907.

To the Editor:—I agree with Dr. Bayard Holmes in his recent article (The Journal, April 20, page 1349) that the patient is our study and, that regardless of surroundings, conditions or circumstances, he expects us to cure him without reference to the name of the disease. The patient first asks: "Can you cure me?" Second: "How long will it take?" Scientific diagnostic means, such as the Widal typhoid reaction, used to the exclusion of common sense, will not make the patient well any quicker, as they are only confirmatory, and there are enough other signs to teach one that he is dealing with a sick man. I cite this method, not to condemn it, but to illustrate the tendency to forget that we are treating the genus *Homo* and not the bacilli.

The first and foremost factor is the patient. Get him well. Forget, if you will, all the technic or, if you will, elaborate it to your heart's content, but for the love of humanity use your reason and treat your patient even as you would be treated. We must study our patients. To know that we have not neglected our patients will not only bring us comfort, but will bring us nearer perfection and nature and natural processes.

D. W. Evans, M.D.

Temperance Lunch.

Hartford, Conn., May 8, 1907.

To the Editor:—I have received a number of inquiries relating to the temperance lunch proposed at Atlantic City, June 6. It should be distinctly understood that this occasion is not to promote any particular theory, or society, or any special effort to enlist or pledge any one to the so-called temperance cause. The purpose is simply to gather, and informally talk over the many questions which are arising about this problem. It seems eminently fitting that the American Medical Association, the largest medical society in the world, should recognize this subject in this simple way, and indicate that we are not indifferent to the medical and hygienic interests which center about it.

The Society for the Study of Alcohol has simply volunteered to manage and conduct this event in response to the request of a number of persons who feel that the members of the American Medical Association should show an equal interest in this subject to that of the great foreign societies. At the British Medical Association, at Toronto, last fall, a similar lunch attracted over 600 persons, the full limit of the hall. The whole affair was informal and each speaker represented himself personally, and it was a frank, open expression of opinions.

I appeal, therefore, to every physician of the Association to show his interest in the general subject by making this occasion prominent and eventful, and by attending this lunch with his family and hearing what may be said by some of the leaders of the profession.

I shall be very glad to give any further information or details. T. D. Crothers, M.D.

Dentists Also Dupes of Nostrum Makers—A Letter with Spirit.

Somerville, Mass., April 17, 1907.

To the Editor:—I wish to write a word of praise for the great work The Journal is doing in educating the medical profession on the nostrum question. Keep up your good fight for ethical medicine. Ten years ago, when I was in the drug business I realized that the medical profession was being lowered by the nostrum vendors, and I think we are indebted to the *Druggists Circular* for the stand it has always taken for ethical medicine. The medical profession has been and some of its members are still being bluffed by the proprietary men, but nothing compared to the dental profession. The dentist is the acme of credulity. About a year ago I read a paper before three Massachusetts dental societies on the subject. It was sent to three leading dental trade journals. They all refused to publish it. I have read "Adding Insult to Injury" (The Journal, Jan. 26, 1907, page 340) referring to Antikamnia. This is fine. You strike right from the shoulder, and you touch one phase of the subject which I am ashamed to say I had overlooked. I intend to act, however. Here is a copy of a letter which I am mailing to Merck to-day:

> Dear Sirs:—I am astonished to find in the columns of the *Archives* advertisements of the two fake preparations, Antikamnia and Phenalgin, especially after they have been so thoroughly exposed by The Journal of the American Medical Association. When my subscription expires I am through with you and your journal. Furthermore, if you continue to carry these ads I shall cease prescribing and using Merck's products of every description.

G. B. Squires, Ph.G., D.D.S.

Book Notices

American Practice of Surgery. A Complete System of the Science and Art of Surgery by Representative Surgeons of the United States and Canada. Editors, Joseph D. Bryant, M.D., and Albert H. Buck, M.D. Complete in Eight Volumes. Illustrated. Volume II. Muslin Binding. Pp. 778. Price, $7.00. New York: William Wood & Co.

The first volume of this work was recently reviewed *in extenso* in these pages, and the second volume, just received, maintains the same general standard. In part vi, which deals with such infections as leprosy, plague, glanders, anthrax, actinomycosis, mycetoma, rhinopharyngitis mutilans and scurvy, the space assigned to some of the subjects is entirely out of proportion to the importance of the subject. For instance, twenty-seven pages are devoted to leprosy, a rare curiosity in this country, and but five pages to actinomycosis, with but a single paragraph on symptomatology, although actinomycosis is common in comparison with leprosy and presents such varied manifestations as to make it worthy of more thorough consideration. In the chapter on syphilis, it is stated that "up to the present time the cause of syphilis has not been discovered," notwithstanding the fact that the claims made for the *Spirocheta pallida* as the infectious agent seem most convincing, if not overwhelming. The use of poultices of absorbent cotton saturated with 2 per cent. carbolic acid solution for infections, as recommended on page 155, when applied to the extremities, carries great danger of producing gangrene of the fingers or toes, as has been noted repeatedly. In the chapter on "Surgery of Diseases of the Skin," several subjects are handled which are also included in other chapters of this volume—for instance, furunculosis, carbuncle, anthrax, glanders, etc.—so there is considerable unnecessary repetition. The present-day extensive use of electricity in all lines of industry gives rise to frequent electric burns and shocks, the immediate and after effects of which are often very distressing. The subject of "The Effects of Electric Currents," therefore, deserves more thorough consideration than it receives in the space of scarcely a page. There are other chapters in this volume, however, which are very good, notably among which may be mentioned those on "Gangrene and Gangrenous Diseases," "Surgical Diseases of the Lymphatics," "Gunshot Wounds," etc., so that the entire volume makes a fitting second in this great work.

ALCOHOL. The Sanction for Its Use, Scientifically Established and Popularly Expounded by a Physiologist. Translated from the German of Dr. J. Starke. Cloth. Pp. 317. New York and London: G. P. Putnam's Sons, 1907.

This book presents a candid defense of the use of alcohol as a beverage, with arguments drawn from scientific experiments as well as from experience and current opinion. The scientific facts appear to be, in the main, correct, but the propositions which the author attempts to establish will seem to many open to question. He distinguishes sharply between the moderate use of alcohol and its use for purposes of intoxication, as if intoxication were a matter of deliberate choice. The moderate drinker, according to him, drinks for the purpose of stimulation; the drunkard, to obtain stupefaction. It is a delicate task to decide on the motives of men, but, while some men drink to drown their sorrows, it would seem to be the teaching of experience that others reach the stage of drunkenness, even when they are habitual drunkards, by taking the first glass from a desire for stimulation. The author pronounces the dictum: "The alcohol of alcoholic drinks does *not* of itself possess the property of inducing persons to take ever-increasing amounts." His ground for this statement is thus expressed: "We are all familiar with the 'leading to constantly increasing quantities.' If it were correct, all those who use alcohol must end in drunkenness." The fallacy of this is shown by the very words moderate and temperate, which of themselves indicate an effort of the individual to restrain himself, to oppose a tendency. Shall we say that the pneumococcus has no tendency to produce disease because many individuals harbor it without dying of pneumonia? The third proposition is that the moderate use of alcohol has nothing to do with the production of any disease. This statement seems to be fairly well sustained, although there might be differences of opinion as to the meaning of the word moderate. His discussion of the part played by alcohol in the etiology of disease will convince the lay reader of uncertainty of the conclusions drawn from cases complicated by so many etiologic factors, and he can hardly escape attributing the same uncertainty to argument drawn from the successful use of alcohol as a medicine. If physicians have been mistaken in attributing disease to alcohol, why may they not have been equally mistaken in assigning alcohol as the curative agent? The account of the action of alcohol as determined by experiment is clear, but not detailed. The author holds that alcohol is a nutrient possessing the specific property of stimulating the nervous system, but not a poison in the popular sense of that term. The position of the author will undoubtedly invite criticism, and it is to be hoped that such criticism will result in establishing the truth concerning alcohol and alcoholic beverages.

MANUAL OF DIAGNOSIS AND TREATMENT OF DISEASES OF THE EYE. By Edward Jackson, A.M., M.D., Professor of Ophthalmology in the University of Colorado. Cloth. Pp. 615. Price, $2.50 net. Philadelphia: W. B. Saunders Co., 1907.

In this second edition Dr. Jackson has added much material that has proven of value since the appearance of the first edition, especially the studies of new conditions and of new remedies and methods of treatment. The book is intended as a manual for the beginner in ophthalmology and for the general practitioner. Abundant references are given to the original sources of the matter presented, making it very easy to go more deeply into a given subject if desired. The chapters on refraction are particularly valuable, coming, as they do, from a man of Dr. Jackson's peculiar ability and painstaking care in this particular branch of ophthalmology. Among the important additions which have been made are a number of the latest diagnostic methods, such as testing the light sense, mapping central scotomata, "fogging" method in refraction, diseases and congenital defects of the ocular muscles, etc., etc. The book might be more freely illustrated with advantage, as in no work are illustrations of as much value as in one intended for beginners. The illustrations here are practically all schematic, an advantage always to the student who first approaches a subject. There is a fairly complete list of "remedies and applications," and the book closes with a consideration of the commoner operations in ophthalmology.

RACE CULTURE; OR, RACE SUICIDE? A Plea for the Unborn. By Robert Reid Rentoul, Doctor of Medicine; Member of the Royal College of Surgeons, England. Cloth. Pp. 182. Price 7s. 6d. net ($1.87). New York: The Walter Scott Publishing Co., 1906.

The author's line of reasoning runs something as follows: The race is degenerating physically, as is shown by the increasing amount of illness, the rejections of recruits for the Army and Navy, the number of deaf and blind. He estimates the number of those affected with temporary or permanent physical disability as one in five. Mental degeneration is shown by insanity, criminality, vice, etc., and the number of cases is estimated at one in fifty, although, perhaps, this is too low. The causes of degeneracy are put as the intermarriage with lunatics, idiots and feeble-minded persons, child marriages, forbidding or restraining the healthy from marriage, encouraging the marriage of the unfit, release of asylum patients before recovery, overwork of the young brain, unsuitable employment for women and children, abuse of alcohol, undesirable immigration, venereal diseases, abortion and sexual excess. The legal restrictions of marriage in various countries are described, and then the author advances the remedy which he advocates, viz.: the sterilization of certain degenerates so that they can not transmit their enfeebled constitution to posterity. He claims that this proposal has received support from a considerable number of medical men. A large mass of evidence is presented, and while one may not agree with the author's conclusions, it must be admitted that an *a priori* case is made out. If degeneracy threatens the extinction of the race the legal restrictions of marriage for the unfit is certainly an appropriate, although it may not be an effective, remedy. It will seem to many that voluntary or forced sterilization can be imposed on so few as to make it a measure of doubtful utility. However, it is desirable that this remedy be thoroughly canvassed, and it is the mission of this book to bring the remedy into public notice, a mission that it is admirably adapted to fulfill.

PSYCHOLOGY APPLIED TO MEDICINE. Introductory Studies by David W. Wells, M.D., Lecturer on Mental Physiology in Boston University Medical School. Cloth. Pp. 141. Price, $1.50 net. Philadelphia: F. A. Davis Company, 1907.

This takes up the subject in a simple and fundamental manner and works up to a pertinent criticism of the too-common disregard of the practitioner for the potency of suggestion. The book will aid in an understanding of the success of quacks, "patent medicine," Eddyism and other means which often cure without material agency.

Association News

ATLANTIC CITY SESSION.

The railroad rates to the annual session of the American Medical Association at Atlantic City, June 4-7, were described in THE JOURNAL, May 4. That issue, the Atlantic City number, contained an illustrated description of Atlantic City, with the preliminary programs of the sections, lists of hotels and their prices, meeting places, etc. The rates mentioned in that issue did not refer to the Western Passenger Association, which granted one fare plus $2 for the round trip. The same rate was authorized by the Central Passenger Association. In the territory of the Trunk and the New England passenger associations the rate is one fare plus $1 for the round trip.

A change has been made in the rules for transcontinental tickets from California on sale May 25 to 27. The return limit will be 60 days instead of 90 days. Other tickets, on sale May 20 and 21, still have the final limit of 90 days.

It is understood that detailed information has been furnished to all ticket agents and that they will provide purchasers of tickets with full information as to rates, routes, stopovers, etc.

American Medical Special.

A correspondent asks about the route of the American Medical Special. This Pullman vestibuled train is to run as a section of the Pennsylvania's Chicago-New York eighteen-hour train. The schedule insures it a fast, steady run, and its equipment will be as good as that on the famous flyer. The Susquehanna River at Harrisburg will be passed about 6 o'clock in the morning, giving the passengers an opportunity to enjoy the beautiful country between Harrisburg and North Philadelphia, at which point the train turns off to Atlantic City; it runs from Chicago to Atlantic City without change and does not enter the Broad Street station.

This train will leave Chicago, Sunday, June 2, at 3 p. m., reaching Atlantic City early Monday afternoon. The fare is $21.50 for the round trip, Chicago to Atlantic City and return. For sleeping-car reservations and further information one may address Mr. C. L. Kimball, assistant general passenger agent, 2 Sherman Street, Chicago. Special cars may be arranged for by parties of sufficient size, from west, northwest or south, who wish to join this special train.

Tickets are on sale at the special rates from Western passenger Association territory, May 30 to June 3. Tickets may read by way of Washington if desired, so as to allow arrangements to be made for a side trip to the Jamestown Exposition. A correspondent has called attention to the fact that advertisements in THE JOURNAL, May 4, give the final limit of leaving Atlantic City, after tickets have been extended, as June 14, while the statement on page 1522 in the Atlantic City writeup named June 18. This is explained by the fact that the railroads first named June 14 as the limit, but page 1522 went to press late enough to include later information, after the date had been extended to June 18.

Jefferson Medical College Clinics.

The Jefferson Medical College has arranged a series of clinics, ward walks and demonstrations for visiting physicians on June 8, 10, 11 and 12. These will be in connection with the dedication of the new hospital, details of which were given in the Atlantic City Number (May 4) of THE JOURNAL.

SATURDAY, JUNE 8.

9:30 to 11:30	Clinic, "Frontal Sinus," Prof. Gustave Killian, Freiburg, and Laryngologic Clinic, Prof. Theodore Gluck, Berlin.
9:30 to 11:30	Physiologic Laboratory, Prof. Albert P. Brubaker.
12:00 to 2:00	Surgical Clinic, Prof. J. Chalmers DaCosta and guests.
12:00 to 2:00	Medical Ward Walks, Prof. H. A. Hare and Prof. James C. Wilson.
2:00 to 4:00	Gynecologic Clinic, Prof. E. E. Montgomery.
2:00 to 4:00	Neurologic Ward Walks, Prof. F. X. Dercum.
4:00	Regional Anatomy (white board sketches), Prof. George McClellan.
5:00	Pathologic Laboratory, Prof. W. M. L. Coplin.

MONDAY, JUNE 10.

9:30 to 11:30	Obstetric Clinic, at Maternity, Prof. Edward P. Davis.
10:00 to 11:30	Genitourinary Clinic, Prof. Orville Horwitz.
12:00 to 2:00	Surgical Clinic, Prof. John H. Gibbon and guests.
2:30 to 4:00	Ophthalmologic Clinic, Prof. Howard F. Hansell.
4:00 to 5:00	Clinical Medicine, Prof. Solomon Solis-Cohen.

TUESDAY, JUNE 11.

10:00	Mastoid Clinic, Prof. S. MacCuen Smith.
11:00	Orthopedic Clinic, Prof. H. Augustus Wilson.
12:00	Pediatric Ward Walks. Prof. Edwin E. Graham.
1:00	Dermatologic Clinic, Prof. Henry W. Stelwagon.
2:00	Laryngologic Clinic, Prof. D. Braden Kyle.
3:00	Ophthalmologic Clinic, Associate Prof. William M. Sweet.
4:00	Gynecologic Ward Walks, Asst. Prof. John M. Fisher.

WEDNESDAY, JUNE 12.

10:00 to 12:00	Gynecologic Clinic, Prof. E. E. Montgomery.
12:00	Opsonins, Dr. John C. DaCosta.
1:00 to 3:00	Surgical Clinic, Prof. J. Chalmers DaCosta.
3:00 to 5:00	Obstetric Clinic at Maternity, Prof. Edward P. Davis.

H. AUGUSTUS WILSON, Chairman.
HENRY W. STELWAGON,
EDWIN E. GRAHAM,
J. CHALMERS DA COSTA,
Committee.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers of the U. S. Army for the week ending May 11, 1907:

Lambert, Samuel E., asst.-surgeon, ordered to accompany Major E. R. Morris, surgeon, from Fort Logan, Colo., to Army General Hospital, Washington Barracks, D. C. Asst.-Surgeon Lambert will, on arrival at Washington, report to Major William H. Arthur, surgeon, president examining board, for examination for advancement, instead of reporting at Presidio of San Francisco, as directed in previous orders.

Snyder, Henry D., surgeon, leave extended 8 days.

Lyster, William J. L., asst.-surgeon, granted 10 days' leave of absence.

Noble, Robert E., asst.-surgeon, relieved from duty at Fort Casey, Wash., and will repair to this city and report to the chairman of the Isthmian Canal commission for duty with the commission on the Isthmus of Panama.

Scott, George H., asst.-surgeon, granted 30 days' leave of absence.

McCaw, Walter D., surgeon, detailed to represent the medical department of the Army at the Fourteenth International Congress on Hygiene and Demography, to be held at Berlin, Germany, Sept. 23 to 29, 1907.

McCulloch, C. C., Jr., surgeon, now at Ancon, Canal Zone, will proceed at once to Fort Meade, S. D., for temporary duty.

Devereux, J. R., asst.-surgeon, granted 30 days' leave of absence.

Barney, Charles N., asst.-surgeon, granted 10 days' leave of absence.

Wertenbaker, Clark I., contract surgeon, left Madison Barracks, N. Y., and arrived at Fort Wadsworth, N. Y., for temporary duty.

Bell, Leonard P., contract surgeon, arrived at Fort Riley, Kans., for duty.

Dillon, G. Parker, contract surgeon, returned to Fort Bliss, Tex., from temporary duty at Fort Apache, Ariz.

Henning, Oswald F., contract surgeon, arrived at Fort Barrancas, Fla., for temporary duty.

Ingalls, Raymond E., dental surgeon, left Fort Omaha, Neb., for duty at Fort Crook, Neb.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending May 11, 1907:

V. C. B. Means, surgeon, on discharge from treatment at the Army and Navy General Hospital, Hot Springs, Ark., ordered home and granted sick leave for three months.

M. S. Elliott, surgeon, detached from the *St. Louis* and ordered to duty at the Navy-Yard, Norfolk, Va., in connection with fitting out the *Olympia,* and to duty on board that vessel, when placed in commission.

H. C. Curl, surgeon, ordered to additional duty at the Naval Medical School Hospital, Washington, D. C.

E. S. Bogert, Jr., surgeon, on expiration of leave, ordered to the *Milwaukee.*

I. W. Kite, surgeon, detached from the *Kearsarge* and ordered to the *Franklin.*

G. H. Barber, surgeon, detached from the *Baltimore* when placed out of commission, granted leave for one week, and thence ordered to *Kearsarge.*

R. A. Bachmann, pased asst.-surgeon, detached from the *Franklin* and ordered to the *St. Louis.*

J. R. Waggener, medical director, having been examined by a retiring board and found incapacitated for active service on account of disability incident to the service, is retired from active service May 6, 1907, under provisions of Sec. 1453 R. S.

E. M. Brown, passed assistant surgeon, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to duty at the Naval Hospital, New Fort Lyon, Colo.

W. H. Short, R. I. Longabaugh, F. X. Koltes, M. A. Stuart, assistant surgeons, appointed assistant surgeons with rank of lieutenant junior grade, from May 4, 1907.

J. H. Page, surgeon, detached from the *Milwaukee* and ordered to continue treatment at the Naval Hospital, Mare Island, Cal.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 8, 1907.

Wasdin, E., surgeon, granted leave of absence one month or so much thereof as may be necessary on account of sickness, from May 10, 1907..

Oakley, J. H., P. A. surgeon, directed to proceed to Seattle, Wash., for special temporary duty, on completion of which to rejoin his station.

Fox, C., P. A. surgeon, relieved from duty at San Francisco Quarantine and directed to proceed to St. Michaels, Alaska, and assume charge of the service at that port.

Trotter, F. E., P. A. surgeon, granted leave of absence for 10 days from May 8, 1907.

Vogel, C. W., P. A. surgeon, granted leave of absence for 5 days from March 27, 1907, under Paragraph 191 of the Service Regulations.

Burkhalter, J. T., P. A. surgeon, granted leave of absence for 25 days, or so much thereof as may be necessary on account of sickness, from April 20, 1907.

Warren, B. S., P. A. surgeon, granted leave of absence for 7 days from April 30, 1907, under Paragraph 191 of the Service Regulations.

Warren, B. S., P. A. surgeon, granted extension leave of absence for 3 days from May 6, 1907.

Steger, E. M., asst.-surgeon, granted leave of absence for 10 days, on account of sickness, from April 24, 1907.

Ebert, H. G., asst.-surgeon, assigned to duty on Revenue Cutter Perry, effective May 15, 1907.

Hurley, J. R., asst.-surgeon, directed to proceed to San Francisco, Cal., for duty on the Revenue Cutter *Thetis*.

Curley, C. P., acting asst.-surgeon, granted leave of absence for 4 days from May 7, 1907.

Foster, J. P. C., acting asst.-surgeon, granted leave of absence for 5 days from May 5, 1907.

Griffitts, T. H. D., acting asst.-surgeon, leave of absence granted for 21 days from April 12, 1907, amended to read 16 days only.

Hamilton, H. J., acting asst.-surgeon, granted leave of absence for 9 days from May 4, 1907.

Stevenson, J. W., acting asst.-surgeon, leave of absence for 2 months without pay granted from Feb. 8, 1907, amended so as to grant him but 1 month and 15 days without pay.

APPOINTMENTS.

Dr. James R. Hurley, of California, commissioned (recess) as assistant surgeon, Public Health and Marine-Hospital Service, May 4, 1907.

Dr. William M. Bryan, of Virginia, commissioned (recess) as assistant surgeon Public Health and Marine-Hospital Service, May 4, 1907.

Dr. Anthony J. Lanza, of the District of Columbia, commissioned (recess) as assistant surgeon, Public Health and Marine-Hospital Service, May 4, 1907.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 10, 1907:

SMALLPOX—UNITED STATES.

Florida: Hillsboro County, April 20-27, 2 cases.

Georgia: Augusta, April 23-30, 4 cases.

Illinois: Aurora, May 2, present; Danville, April 23-30, 1 case; Plainfield, April 17-May 2, 30 cases; Springfield, April 25-May 2, 1 case.

Indiana: Elkhart, April 20-27, 1 case; Indianapolis, April 21-28, 4 cases; Jeffersonville, April 1-30, 1 case; Lafayette, April 22-29, 1 case; Marion, April 1-30, 4 cases; Michigan City, April 1-30, 1 case; South Bend, April 20-27, 1 case.

Iowa: Ottumwa, April 6-27, 10 cases.

Kansas: Kansas City, April 27-May 4, 2 cases (imported); Lawrence, March 1-31, 6 cases.

Kentucky: Louisville, April 25-May 2, 1 case.

Louisiana: New Orleans, April 20-27, 10 cases.

Massachusetts: Chelsea, April 20-27, 1 case; Lawrence, April 20-27, 16 cases.

Michigan: Ann Arbor, April 20-27, 1 case; Saginaw, April 20-27, 1 case.

Minnesota: Stillwater, Feb. 1-28, 1 case; Winona, April 20-27, 3 cases.

New Jersey: Hoboken, April 27-May 4, 1 case.

New York: New York, April 20-27, 1 case, 1 death.

North Carolina: Greensboro, April 20-27, 5 cases.

Ohio: Cincinnati, April 26-May 3, 1 case; Cleveland, April 19-26, 1 case; Toledo, April 20-27, 4 cases.

Texas: Bell County, May 3, 3 cases; Houston, April 20-27, 9 cases; San Antonio, March 30-April 6, 2 cases; April 20-27, 2 cases.

Washington: Spokane, April 20-27, 16. cases (2 imported); Tacoma, April 20-27, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, March 16-23, 7 cases.

SMALLPOX—FOREIGN.

Brazil: Para, April 6-13, 2 cases, 1 death.

Canada: Toronto, April 6-13, 3 cases; April 20-27, 3 cases.

Chile: Coquimbo, April 6, 2 cases; Iquique, April 6, present.

China: Hongkong, March 9-23, 53 cases, 34 deaths; Nanking, March 23-30, 2 cases; Shanghai, March 23-30, 3 cases, 24 deaths; Tientsin, March 23-30, 2 cases.

France: Paris, April 13-20, 11 cases, 1 death; Toulon, March 1-31, 12 cases, 5 deaths.

Germany, general: March 16-30, 37 cases.

Gibraltar: April 14-21, 1 case.

India: Bombay, March 26-April 9, 8 cases; Calcutta, March 23-30, 81 deaths; Madras, March 30-April 5, 6 deaths; Rangoon, March 16-30, 3 deaths.

Italy, general: April 4-18, 35 cases.

Madeira: Funchal, April 14-21, 60 cases, 12 deaths.

Mexico: Jalapa, April 19-26, 1 death; Mexico, March 23-April 6, 23 deaths; Vera Cruz, April 20-27, 1 death.

Peru: Lima, March 31-April 6, present.

Russia: Odessa, April 6-13, 11 cases, 1 death.

Siberia: Vladivostock, March 21-28, 1 death.

Spain: Valencia, April 14-21, 1 case.

Straits Settlements: Singapore, March 16-23, 1 death.

Turkey in Asia: Bassorah, March 30-April 6, 5 deaths.

YELLOW FEVER.

Brazil: Manaos, April 6-13, 1 death.

Ecuador: Guayaquil, April 6-13, 7 deaths.

CHOLERA.

India: Bombay, March 26-April 9, 2 deaths; Calcutta, March 23-30, 57 deaths; Madras, March 30-April 5, 1 death; Rangoon, March 16-30, 13 deaths.

Straits Settlements: Singapore, March 9-16, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, April 29-May 6, 8 cases, 4 deaths.

PLAGUE—FOREIGN.

Brazil: Para, April 6-13, 3 cases, 2 deaths.

Chile: Antofagasta, April 6, 21 cases, 6 deaths; Santiago, April 6, present; Talchhuana, April 6, present.

China: Hongkong, March 16-23, 3 cases, 3 deaths.

Egypt: Alexandria, March 28-April 11, 2 cases, 2 deaths; Assiout Province, March 28-April 11, 10 cases, 4 deaths; Bani Souef Province, March 28-April 11, 2 cases, 2 deaths; Girgeh Province, March 28-April 11, 6 cases, 3 deaths; Keneh Province, March 28-April 11, 68 cases, 48 deaths; Minieh Province, March 28-April 11, 12 cases, 4 deaths.

India: Bombay, March 26-April 9, 1,262 deaths; Calcutta, March 23-30, 166 deaths; Rangoon, March 16-30, 163 deaths.

Peru: Eten, March 30-April 6, 6 cases, 5 deaths; Lambayeque, March 30-April 6, 7 cases, 3 deaths; Lima, March 30-April 6, 6 cases, 1 death; Paita, March 30-April 6, 11 cases, 5 deaths; Santiago de Cao, March 30-April 6, 1 case, 1 death; Trujillo, March 30-April 6, 6 cases, 7 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

The Business Side of General Medicine.

In a recent number of the *Texas State Journal of Medicine* Dr. J. E. Dildy of Lampasas makes some pertinent and practical suggestions on the above topic. Lack of space forbids production of the paper as a whole, but many of Dr. Dildy's observations are so forceful as to be worthy of reproduction.

Speaking of the position of the medical profession, he says: "We are professional men in every sense of the word; we have the mental labor of lawyers, the moral standing of ministers, the technical knowledge of organized artisans and the business qualifications of school children. The average man will give a lawyer $300 to $500, together with a lifetime's praise, to keep him out of the penitentiary for from two to ten years, and at the same time he will raise a phosphorescent glow and a kick that can be heard around the world if a doctor charges him $50 to $100 to keep him out of hell for a lifetime."

Commenting on the amount of work done by members of the profession, Dr. Dildy says: "We are the only people under God's ethereal tent to-day who keep open shop 24 hours each day and 365 days in each year. We are also the only laborers to keep on working for people who do not pay."

The attitude of a thinking member of the profession toward charity work is very well summarized in Dr. Dildy's discussion of the amount of unremunerative work done by physicians. "I can carry my part of charity with as good a grace as most men. I can go through rain, snow or mud and do my best, provided the case is one of worthy need, but to reward continually downright rascality, wilful drunkenness and wanton laziness is getting out of my line." The logic of his statements no one will deny, although very few of us have the moral courage to do what we know is our duty to ourselves, our patients, and our families along these lines.

The following should be pondered on by every practicing physician: "The average doctor tries to do too much work. Every doctor wants everybody to patronize him. He likes to be going night and day, rain or shine, Sunday or week-day, hot or cold. This is a business mistake. It wears a doctor to a frazzle. It gives him no time for bill collecting and business matters; no time for patients who naturally feel neglected and are slow pay as a consequence. A doctor can do better work, more good, and build up a more enviable reputation if he coolly takes his time and is careful and painstaking in his examinations and if he takes into consideration the pathologic conditions he meets."

Dr. Dildy is entitled to special praise for his honesty and clear-sightedness regarding the value of professional service. He says: "The prices of our office work and consultations are usually disgracefully small. This 'let me see your tongue' offhand, hurry-scurry kind of professional laziness is not worth the price we get for it. I have lost home, friends and fortune by not examining my patients carefully." Every physician who is honest with himself will admit the truth of the above statement. Every man knows that when he attempts to diminish the amount of care and attention to details which he gives each one of his patients, he thereby diminishes the value of his services. He also knows that, in the long run, the man who takes pains is the man who receives large fees.

Regarding the sins of omission and commission of which we are all of us guilty, Dr. Dildy does not hesitate to express himself freely and frankly. He says: "We fail to be professional. We talk shop too much. Silence is golden in medicine. My mouth gives me most of my trouble. What I say is what keeps me awake nights. We are too prone to give free advice. We sit and smile while some disgruntled chronic peels our competitor. If, instead, we would shut him up we would grow in our own estimation and make a more favorable impression on the public."

As to his suggestions for remedies for existing evils he is equally emphatic. The following advice is worth considering: "We could be as ethical as the law fraternity, who by their union of action have stamped on our statute books nearly every law by which we are governed. When doctors cast aside all petty jealousies and join and attend medical associations, money comes their way. The best trade I ever made in a business sense was when I paid $2.50 to join my county society."

His closing words of advice are: "Let us do less work and better work. Let us not raise prices until we have raised our standard of service on a par with our ability. Let us work honestly and not get lazy; keep enthusiastic and join our county societies; take postgraduate work and familiarize ourselves with modern medicine. Let us not dicker in futures nor drink booze, but buy books and drink freely of the fountain of knowledge. Let us work some, and play some, read some and collect some, and make money whenever we can."

It is a most gratifying indication of the increased interest in the practical side of medicine that papers like the above are becoming more and more common in our county societies. Every medical organization ought to have, at least once a year, a plain, practical paper on these matters from some clear-headed, progressive member, followed by a general discussion from the members of the society. It will be found in many instances that such a program will help to clear away old animosities and misunderstandings by bringing about a free discussion and consideration as well as stimulating many physicians to a consideration of various phases of these questions, the importance of which has not heretofore been properly estimated.

Legislation in Illinois.

The work of the state legislature has been fairly satisfactory, so far as the medical profession of the state is concerned. Several of the bills were described in Illinois news in The Journal last week. The two introduced by the State Board of Health were passed, one enlarging the board's authority over health matters, the other authorizing reciprocity in licensure and empowering the board to define a medical college in good standing. The Pure Food Bill was also passed in the last hour of the session. It is impossible to say at present just what are its provisions. The appropriation for the State Board of Health is increased over that of previous years. The appropriation for the State Board of Charities, while not as large as asked for, nor as recommended by Governor Deneen, is large enough to allow some of the reforms contemplated. The bill appropriating $386,000 for the Uuniversity of Illinois to purchase the property of the College of Physicians and Surgeons in Chicago was passed at the eleventh hour.

A bill directing that all chronic insane patients now kept in county poor houses and asylums be sent to the state institutions at the state's expense will put an end to a feature of county poor houses, which has been the subject of much criticism. For the third time the legislature refused to establish an osteopathic board of examiners or to place an osteopath on the State Board of Health. The so-called antivivisection bill, the mental healers' bill, the itinerant vendors' bill, as well as a number of other objectionable bills, failed to pass.

The only bill to which the medical profession can take any exception is the bill establishing a board of examiners in optometry. It is earnestly hoped that this will be vetoed by the governor, as it has been alleged, during both the present session of the legislature and that held two years ago, that it was introduced for ulterior purposes and in favor of certain individuals for personal reasons.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

New York State Boards of Medical Examiners, Albany, May 21-24. Chief of Examining Division, Charles F. Wheelock, Albany.

Nebraska State Board of Health, State House, Lincoln, May 28-29. Secretary, Dr. Geo. H. Brash, Beatrice.

Indiana Board of Medical Registration and Examination, Room 120, State House, Indianapolis, May 28-31. Secretary, Dr. W. T. Gott, Indianapolis.

New Mexico Board of Health, Santa Fe, June 3. Secretary, Dr. B. D. Black, Las Vegas.

Minnesota State Board of Medical Examiners, St. Paul, June 4. Secretary, Dr. W. S. Fullerton, St. Paul.

Maryland Homeopathic Board of Examiners, Baltimore, June 4. Secretary, Dr. Joseph S. Garrison, 848 W. North Ave., Baltimore.

Ohio State Board of Medical Registration and Examination, Cleveland, Columbus and Cincinnati, June 10-12. Secretary, Dr. George H. Matson, Columbus.

Kentucky State Board of Health, Louisville, June 11. Secretary, Dr. J. N. McCormack, Bowling Green.

South Carolina State Board of Medical Examiners, Columbia, June 11. Secretary, Dr. W. M. Lester, Columbia.

Oklahoma Board of Medical Examiners, Guthrie, June 11-12. Secretary, Dr. J. W. Baker, Enid.

Kansas State Board of Medical Registration and Examination, Kansas City, Kansas, June 11-13. Secretary, Dr. F. P. Hatfield, Grenola.

Iowa State Board of Medical Examiners, Des Moines, June 11-13. Secretary, Dr. Louis A. Thomas, Des Moines.

Florida Homeopathic Board of Medical Examiners, Jacksonville, June 18. Secretary, Dr. C. W. Johnson, Jacksonville.

Delaware Board of Medical Examiners, Dover, June 18. Secretary of the Medical Council, Dr. P. W. Tomlinson, Wilmington.

Delaware Homeopathic Board of Medical Examiners, Wilmington, June 18. Secretary, Dr. C. M. Allmond, Wilmington.

New Jersey State Board of Medical Examiners, State House, Trenton, June 18-19. Secretary, Dr. J. W. Bennett, Long Branch.

Virginia State Medical Examining Board, Lynchburg, June 18-21. Secretary, Dr. R. S. Martin, Stuart.

Wyoming Board of Medical Examiners, State Capitol, Cheyenne, June 19. Secretary, Dr. S. B. Miller, Laramie.

Maryland Board of Medical Examiners, Baltimore, June 19-22. Secretary, Dr. J. McPherson Scott, Hagerstown.

Pennsylvania State Board of Medical Examiners, 708 Locust Street, Philadelphia, and in Pittsburg Academy, Ross and Diamond Streets, Pittsburg, June 25-28. Secretary, Dr. Winters D. Hamaker, Meadville.

Pennsylvania Homeopathic Board of Medical Examiners, N. W. Corner 15th and Cherry Streets, Philadelphia, June 25-28. Secretary, Dr. C. S. Middleton, 1523 Girard avenue, Philadelphia.

Pennsylvania Eclectic Board of Medical Examiners, Harrisburg, June 25-28. Secretary, Dr. W. H. Blake, 2116 N. Marvine Street, Philadelphia.

Texas State Board of Medical Examiners, Austin, June 25-27. Secretary, Dr. T. T. Jackson, San Antonio.

North Dakota April Report.—Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, April 2-4, 1907. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 10, of whom 9 passed and 1 failed. Three reciprocal licenses were granted at this examination. The following colleges were represented:

College.	Year Grad.	Per cent.
PASSED.		
University of Minnesota	(1905)	85, 89
Lincoln Med. Coll	(1904)	82
Jefferson Med. Coll.	(1904)	87
Laval University, Quebec	(1906)	78
University of Toronto, Ont	(1903)	82
University of Christiania, Norway (1898) 85, (1903) 85,	(1904)	75
FAILED.		
Trinity Med. Coll.	(1903)*	..
LICENSED THROUGH RECIPROCITY.		Reciprocity with
National Medical University, Chicago	(1906)	Illinois.
Rush Med. Coll.	(1906)	Illinois.
University of Iowa	(1906)	Iowa.

*Percentage not given.

California's New Examining Board.—At a meeting of the new Board of Medical Examiners, May 3, in San Francisco, the organization was completed as follows: President, Lincoln Cothran, San José; vice-president, J. Park Dougall, Los Angeles; treasurer, E. Sisson, Oakland; secretary, Charles L. Tisdale, Alameda; associate secretary, F. Dudley Tait, San Francisco. It was unanimously resolved "to cooperate with state examining boards and state medical societies in giving publicity to revoked certificates and irregularities in colleges and to send a copy of said resolution to every state board and to each of the California colleges." The next examination will take place in San Francisco, Aug. 6, 1907. All applications must be filed at least two weeks prior to said date.

Texas Holds Last Meeting Under Old Law.—Dr. T. T. Jackson, secretary of the regular Board of Medical Examiners, states that a meeting of that board will be held at Austin, June 25, 26 and 27, 1907, which will be the last meeting before the new law goes into effect. This will be the last examination to which any person will be admitted except one who has graduated from a reputable medical college having not less than four sessions of at least five months each.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

Illinois State Medical Society, Rockford, May 21-23.
Connecticut State Medical Society, Hartford, May 22-23.
Indiana State Medical Association, Indianapolis, May 22-24.
Arizona Medical Association, Bisbee, May 28-29.
South Dakota State Medical Association, Sioux Falls, May 28-30.
Amer. Laryn., Rhin. and Otol. Society, New York, May 30-June 1.
American Academy of Medicine, Atlantic City, N. J., June 1-3.
American Association of Medical Examiners, Atlantic City, June 3.
American Gastro-Enterological Association, Atlantic City, June 3-4.
American Proctologic Society, Atlantic City, June 3-4.
American Urological Association, Atlantic City, June 3-4.
Maine Medical Association, Lewiston, June 12-14.
Massachusetts Medical Society, Boston, June 11-12.
Medical Society of the State of North Carolina, Morehead City, June 11-13.
Rhode Island Medical Society, Providence, June 13.
Medical Society of New Jersey, Cape May, June 25 27.

COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION.

Third Annual Conference, held at Chicago, April 29, 1907.

The Chairman, Dr. A. D. Bevan, Chicago, presiding.

Besides the members of the Council, eighty-four delegates were present, representing 22 state examining boards, 18 state medical societies, the 3 departments of the government services, 3 college associations, and 14 literary and medical colleges.

DELEGATES.

From States and State Boards: *Colorado*, S. D. Van Meter, Denver; *Idaho*, W. F. Howard, Pocatello; *Illinois*, George W. Webster, Chicago; *Indiana*, W. A. Spurgeon, Muncie, and W. T. Gott, Crawfordsville; *Iowa*, A. P. Hanchett, Council Bluffs; *Kentucky*, Chester A. Mayer, Louisville; *Massachusetts*, E. B. Harvey, Boston; *Michigan*, Beverly D. Harison and Oscar Le Seure, Detroit; *Minnesota*, W. S. Fullerton, St. Paul; *Missouri*, R. H. Goodier, Hannibal, and A. H. Hamel, DeSoto; *Nebraska*, Benjamin F. Bailey, Lincoln; *New Jersey*, J. W. Bennett, Long Branch; *New York*, George E. Gorham, Albany, and William Warren Potter, Buffalo; *North Dakota*, F. R. Smyth, Bismarck; *Ohio*, H. E. Beebe, Sidney, and A. Ravogli, Cincinnati; *Oklahoma*, J. W. Baker, Enid; *Oregon*, A. C. Panton, Portland; *Utah*, Ralph T. Richards, Salt Lake City; *Vermont*, W. Scott Nay, Underhill; *Washington*, J. B. Eagleson, Seattle; *West Virginia*, John L. Dickey, Wheeling; *Wisconsin*, W. T. Sarles, Sparta, A. P. Andrus, Ashland, J. V. Stevens, Jefferson, P. H. McGovern, Milwaukee, and A. B. Bailey, Fennimore.

From State Medical Societies: *Illinois*, Charles L. Mix, Chicago, and Frank P. Norbury, Jacksonville; *Indiana*, L. F. Page, Indianapolis; *Iowa*, D. S. Fairchild, Des Moines, and C. J. Saunders, Fort Dodge; *Kansas*, M. F. Jarrett, Fort Scott; *Kentucky*, W. H. Wathen, Louisville; *Maine*, Charles E. Williams, Auburn; *Maryland*, Charles F. Bevan, Baltimore; *Missouri*, Walter B. Dorsett, St. Louis; *Nebraska*, H. Winnett Orr, Lincoln; *North Dakota*, A. L. McDonald, Grand Forks; *Ohio*, Robert H. Grube, Xenia, and R. E. Skeel, Cleveland; *Oklahoma*, J. O. Glenn, Stroud, and D. C. Hall, Norman; *Tennessee*, George H. Price, Nashville; *Utah*, S. C. Baldwin, Salt Lake City; *Virginia*, R. H. Whitehead, Charlottesville; *West Virginia*, S. L. Jepson, Wheeling; *Wisconsin*, E. Evans, La Crosse.

From Other Organizations: *United States Army*, Assistant Surgeon-General P. F. Harvey, Chicago; *United States Navy*, Assistant Surgeon N. T. McLean, Chicago; *United States Public Health and Marine-Hospital Service*, Surgeon G. B. Young, Chicago; *Southern Medical College Association*, Lewis C. Morris, Birmingham; *Association of American Medical Colleges*, W. J. Means, Columbus, Ohio, and Fred C. Zapffe, Chicago; *American Medical Association*, George H. Simmons, Chicago; *American Institute of Homeopathy*, Charles J. Walton, Cincinnati, N. B. Delamater, Chicago, and Benjamin F. Bailey, Lincoln, Neb.; *American Medical Editors' Association*, Allen B. Kanavel, W. C. Abbott and W. F. Waugh, Chicago.

From Literary and Medical Colleges: *Northwestern University*, Dean Thomas F. Holgate, Evanston; *University of Chicago*, Dean Albion W. Small, Chicago; *Iowa College*, President J. H. T. Main, Grinnell; *Vanderbilt University*, Chancellor J. H. Kirkland, Nashville, Tenn.; *Lake Forest University*, R. H. McKee and Cornelius Betien, Lake Forest, Ill.; *University of Wisconsin*, Charles R. Bardeen, Madison; *Lewis Institute*, Lewis Gustafson, Chicago; *Rush Medical College*, Frank Billings, John M. Dodson, and Ludwig Hektoen; *Indiana University School of Medicine*, Burton D. Myers, Bloomington; *Northwestern University Medical School*, J. H. Long and N. S. Davis, Chicago; *College of Physicians and Surgeons*, Charles S. Bacon, Chicago; *University of Iowa, Homeopathic Department*, George Royal, Iowa City; *University of Michigan, Homeopathic Department*, W. B. Hinsdale, Ann Arbor; *American College of Medicine and Surgery*, William L. Secor, Chicago.

Others present were Richard M. Fletcher and A. R. McDonald, Chicago.

The conference was called to order at 10 a. m. by the chairman. Dr. Arthur Dean Bevan, Chicago, who delivered the following address:

CHAIRMAN'S ADDRESS.

The Council on Medical Education of the American Medical Association has invited you to this third annual conference to discuss the subject of medical education in America and to ask your advice and cooperation in the effort to elevate the standards of medical education in this country.

We welcome you to this conference and thank you for your presence in the name of the American Medical Association.

It would seem well first to review briefly the work of the Council as presented in the reports of the last two annual conferences and to present to you fully the work of the past year. In 1904 the Council on Medical Education was created by the American Medical Association to act as its agent in the efforts to elevate the standards of medical education. Its functions are to make an annual report on the existing conditions of medical education and to make suggestions which may lead to the gradual improvement in these conditions.

THE PREVIOUS HANDICAP.

The work of the committees on education which, before 1904, had undertaken this task had not been as satisfactory as was desired, chiefly because new men were appointed on this committee each year, and this short period was not sufficient time to enable the members of the committee to become familiar with the enormous and complex problems presented by the medical laws of fifty states and territories, by the widely varying conditions found in the different sections of our country and the even greater differences in standards of both preliminary requirement and medical curriculum demanded and offered by more than one hundred and fifty medical schools.

These committees worked under the disadvantage of having no permanent organization, no permanent headquarters, no permanent secretary and no appropriation, without which an extensive investigation was impossible.

The Council on Medical Education was created with the purpose of overcoming some of these disadvantages. It is the desire to make it a permanent national bureau on medical education, with permanent headquarters, with a trained clerical force in charge of the large amount of correspondence and statistical work which is required in order to collect and disseminate the facts in regard to the medical laws of more than fifty states, the results of examinations before more than fifty state licensing boards and the licensure each year of more than seven thousand physicians; the work of the more than one hundred and fifty schools, and we hope before long the facts in regard to the preliminary education of each matriculate in medicine.

Such a national bureau on medical education can have no legal powers. It can not be too often repeated that the legal power to control medical practice rests, and should always and will always rest, in the hands of the state licensing boards.

THE NEED OF A NATIONAL BUREAU.

Nevertheless it is clear that a national bureau of medical education is a necessity, and it is also clear that the publicity given to the evidence which such a bureau can collect may be of great service in securing needed reforms.

The Council felt from the beginning that it was of the greatest importance to secure the cooperation of those most influential and most interested in the matter of medical education, and with that end in view established an annual conference on medical education at which it could present to the representatives of the state boards and all specially interested the results of its year's work and confer with them as to the best line of future action.

The first annual conference was held in Chicago, April 20, 1905. At this conference the questions of preliminary educational requirement, the medical curriculum and the relation of the college of liberal arts to the medical school were discussed. As a result of this conference the Council formulated an ideal standard to work for in the future and a minimum standard for the time being. This last you are all familiar with. It is briefly a preliminary education sufficient to enable the student to enter the freshman class of our recognized universities and the passing on this education by a state official and the graduation from an approved medical school, requiring a four-year course of not less than 30 weeks, 30 hours each week, each year, and finally the passing of an examination for licensure before a state board.

May 12, 1906, the second annual conference was held, at which probably the most important subject was the report of the standing of medical schools based on the showing made by their graduates before state boards. The medical schools were divided into four classes: Table 1, with less than 10 per cent. of rejections; Table 2, with from 10 to 20 per cent. of rejections; Table 3, with more than 20 per cent. of rejections, and Table 4, an unclassified list of schools which did not offer sufficient data to enable them to be classified. These tables will be published each year and have, it is believed, been of much service in elevating medical standards.

At the last conference an important committee was appointed, with instructions to report at this conference; the committee on the question of giving credit for subjects required in the medical curriculum taken in colleges of liberal arts. Since the last conference, at a meeting of the Council, it was unanimously agreed to recommend that by 1910, in addition to the preliminary education sufficient to enable the student to enter the freshman year of our recognized universities, that one year of physics, chemistry and biology and one modern language, preferably German, be required before the student can begin the study of medicine; a committee to present this important subject will report at this conference.

Probably the most important work undertaken by the Council during the past year has been the personal inspection of the medical schools of the United States to ascertain the exact character of their work and the attempt to classify these schools and mark them on a civil service basis. This has been a large and onerous task, the country was divided into sections and the 160 schools visited by some member of the Council or by the secretary, in most instances by both the secretary and some member of the Council.

This work has been, we believe, of much value and has enabled the Council to form a better idea of existing conditions of medical education than could be obtained in any other way. The schools were marked as an individual might be in taking a civil service examination.

The following ten points making a possible 100 were taken into consideration:

1. Showing of graduates before state board examinations.
2. Requirements and enforcement of satisfactory preliminary education.
3. Character and extent of college curriculum.
4. Medical school buildings.
5. Laboratory facilities and instructions.
6. Dispensary facilities and instruction.
7. Hospital facilities and instruction.
8. Extent to which first two years are officered by men devoting entire time to teaching and evidences of original research work.
9. Extent to which the school is conducted for the profit of the faculty directly or indirectly rather than teaching.
10. Libraries, museums, charts, etc.

These marks were obtained from a full report furnished by the school and also from personal inspection covering these points.

We have then arranged the school into six classes: A, B, C, D, E and F.

The A class, being from 90 to 100.

The B class, being from 80 to 90.

The C class, being from 70 to 80.

These three classes above 70 form an accepted list and it is recommended that the state boards recognize these schools as being up to standard.

The D and E class, being from 50 to 70.

It is believed that these schools should be recognized, provided that they make improvements, which will bring their work up to the necessary grade of 70.

The F class, being 50 and below.

It is believed that these schools should not receive the recognition of the state boards.

In making this inspection the Council has been exceedingly lenient in marking the poorer schools. It believes that this first report should be presented to the state licensing boards and to this conference and should not be published with details at present; that a minimum standard of what shall constitute a recognized medical school be agreed on and that the schools below this standard be given a reasonable time to bring themselves up to this acceptable standard. In case they do not, their standing should be published and they should no longer be recognized by the state boards.

There are in this country 160 medical schools; about as many as there are in Great Britain, Germany, France and Austria combined. The schools in this country represent all grades, from the very highest, as high probably as those of any country in the world, to the very lowest, a number being little better than diploma mills. On this inspection we have found schools which are absolutely worthless, without any equipment for laboratory teaching, without any dispensaries, without any hospital facilities; some which are no better equipped to teach medicine than is a Turkish-bath establishment or a barber-shop. Many of them are little more than quiz classes, in which men are drilled for the purpose of passing state board examinations. Some of the schools which we inspected are conducted by men in good standing in the profession, but in about the way that schools were conducted 25 or 30 years ago; simply didactic lectures and quiz classes without any proper laboratory or clinical facilities, and some of these men apparently do not realize the very bad work they are doing in the light of modern medicine.

I desire to present a few facts shown by this inspection:

1. Of the 160 schools, 81 received markings above 70, 47 markings between 50 and 70, 32 below 50.

2. It was clearly shown by this inspection that medical schools conducted solely for profit are a menace and should not be recognized.

3. Night schools attempting to educate a student in the hours from 7 to 10 p. m., usually after the student has devoted his day to some occupation in which he earns his living, should not be recognized by any state board, especially when it is found in the good schools that four years of nine months six days in the week from 8 a. m. to 5 p. m., is barely sufficient time to devote to a medical course.

4. Many schools are conducted for the purpose of preparing a student to pass a state board examination and not with the object of making him a competent practitioner.

5. A student can be prepared in a quiz class in a comparatively short course to pass a written examination before a state board and yet be absolutely ignorant of laboratory work, dispensary or hospital work, and utterly incompetent to begin the practice of medicine. This fact shows the necessity of inspecting the schools as to the actual character of their work, of making the written examination very practical and of including a practical examination in the laboratory and possibly later on patients in the state board examination for licensure.

6. The most important fact brought out in this inspection is this: In this country we need money for medical education. It costs more to educate a medical student than he can pay in the way of fees. Medical education must secure state aid and private endowment.

7. Every state university now in existence or established later should have a strong, liberally supported medical department. No better investment can be made by any state than the establishment and support of such a medical department, Such a department, at least the clinical years, should be in the largest center of population in the state, and in close touch with the various departments of the state board of health.

8. The public must be taught the necessities and the possibilities of modern medicine, and philanthropists shown that medicine well deserves the same support that has been given to theology, to colleges of liberal arts, to libraries, etc. Philanthropists will not endow medical schools which are private corporations and conducted for profit. Such schools should change their organization so that they can ask for and secure necessary endowments.

9. It is in the power of the state boards and the organized profession to place American medicine on an acceptable plane.

10. Already about 50 schools have agreed to require, by 1910 or before, one year of university physics, chemistry and biology, and one language as a preliminary education before matriculating in medicine.

11. It is necessary to agree on a standard of what shall constitute a medical college in good standing. If, as a result of this conference, the delegates from the state boards agree to require within a reasonable time the following standard of our medical schools, we should soon place ourselves on a plane equal to that of any country in the world:

(a) Preliminary education sufficient to enter the freshman class of our universities plus, after a date to be agreed on, one year of physics, chemistry and biology and one modern language. This preliminary education to be passed on by an officer selected by the state licensing board.

(b) Two years of study, largely laboratory work in anatomy, physiology, pharmacology and pathology in well equipped laboratories, officered by trained men devoting their time to those subjects.

(c) Two years of clinical work largely in dispensaries and hospitals, the dispensary material in the proportion of at least 10,000 per year for 100 students in the senior class and the hospital in proportion to a daily average of 200 patients to 100 students in the senior class.

(d) The curriculum and character of both laboratory and clinical work to be satisfactory to the state licensing board, which shall inspect the same each year.

If the state boards represented at this conference will unite to secure these requirements and notify the schools that unless they come up to this standard by a date to be agreed on, that they will not be recognized, we shall take the greatest step forward that has ever been made in medical education in this country. What the members of this conference agree on will not be legally binding on any state board or any school, but it will be of great weight, because it will ultimately be agreed to by the majority of the state boards, and no school can continue to exist in defiance of the rulings of any considerable number of state boards.

Our inspection has shown that there are a number of schools which have no equipment to teach medicine, no posible right to teach medicine nor to claim recognition. It has shown that there are a number of other schools that are deficient, and these should be urged to secure proper equipment and to come up to a standard sufficient to secure general recognition.

This work shows the necessity of a system of annual inspection made by the state boards, possibly jointly with a committee from the Council on Medical Education, so that the results of the entire country can be compiled and furnished to each state board as an official list of colleges worthy of recognition.

As a result a number of schools will consolidate, as they have already done in Kansas City, Louisville, Columbus and other cities; a number of proprietary schools which are conducted for the purpose of profit, are in fact conducted at a loss to their faculties and many of these will go out of existence.

Instead of 160 schools as we now have, we should probably have less than 100 schools which could secure the general recognition of the state boards. And these schools we must unite to strengthen. We must secure for them state aid and private endowment, we must start an active, organized propaganda for money for medical education, we must enlist in this service the local and state medical societies, the state licensing boards, the national medical associations, individual physicians and citizens of influence, and we must make these efforts permanent and continuous. We must make for medicine in this country of great wealth and great population and of high average intelligence the place which it deserves.

SECRETARY'S REPORT.

At the conclusion of the chairman's address, the secretary of the Council, Dr. N. P. Colwell, presented a report covering the work of the past year.

Mr. Chairman and Gentlemen:—The work of the Council on Medical Education for the past year is as follows:

INSPECTION OF MEDICAL COLLEGES.

In order to obtain a more accurate knowledge of conditions under which medical schools are working and of the laboratory and clinical facilities held by each college for teaching modern medicine, the Council had one or more representatives visit each of the 160 medical colleges in the country. This was supplemented by obtaining written reports from the colleges.

In this research the Council has endeavored to treat all colleges alike, making allowances for the differences between the various schools of medicine, feeling that where the college upheld proper standards of preliminary education, offered good courses in the fundamental branches of medicine and had a fair amount of clinical material, the minor differences in treatment could be well ignored. Two reputable practitioners of any one school of medicine will probably differ fully as much in their methods of treatment when in actual practice, as will practitioners of two different schools of medicine.

In classifying the colleges every detail has been carefully studied. The size of the city where the college is located, as well as any and all special conditions, such as state hospitals, etc., whereby clinical material is made available, were inquired into. The college buildings were considered with regard to their number, size, condition, arrangement, proximity and utility. Hospitals were also considered, careful note being made of the number of beds, the extent to which students have access, its proximity to and control by the college. Dispensaries have received proper attention—note being made in regard to the rooms, equipment, number of patients, number of visits, use of by the students and nearness to the college. Each subject of the college curriculum was individually studied—for the fundamental branches, note being made of the size and equipment of laboratories, the presence of paid teachers devoting their entire time to instruction and research, and, for the clinical branches, the amount and variety of clinical material available to teach the subject under consideration.

The supply of charts, models and microscopes were particularly inquired into and at the same time the size of the classes needing to use them. Careful notes regarding the medical library and the museum were made, together with their accessibility and usefulness for teaching. Careful investigation was made in regard to the entrance requirements, the character and extent of the college curriculum and the methods of teaching of each college. The sources of income were noted and inquiry was cheerfully made as to the future prospects of each school. The showing made by the graduates of each college before state examining boards was naturally taken account of. College announcements were carefully reviewed and a careful comparison made with the facts learned from the actual inspection. The character of the men composing the college faculty was considered, every evidence of activity was noted and due credit given where good, honest work was being done. In fact, care was taken to get every fact available that would give an accurate knowledge of what each college was and the kind of work it was doing.

In order to properly credit each school the data collected was grouped under ten different heads, these being so selected that they might have equal weight and, therefore, be marked on the scale of 100. An average taken then represented the standing of the school. The ten heads are as follows: (1) The successes of graduates of the school before state examining boards; (2) the question of requirement and enforcement of satisfactory preliminary education; (3) the general character and extent of college curriculum; (4) the medical school buildings; (5) laboratory facilities and instruction; (6) dispensary facilities and instruction; (7) hospital facilities and instruction; (8) extent to which the first two years are officered by men devoting their entire time to teaching and the evidences of original research; (9) extent to which the school is conducted as an institution for teaching medicine, rather than as a means for the profit of the faculty, directly or indirectly; and (10) the owning of a library, museum, charts, models, stereopticons, etc. The result from this research is as follows: Of the 160 schools, 81 or 50.6 per cent., were above 70; 47, or 20 per cent., were between 50 and 70, while 32, or 19.6 per cent., were below 50.

STATE BOARD EXAMINATIONS.

A year ago at our conference a classification of the medical schools was made based on the state board examinations for 1904. It will be remembered that 47 schools received less than 10 per cent. of failures, 27 were between 10 and 20 per cent., and 38 had more than 20 per cent. There were 37 schools in regard to which there was insufficient data to permit of classification.

With the report of the state board examinations for 1905, which was published in The Journal of the American Medical Association, Aug. 25, 1906, another classification was made resulting in 45 schools having less than 10 per cent. of failures, 22 schools with between 10 and 20 per cent., and 40 schools above 20 per cent. There were 46 schools in the unclassified list.

By adding together the figures for 1904 and 1905, we get sufficient data to reduce the unclassified list to eight colleges, thus allowing us to classify 135 schools on the basis of state board examinations. The result has been 41 schools having less than 10 per cent. of failures, 40 schools having between 10 and 20 per cent., and 54 schools having over 20 per cent.

	Less than 10.	10 to 20.	Above 20.	Unclassified.	Total.
1904	47	27	38	37	149
1905	45	22	40	46	153
1904-5	41	40	54	8	143

For the years 1904 and 1905 the colleges can be further subdivided as follows, omitting the eight unclassified:

Less than 10 per cent. of failures	41
Between 10 and 20 per cent	40
Between 20 and 30 per cent	16
Between 30 and 40 per cent	19
Above 40 per cent. of failures	19
	135

COLLEGES HAVING LESS THAN 10 PER CENT. OF FAILURES.

Alabama.	
Birmingham Medical College	0.
California.	
University of California	6.8
Colorado.	
Denver Homeopathic College	0.
Colorado School of Medicine	0.
Connecticut.	
Yale University, Medical Department	2.9
Georgia.	
University of Georgia	2.9
Illinois.	
College of Physicians and Surgeons, Chicago	7.9
Northwestern University, Chicago	3.4
Rush Medical College	7.1
Dearborn Medical College	2.1
Iowa.	
Sioux City College of Medicine	8.8
State University of Iowa, Homeopathic	7.7
Louisiana.	
Tulane University of Louisiana	9.5
Maine.	
Medical School of Maine	8.9
Maryland.	
Johns Hopkins University Medical School	0.8
Woman's Medical College, Baltimore	0.
Massachusetts.	
Boston University, School of Medicine	7.3
Harvard University	1.5
Michigan.	
University of Michigan, Homeopathic Department	5.9
Minnesota.	
University of Minnesota, Department of Medicine	7.0
Missouri.	
University of Missouri	6.2
Nebraska.	
Creighton Medical College, Omaha	7.4
New Hampshire.	
Dartmouth Medical College	9.1
New York.	
Albany Medical College	4.7
College of Physicians and Surgeons, New York	3.9
Cornell University	1.4
Long Island College Hospital	7.8
New York Homeopathic Medical College	5.1
New York Women's Medical College	9.5
Syracuse University	1.4
University of Buffalo	4.6
North Carolina.	
University of North Carolina, Raleigh	7.7
Ohio.	
Western Reserve University, Cleveland	7.7
Cleveland College of Physicians and Surgeons	5.7
Medical College of Ohio	8.7
Pennsylvania.	
University of Pennsylvania	5.8
Hahnemann Medical College, Philadelphia	3.6
Jefferson Medical College	8.8
Woman's Medical College, Philadelphia	6.6
Texas.	
University of Texas	0.
Virginia.	
University of Virginia	8.2

COLLEGES HAVING BETWEEN 10 AND 20 PER CENT OF FAILURES.

Alabama.	
Medical College of Alabama, Mobile	11.5
California.	
Cooper Medical College, San Francisco	14.3
Colorado.	
Denver and Gross Medical College	12.8
District of Columbia.	
George Washington University, Washington, D. C.	10.9
Georgetown University, Washington, D. C.	15.8
Georgia.	
Atlanta College of Physicians and Surgeons	17.2
Illinois.	
American Medical Missionary College, Chicago	11.8
Bennett College of Eclectic Medicine and Surgery, Chicago	15.8
Hahnemann Medical College, Chicago	11.2
Hering Medical College, Chicago	12.2
National Medical University, Chicago	18.5
American College of Medicine and Surgery, Chicago	14.5
Indiana.	
Indiana Medical College	16.3
Iowa.	
Drake University College of Medicine, Des Moines	15.1
State University of Iowa, Medical Department	10.4
Kansas.	
Kansas Medical College, Topeka	17.1
Massachusetts.	
Tufts Medical College, Boston	11.7
Michigan.	
Detroit College of Medicine	13.3
University of Michigan, Medical Department	11.0
Minnesota.	
University of Minnesota, Homeopathic Department	16.7
Missouri.	
St. Louis University	15.1
St. Louis College of Physicians and Surgeons	18.9
Washington University, St. Louis	15.1
Nebraska.	
University of Nebraska, Omaha	16.3
New York.	
Eclectic Medical College, New York	11.1
University and Bellevue Medical College, New York	12.6
North Carolina.	
North Carolina Medical College, Charlotte	18.0
Ohio.	
Miami Medical College, Cincinnati	11.5
Ohio Medical University, Columbus	17.7
Starling Medical College	19.8
Pennsylvania.	
Medico-Chirurgical College, Philadelphia	18.5
Western Pennsylvania Medical College	15.7

South Carolina.	
Medical College of South Carolina, Charleston	15.0
Tennessee.	
University of Nashville	17.1
Vanderbilt University, Nashville	11.4
Texas.	
Fort Worth University, Ft. Worth, Texas	12.5
Vermont.	
University of Vermont	15.4
Virginia.	
Medical College of Virginia, Richmond	14.7
University College of Medicine, Richmond	10.3
Wisconsin.	
Milwaukee Medical College	14.3

COLLEGES HAVING BETWEEN 20 AND 30 PER CENT. OF FAILURES.

California.	
Hahnemann Medical College, San Francisco	25.0
Georgia.	
Georgia College of Eclectic Medicine and Surgery, Atlanta	28.0
Illinois.	
Illinois Medical College, Chicago	25.0
Jenner Medical College, Chicago	20.0
Indiana.	
Eclectic Medical College of Indiana	22.2
Iowa.	
Keokuk Medical College, College of Physicians and Surgeons	25.7
Maryland.	
Baltimore Medical College	21.8
College of Physicians and Surgeons, Baltimore	22.0
Southern Homeopathic Medical College, Baltimore	21.1
University of Maryland, Baltimore	24.8
Missouri.	
University Medical College, Kansas City	25.0
Nebraska.	
Lincoln Medical College, Nebraska	24.5
Ohio.	
Cleveland Homeopathic Medical College, Ohio	20.6
Eclectic Medical Institute, Cincinnati	28.1
Toledo Medical College	25.0
Wisconsin.	
Wisconsin College of Physicians and Surgeons	22.7

COLLEGES HAVING BETWEEN 30 AND 40 PER CENT. OF FAILURES.

Arkansas.	
University of Arkansas	33.3
California.	
University of Southern California	31.1
District of Columbia.	
Howard University, Washington, D. C.	34.2
Kentucky.	
Kentucky School of Medicine	36.1
Louisville Medical College	32.9
University of Louisville	35.9
Kentucky University, Louisville	37.3
Massachusetts.	
College of Physicians and Surgeons, Boston	36.5
Michigan.	
Michigan College of Medicine and Surgery	33.3
Missouri.	
Kansas City Hahnemann Medical College	38.5
Eclectic Medical University, Kansas City	33.3
Barnes Medical College, St. Louis	32.6
Homeopathic Medical College of Missouri	36.3
Ohio.	
Pulte Medical College, Cincinnati	39.1
Oregon.	
University of Oregon, Portland, Ore	34.5
Willamette University, Salem, Ore	30.4
Tennessee.	
Tennessee Medical College, Knoxville	34.4
Meharry Medical College, Nashville	37.5
Memphis Hospital Medical College	36.4

COLLEGES HAVING ABOVE 40 PER CENT. OF FAILURES.

California.	
California Medical College	61.1
College of Physicians and Surgeons, San Francisco	41.3
Illinois.	
College of Medicine and Surgery, Chicago	44.1
Indiana.	
Physio Medical Medical College of Indiana	47.1
Kentucky.	
Hospital College of Medicine, Louisville	45.8
Louisiana.	
Flint Medical College, New Orleans	66.7
Maryland.	
Baltimore University, School of Medicine	67.8
Maryland Medical College	47.8
Minnesota.	
Hamline University, Minneapolis	40.0
Missouri.	
Ensworth Central Medical College, St. Joseph	45.2
American Medical College, St. Louis	44.4
North Carolina.	
Leonard Medical College, Raleigh, N. C.	58.7
Tennessee.	
Knoxville Medical College	90.0
University of Tennessee, Nashville	42.0
University of the South, Sewanee, Tenn	48.8
Chattanooga Medical College	40.9
University of West Tennessee	60.0
Texas.	
Baylor University, Dallas, Texas	44.4
Gate City Medical College, Texarkana, Texas	60.0

As has long been recognized, the weakest part of our system of medical education to-day is the low standard of preliminary requirements. There was a time, doubtless, when low standards were excusable, but now when we consider the large number of schools and colleges which offer abundant opportunities to any one who has ambition enough to secure a liberal education whether he has ready money or not, there is scarcely any excuse for not requiring a fair standard of preliminary education. There are still a number of schools where no attention apparently is paid to the students' entrance qualifications.

The weakest point in the equipment and teaching facilities of medical schools is, naturally, the lack of laboratories and equipment for the work of the first two years of the medical course, or, as they are often called, the fundamental branches. The need of good, well-equipped laboratories, as well as having them officered by trained instructors paid to devote their entire time to teaching and research naturally makes this part of the medical course the most expensive. The teaching of the fundamental branches does not carry the advantage to the practicing physician which is found with the clinical branches, therefore, it is difficult to get good men to devote their time to these branches unless they are paid definite salaries. A few schools were found which were weak in this part of the course, although strong in clinical facilities.

Some schools are not developing the college dispensary as they might. Where good quarters have been provided for this department and good men placed on the attending staff, a larger attendance is invariably the result. Some schools situated in large cities, where ample clinical material could be had, are failing to take advantage of it. Others with abundant means at their disposal lack the activity in modern teaching and research which they might have.

Of course, the medical schools need money and all degrees of such need are to be seen. Many schools are dependent solely on the fees of the students to cover the teaching expenses. Some are keeping the teaching expenses within the amount received, and are, therefore, quite deficient in equipment and facilities for teaching modern medicine. Some schools, however, which, although practically depending on students' fees, are manned by faculties who not only spend their time and energy in teaching without pay, but have stood by the school with a devotion most praiseworthy, this being an encouraging fact in medical teaching of to-day. The development of some of these schools, even with the small amount received from students' fees, has been remarkable. Some have fixed high standards and held to them, even though these standards have reduced the number of students and thereby reduced the financial income of the school.

The past few years has witnessed the expenditure of a large amount of money for medical education. New buildings with spacious laboratories and elaborate equipment were to be seen in all sections of the country. Medical education is beginning to attract the attention of men of wealth to its needs, and endowments will follow sooner or later. State legislatures are more readily making appropriations for the development of the medical departments of state universities. From the financial point of view there is reason to believe that a new era is dawning for medical education.

A few important mergers have taken place during the past few months—at Louisville, Ky., where four schools merged into two, and at Columbus, Ohio, where the two colleges merged into one. Combinations at two or three other points also are in prospect. There are still other places where much better medical education could be given, if two or more schools would join hands, thereby creating one strong school from two or more weaker ones.

The work of the Council in an effort to secure the adoption of the standards recommended by the American Medical Association has had gratifying results. During the latter part of last June a letter was sent to each medical school of the country clearly stating that portion of the American Medical Association's ideal standard relating to the preliminary year in physics, chemistry, biology and languages, and asking whether the faculty of the school would be willing to adopt this as a requirement to apply to all students entering after Jan. 1, 1910. At that time only seven colleges in the country were requiring one or more years of work in a college of arts for admission. There are now 46 medical schools, which either already require one or more years of work in a college of arts or have voted to require this preliminary year in physics, chemistry, biology and languages by Jan. 1, 1910. There are at least 10 other colleges still to be heard from, which will probably make the same requirement. Of the 46 schools named at least 19 colleges have already voted to require at least two years of preliminary work in a college of arts, and 8 others intend to make two years their minimum requirement, although the date for the requirement of the second year has not been definitely determined. On the list are to be found a few weak schools, but the great majority are those which can be fully depended on to live up to their requirements.

YEARS IN A COLLEGE OF ARTS REQUIRED FOR ENTRANCE.

The following medical colleges either already require as a prerequisite to the study of medicine, in addition to a four-year high school education or its equivalent, one or more years in a college of liberal arts, or have adopted the requirement of a preliminary year to include the subjects of physics, chemistry, biology and one language, to become effective on or before Jan. 1, 1910.

	Years.	In force.
CALIFORNIA.		
University of California	2	Now.
Coll. of Physicians and Surgeons, San Francisco.	1	1910
Oakland College of Medicine and Surgery	1	1910
CONNECTICUT.		
Yale Medical School	2	1909-10
DISTRICT OF COUMBIA.		
George Washington University	2	1909-10
Georgetown University	1	1910
ILLINOIS.		
Rush Medical College	2	Now.
Northwestern University Medical School	2	1909-10
American Medical Missionary College	1	1909-10
American Medical Missionary College	2	1910-11
College of Medicine and Surgery	1	1910
Jenner Medical College	1	1910
Illinois Medical College	1	1910
American College of Medicine and Surgery	1	1910
IOWA.		
Drake University Medical Department	2	1910
Sioux City College of Medicine	1	1910
INDIANA.		
Indiana University Medical School	1	1910
State College of Physicians and Surgeons	1	1910
KANSAS.		
University of Kansas Medical School	1	1908-09
University of Kansas Medical School	2	1909-10
Kansas Medical College	1	1910
MARYLAND.		
Johns Hopkins Medical School	Degree	Now.
College of Physicians and Surgeons, Baltimore	1	1910
MASSACHUSETTS.		
Harvard University Medical School	Degree	Now.
College of Physicians and Surgeons, Boston	1	1910
MICHIGAN.		
University of Michigan (R.)	2	1909
MINNESOTA.		
University of Minnesota (R.)	2	1907-08
University of Minnesota (H.)	2	1907-08
MISSISSIPPI.		
University of Mississippi Medical Department	1	1910
MISSOURI.		
University of Missouri	1	Now.
St. Louis University, Medical Department	1	1910
Washington University, Medical Department	1	1910
NEBRASKA.		
University of Nebraska School of Medicine	1	1909
NEW YORK.		
College of Physicians and Surgeons, New York	1	Now.
NORTH CAROLINA.		
University of North Carolina	1	1909
Wake Forest School of Medicine	2	1908-09
NORTH DAKOTA.		
University of North Dakota	2	Now.
OHIO.		
Medical College of Ohio	1	1910
Western Reserve University	3	Now.
Cleveland College of Physicians and Surgeons	1	1910
Cleveland Homeopathic Medical College	1	1910
Miami Medical College	1	1910
OKLAHOMA.		
University of Oklahoma	1	1910
PENNSYLVANIA.		
University of Pennsylvania	1	1910-09
University of Pennsylvania	2	1910-11
TENNESSEE.		
University of Tennessee	1	1910
TEXAS.		
University of Texas	1	1909
UTAH.		
University of Utah, Medical Department	1	1909-10
University of Utah, Medical Department	2	1910-11
VIRGINIA.		
University of Virginia	2	1910

Practically all these schools have expressed their intention to require that the year in physics, chemistry and biology be taken in a college of arts.

LAWS GOVERNING MEDICAL PRACTICE.

The progress toward securing high standards in the various states through the activity of the examining boards has been very encouraging. Many states have secured new laws or important amendments, resulting in more uniform and higher standards. A year ago 13 states still allowed non-graduates to obtain the license to practice medicine. Of that number the examining boards of two of these states, Oregon and Hawaii, have recently established the graduation requirement by board rulings, being legally authorized to do so. Of the other eleven states, however, amendments to the state laws were necessary. Efforts have been made to secure these amendments by practically all, resulting successfully in Colorado, Missouri, New Mexico, Tennessee, Texas and West Virginia. The number of states allowing non-graduates to secure license has, therefore, been reduced to 5, these being Alabama, Arkansas, Massachusetts, Mississippi and Rhode Island. A report received is most favorable that the amendment will be secured in Alabama.

Delaware secured an amendment requiring that applicants must have had four years of study in a recognized medical school, leaving only one state, Georgia, which only provides for a three-year course. Two states, Illinois and Minnesota, have raised the standard of preliminary education above that of a four-year high school education. After Jan. 1, 1910, Illinois will require that all students matriculating in medicine must have had one year of nine months to be devoted to the study of physics, chemistry, biology and one language. Minnesota has secured an amendment to their law requiring hereafter that all matriculants in medicine must have at least two years of work in a college of liberal arts. One other state, Connecticut, is trying to obtain requirements in addition to the four-year high school education. Similar action on the part of other state boards will hasten the time when the standards of medical education in this country will be as high as those of other leading nations. The requirement of an additional year of preliminary education by state examining boards will be an added encouragement to the 45 colleges which of their own volition have adopted this standard.

Greatly improved medical practice acts or important amendments have been secured recently in California, Delaware, Minnesota, Missouri, New Mexico, Tennessee, Texas, Utah, Vermont, West Virginia, Wisconsin, and possibly in other states which have not been reported to us. Reports show that new practice acts or amendments are being urged in Alabama, Colorado, Connecticut, Michigan, Ohio, Pennsylvania and New York, with promise of success in the majority of cases. Important board rulings have been voted by a number of state boards, at least in Colorado, Oregon, Hawaii, Illinois, Michigan, Minnesota and New Hampshire. Probably no time has ever witnessed so widespread an effort for better laws. The tendency is rapid toward more uniform and higher standards.

BOOK OF LAWS.

The changes in medical practice acts will be carefully followed up and published in the Book of Laws, a new edition of which is issued about every four months. Registration requirements in foreign lands, as well as standards of medical education, are also being given in this book so far as they can be obtained. Reports for all changes of the past few months have probably not been received, therefore, we particularly request of the examining boards that notice be sent us of any changes or additions to the laws as presented in this book.

RECIPROCITY.

At the last session of the American Medical Association in Boston the work formerly devolving on the Committee on Reciprocity was turned over to the Council on Medical Education. Since the extension of reciprocity depends so much on the securing of equally high standards of medical education and licensure, the Council has bent its energies chiefly to obtain such standards, merely watching and noting the progress of the reciprocity movement. In practically all of the new practice acts secured during the past year and in a number of amendments reciprocity has been provided for. On the whole, the justice of reciprocity is being recognized and the movement favoring it is spreading. Statements showing any licenses issued under the reciprocity clause have been received from 21 different states. No statement has been obtained from New Jersey. The list of states and number so licensed in each is as follows:

Delaware	5
District of Columbia	11
Georgia	6
Illinois	43
Indiana	21
Iowa	63
Kansas	56
Kentucky	2
Maryland	9
Michigan	61
Minnesota	42
Nebraska	56
New York	11
North Dakota	21
Ohio	6
South Carolina	4
South Dakota	29
Texas	8
Vermont	4
Virginia	10
Wisconsin	61

Or a total of 529. A table which shows at a glance just what states reciprocate and on what basis is published regularly in the Book of Laws and revised with each edition of that book. (See Laws, pages 115-116 and table.)

WORK OF STATE COMMITTEES.

State committees on medical education have now been appointed in 45 states, or in all states except Alabama, Arkansas, Nevada, South Carolina, Tennessee and Georgia. These committees have done good work in several instances, having studied local conditions extensively and made splendid reports to their state associations. Particularly was this true in Illinois, Louisiana, Maryland, Minnesota, Missouri, New York, Texas, Virginia and West Virginia. Doubtless other committees have been active also, but have not reported to us.

Through these committees it is hoped that each state medical society will be kept fully informed as to how the standards in their own state compare with the standards throughout the country. These committees can do much to help secure the adoption of the American Medical Association standards in all states by securing for the state examining boards the solid backing of the state medical societies.

In conclusion, the work of the Council for the past year may be briefly outlined as follows:

(a) Collecting, tabulating and publishing the results of state board examinations showing the successes and failures of the graduates of the various medical colleges.

(b) Securing, tabulating and publishing statistics regarding medical students and medical graduates in the United States.

(c) Compiling and publishing abstracts of laws and board rulings governing medical licensure in the United States.

(d) Cooperation with state examining boards, state committees on medical education and with medical colleges in an effort to secure the adoption of the standard of medical education adopted by the American Medical Association.

(e) Collecting of more accurate information regarding medical colleges and their surroundings, particularly concerning the seat, history, buildings, hospitals, laboratories, dispensaries, equipment, college year, etc. This was obtained by securing reports as well as by a systematic inspection of the colleges.

(f) Keeping informed regarding proposed changes in medical practice acts and rendering any assistance possible for the obtaining of advance legislation.

(g) Keeping informed regarding reciprocity and securing from the examining boards reports of licenses issued on that basis.

(h) Collecting from all available sources information bearing on medical education and furnishing it wherever it might be of service. Much has been published in the department of The Journal, entitled Medical Education and State Boards of Registration.

N. P. Colwell, *Secretary.*

(To be continued.)

AMERICAN GYNECOLOGICAL SOCIETY.

Thirty-second Annual Meeting, held at Washington, D. C., May 7-9, 1907.

The President, Dr. Clement Cleveland, New York, in the Chair.

Officers Elected.

The following officers were elected to serve during the ensuing year: President, Dr. J. Montgomery Baldy, Philadelphia; vice-presidents, Drs. I. S. Stone, Washington, D. C., and Malcolm McLean, New York; treasurer, Dr. Charles P. Noble, Philadelphia; secretary, Dr. J. Riddle Goffe, New York (re-elected).

The next meeting will be held in Philadelphia on the fourth Tuesday in May, 1908.

Metastatic Carcinoma of Tube and Ovary in Cancer of Cervix Uteri.

Dr. Fred. J. Taussig, St. Louis, said that mild, chronic, inflammatory conditions of the tube and ovary are frequently met in cancer of the cervix. Whether this is merely a coincidence or not, he is unwilling to say. On the other hand, cancerous metastases in these organs are extremely rare in cervical cancer. In fact, he can find no record of such metastasis in an operable case. In carcinoma of the body of the uterus, however, they are not infrequently seen in tube or ovary, or both. Hence it seems logical to advise the removal of both tubes and ovaries in every case of cancer of the body. If, however, the patient is still five or ten years from the time of the menopause, and the site of the tumor be in the cervix, the saving of one ovary is attended with practically no risk to the patient and may relieve her of the disagreeable symptoms of the premature menopause. Since this can be done without interfering with the complete removal of the lymphatics directly tributary to the cervix, he believes it logical to leave one ovary, or a portion of one ovary, in every operation for cervical cancer in a woman under 40 years of age.

DISCUSSION.

Dr. J. Wesley Bovée, Washington, D. C., said metastases in cancer of the uterus are by no means common, and that, as the disease spreads, metastases occur. This emphasizes the fact that in the case brought to the attention of the gynecologist he is helpless in the treatment of cancer of the uterus; that in the cases in which the conditions ordinarily offer great hope of success, we will find that metastases occur in these structures which are not removed, the result being that cancer recurs or continues unsuspected. At best, the treatment of cancer of the uterus is not hopeful, notwithstanding the claims of radiographers and the demonstrators of radium, etc., and those who do the most radical surgical operations. He is not prepared in the present light of the surgery of cancer of the uterus to accept the suggestion of the essayist, that it is safe to leave a portion or even one ovary in extirpating a cancer of the uterus. His own conviction is that the operation should be as radical as it can be consistent with saving the life of the patient.

Dr. Lapthorn Smith, Montreal, reported a case of cancer of the cervix in which operation was done early by another surgeon, with every possibility of a complete recovery of the patient, yet this woman came to him a year later with two distinct masses in the ovaries which could be felt readily. He considered it too late to operate. This case made such an impression on him that ever since, when doing vaginal hysterectomy, he always removes the tubes and ovaries. He does not think it safe to leave an ovary or a piece of an ovary, when there is such a tremendous risk of recurrence.

Dr. Reuben Peterson, Ann Arbor, Mich., agreed with Dr. Bovée against leaving one ovary or a part of one ovary in the operation for cancer of the uterus. This is a step backward, and is not in accordance with progress that has been made in the last ten years in the treatment of cancer of the uterus. He is not convinced that the leaving in of one ovary, after the removal of the uterus, helps the patient so far as the menopausal changes are concerned. He has been unable to see much, if any, difference where an ovary has been left in, and where it has been removed, after the removal of the uterus for cancer.

Dr. Walter M. Chipman, Montreal, doubts whether it is a wise thing to leave even one ovary, or even a part of one, after the removal of the uterus for cancer, no matter where the cancer is situated. While it is true that the ovary is not in the direct path of the lymphatic distribution of the pelvis, yet so great and so rich is the anastomosis that he thinks the leaving in of ovaries must always be risky.

Dr. Taussig said he anticipated that most of the speakers would disagree with him as to the advisability of leaving a portion of an ovary in the class of cases he discussed, but he believes that this procedure is not at all unsafe, and it seems to him that it is just as logical to advise the removal of the appendix as it is to advise the removal of the other ovary. The appendix is a useless organ; the ovary—at least, in the opinion of some—helps to make the menopausal disturbances less severe in women under 40 years of age, if left.

(To be continued.)

THE MEDICAL JURISPRUDENCE SOCIETY OF PHILADELPHIA.

Meeting held April 12, 1907.

The President, Adolph Eicholtz, Esq., in the Chair.

The Pathogeny of Crime.

Dr. Arnold Lorand, Carlsbad, in his recent lecture before this society, took high ground and made a number of statements likely to provoke deep interest in all circles where it is common to face truth and find remedy for evil rather than shirk the real and weakly accept the coward dictum that whatever is, is right. Broadly speaking, Dr. Lorand held that the two barriers protecting the individual against crime or a criminal career are in active and free will power guided by a sound reasoning power. To see right and to be able to do it; to recognize wrong and have power to refrain from its practice here, is the heart of his pathogeny of crime. And this position he justifies in the following way: When a man has free will power he is able to control his passions; when possessed of sound reason he can distinguish between right and wrong.

The operation of the thyroid gland plays an important part in the pathogeny of crime. When the thyroid is removed there is a resulting effect on the nervous system. Mentality undergoes a change. In myxedema there is found melancholia. In myxedema there is not free will power and the reason is not perfect. Moreover, these persons have delusions of persecution. Insanity and criminality stand in close relation, the difference being only one of degree. In exophthalmic goiter where a condition of exaltation bordering on insanity is found, there are often symptoms of hysteria and neurasthenia. Hysteria stands in close relation to criminality. Chloroform also excites the function of the thyroid gland. Alcohol, too, acts on the thyroid gland, producing increased activity with a condition like drunkenness. Further, he said that infectious diseases bring about an alteration of the thyroid gland, and through such alteration a condition parallel to that underlying insanity and criminal acts may occur. Reference was made to the well-known fact that the sexual glands and the thyroid gland stand in close relation. Each time the sexual glands are altered the thyroid gland is also altered. In puberty this is evidenced by the swelling of the thyroid gland, with consequent alterations of mentality. This has been illustrated by the wandering away from home of young girls. Then, too, alterations in mentality are noted during pregnancy, bringing to pass a weakening of the will and a diminution of the reasoning power. Here it was noted that injection of the extract of the ovaries or testicles acts as a toxic product; further, that castration in man produces melancholia, that after castration in women nervous symptoms invariably take place. This was considered important to bear in mind because in deciding whether a woman has committed criminal action the question must always be considered whether she has been in physiologic or a pathologic condition. Reference was made to a case of kleptomania in a woman who was naturally honest, but every time she was pregnant she would steal. Dr. Lorand said that he would not put such a woman in jail.

After every hyperactivity of the sexual glands there is exhaustion. In the interest of the procreation of the race virtue is a necessity in woman. Hysteria was said to be a condition found in connection with alteration of the sexual glands. In man the testicle plays as great a rôle as the ovaries in woman. This is shown in the mentality of the eunuchs. No eunuch was ever a great man. In old age are seen senility and avarice.

Most courts in Europe, it was said, accept responsibility before the law only when puberty is established. The conception of right and wrong is not the same in a person of 16 or 18, because the testicles are not descended. Dementia præcox is a condition in which crime can be committed easily.

Attention was called to the fact that there is such a thing as exposure to crime by imitation. Experiments show that monkeys, apes and men imitate because they do not know by reasoning whether an act is right or wrong. The suggestion is made that one barrier against crime is to prevent the children from attending cinematograph shows, for it is a well-known circumstance that children born of parents who are hysterical or neurasthenic when they see criminal acts are inclined to commit them. Of 173 persons in France who had been beheaded, only 2 had not seen an execution.

There is no doubt of the importance of the part played by the ductless glands in insanity, and, coincidently, in crime. Therefore, alterations of the ductless glands should be inhibited. If the thyroid glands of the parents are altered, the thyroid glands of their children will be altered, too; that is, be differentiated from the normal. It should not be forgotten that in alcoholism there is degeneration of the thyroid gland; also in syphilis and other infectious diseases, and that the children of such persons must reap the harvest, either in the form of thyroid degeneration or congenital atrophy of the thyroid gland.

Another fact of the first importance is that crime is most common among children of alcoholic and syphilitic persons because these children are born in a condition of congenital myxedema and are lacking reason and will power. Dr. Lorand thought that all would agree to the proposition that it is best for the state to take children of criminals away from home and put them into schools where they will be educated at the expense of the government. This would be true economy, for it will cost far more to allow such children to grow up criminals and for years to occupy our jails. While education is a preventive of crime, hand in hand with education must go a realization of the necessity of aid from religion and from reason. Religion is, and must be, the basis of every government and every state. Without religion a country can not stand; a criminal court is not sufficient; it is only a restorative or corrective, it is never a creative force. Education is a necessity because the educated man will reason himself into a belief in the wisdom of obedience. Obedience will teach exercise of will power.

Criminality appears to be larger in the United States than anywhere abroad because lack of self- control is a national characteristic, and there are here few aids to self-control, few public lessons in the habit of obedience. Lacking enforced military service the young men do not have the training and discipline enjoyed by the men of Europe. The young man is not taught to subject his own will to the will of others. Sons of the wealthy class are chronic idlers; they run naturally to sexual excess; there follow, inevitably, alterations of mentality.

As to the mental condition "dementia Americana," Dr. Lorand does not admit its existence. The condition suggested he would term "dementia plutocratica." This condition, however, he declares, is not essentially American. It is only more common in America because America is richer than other nations.

In his opinion, specialists in neurology should be constantly in the service of the government. In difficult cases there should be a third man. It should be remembered that the highest wisdom suggests that in the treatment of criminals the questions be asked, Is punishment the real treatment of disease? What are the purposes of punishment? The first purpose is the protection of society. All are agreed that vengeance should not be the sole guide. Dr. Lorand suggested to put criminals in a colony where they can be taught to raise cattle, chickens, flowers and vegetables. This would be a wiser policy, and would better safeguard the state than to imprison them; for when such a term of detention has expired the men come out with no taint on them, and they can be made useful members of society.

To sum up the situation, excess or deficit in working power of the thyroid gland or other ductless glands may develop into an abnormal condition which makes inevitably toward insanity; insanity makes, by normal progress, through advancing forms of the imagination coincident with a weakening of the will, toward crime; crime makes for the destruction of the state and the end of civilization. It would thus appear that the safety of society rests on the maintenance of normal conditions in this gland which is so potent in its influence on the moral as well as the physical life of the individual. In short, crime has a basis in a physical fault; the correction of crime is to be sought in the correction of this physical fault rather than in venegeful or isolating forms of punishment inflicted by a hard and fast rule on the individual criminal. Sanity and virtue are synonymous terms—insanity and crime interchangeable synonyms.

DR. CHARLES DEM. SAJOUS agreed with the views of Dr. Lorand, believing that in his presentation of the subject there are the fundamental principles of a proper, fair and just interpretation of many conditions confronting the courts. He feels that the ends of justice would be served if many of those tried by courts of justice were examined physically and treated according to the findings.

DR. F. X. DERCUM agreed with the general trend of Dr. Lorand's address. He feels that the present attitude toward crime is the same as that toward the insane something over a hundred years ago. If the laws could accept the idea of lessened responsibility and deal with crime in accordance with that, he sees that a great step in advance would be made. He agrees with Dr. Lorand that crime should be dealt with from the standpoint of treating the criminal, and that little or nothing can be accomplished by confining him for a given number of months without occupation. He should be put under conditions in keeping with simple physiologic living. Segregation should not be for months or years, but should be dependent on the change in condition. This he regards as the humane view, and expresses the opinion that there will be a change in the oversight of the criminal quite as radical as that seen in the care of the insane.

DR. ALFRED GORDON felt that Dr. Lorand's ideas were based on scientific principles and deep scientific knowledge. He agreed with Dr. Lorand in the majority of his propositions. In the matter of medicolegal testimony, his ideas are absolutely identical with those of Dr. Lorand. A case was cited in which in giving expert testimony he had not been allowed to enter into the details which, in his opinion, lessened the man's responsibility. He believes that if a man is considered an expert, he should be allowed to submit to the judge and jury details of family history and matters of medical knowledge. He believes that the end of justice should be not alone to prosecute the criminal, but to study him for the purpose of preventing crime.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Semi-Centennial Celebration of Its Founding, held May 9-11, 1907.

The President, DR. W. M. L. COPLIN, in the Chair.

The Pathological Society of Philadelphia commemorated the fiftieth anniversary of its founding May 10 and 11, 1907. Exhibition meetings began Thursday evening, May 9, and were continued until Saturday, May 11. The formal exercises were opened by the president, Dr. W. M. L. Coplin of Jefferson Medical College, in the Mütter Museum, College of Physicians, at 10 a. m., May 10, when the society went into scientific session.

The Rôle of Protozoa in Pathology.

DR. FREDERICK G. NOVY, Ann Arbor, Mich., gave a history of the advances made in the study of protozoal diseases and called attention to the difficulties in determining their etiologic factors. The etiologic relationship of amebas to disease is well established, and Novy stated that their division into a pathogenic and non-pathogenic group is unwise, especially in the tropics, where the only safe hypothesis to adopt is that all amebas are or may become pathogenic. Trypanosomal infections, he pointed out, are to be met perhaps in all parts of the world, and they have been found in so many forms of animal life that it seems as if no type of vertebrate is exempt. The experiments in regard to the relative behavior of trypanosomes and of spirochetes to a given anilin dye can not, in Novy's opinion, be accepted unreservedly as a means of differentiating species. The discovery of a trypanosome in patients ill with sleeping sickness he holds to be most important and the experiments being carried on in Central Africa by Koch on the treatment of injections of anilin compounds is to be awaited with interest. Spirochetes, the speaker believes, belong in a group by the side of bacteria, and more especially the spirilla, stating that it is impossible to trace a sharp dividing line between the protophytes and protozoas, and that one must be guided by the different relationship to recognized types. In the supposed protozoal diseases, namely—cancer, smallpox, scarlet fever, measles, yellow fever, rabies and Rocky Mountain fever, Novy urges more exhaustive work along physiologic, chemical and biologic lines, unless the crucial test, that of artificial cultivation, is first realized, since morphology alone seems powerless to overcome the *impasse* in which seemingly we find ourselves to-day. The mode of transmission of this group of diseases is for the most part by insects, though in some of the lower animals infection has taken place through an apparently uninjured mucous membrane. Novy believes that the insects are not only passive but active carriers of both bacteria and the protozoa, and hence the transmission of certain spirochetal diseases by ticks does not afford a serious argument against the bacterial nature of the spirochetes, and the similar rôle of stegomyia in the transmission of yellow fever does not necessarily imply protozoal organisms. He considers the evidence as being suggestive of a spirochete cause.

The Dynamic Point of View in Pathology.

DR. A. E. TAYLOR, San Francisco, made a plea for a more rational and scientific viewpoint of pathology. He considered pathology under three headings: Etiology, of predominant importance from the point of view of preventive medicine and a subject to which too great importance can not be attached in teaching and investigation; morbid physiology, the doctrine of the *modus operandi* of disease; and morbid anatomy, the doctrine of histologic lesions. He pointed out that the last subject has until recently greatly overshadowed the first and continues to overshadow the second, particularly in the teaching of pathology and thus secondarily in the minds of the profession. He considers this disproportionate predominance accorded to the visible lesions of disease out of all proper perspection and proportion and constitutes a bar to the development of the point of view of morbid physiology in clinical medicine. This position he attributes to the fact that physiology was for a long time largely a descriptive science mainly because the majority of physiologists were offshoots from anatomy. At the present time too much emphasis can not be laid on the importance of the advances made in physiologic chemistry to influence pathology in the direction of the dynamic point of view. In regard to practical medicine, he very aptly pointed out the importance of the dynamic point of view in research in pathology by calling attention to our knowledge of two diseases, nephritis and diabetes. He showed how in nephritis the localization of the lesion has been known from the beginning, while for diabetes none has until recent times been known; yet, we to-day know much more about the actual morbid functionation in diabetes than we do in nephritis.

The Newer Pathology.

Dr. Simon Flexner, of Rockefeller Institute, New York, believes that while a study of the anatomical changes introduced in cells by disease has not been exhausted and each year adds valuable stores to our knowledge of the pathologic changes underlying diseased processes, yet the most significant advances are being made by the study of the nature and mode of action of the causes of disease, and that, therefore, the hope for the immediate future lies in the further study by every means that physiologic and biologic science can supply of the infective diseases. The problems confronting the newer pathology, according to the speaker, are to determine the mode of onset, the prevention and the cure of disease. To study prevention the method of infection must first be determined. In the advances made so far, we have learned that not only is the transmission from man to man, but that the man's animal associates and enemies must be carefully scrutinized. The problem of the causation of some of the infectious diseases, namely, smallpox, yellow fever, scarlet fever and measles, Flexner stated, must not be approached from the standpoint that the infective germs of these diseases are ultra-microscopic in size. The cause of disease discovered, the task of pathology, according to Flexner, is merely begun. To possess the cause is merely to be confronted with the problem of the immediate manner in which it acts on the seats of disease to produce the changes which we recognize as being pathologic. The speaker referred to the studies on immunity to bacterial infection, as removing a large part of the mystery of the so-called self-limiting diseases. The present problem is to work out the phagocytic doctrine of Metchnikoff, the humeral doctrine of Ehrlich and the theories of active immunity reaction in the fixed cells of the body. The most difficult problem is to determine the nature of bacterial immunity with the same success that has attended the work in the production of diphtheria antitoxin. The junction of pathology with experimental therapeutics, Flexner believes, opens up a field for interesting and profitable research for specific chemical studies. The recent study of the origin of tumors and the application of the principles gained in the study of infection and immunity in bacterial disease to the study of transplantable tumors in mice opens up wide vistas for future research, and Flexner emphasized that because of this no one is justified on account of the similarity in the phenomena to believe that tumors are of necessity caused by parasites, but rather it discloses the fact that infection and immunity to unicellular organisms are merely special cases of biologic reactions applicable to a wider and more complex series of living structures of which special instances have been found in relation to hemolysins, cytotoxins, precipitins, agglutinins, etc.

Luncheon.

The morning session was concluded with this paper, after which the members entertained their guests at an informal luncheon at the University Club, at which 250 were present.

Pathology and Practice.

At 4 p. m. in the assembly hall of the Pennsylvania Hospital, in which historic building the first meetings of the society were held, Prof. William Osler, University of Oxford, England, was introduced by Dr. Alfred Stengel, University of Pennsylvania, and delivered an address. He advocated the removal of public health matters from the hands of politicians and the teaching and training of men specially in matters affecting the physical well-being of the entire community. He further pointed out that the standard of medical education must be raised. He regretted the possibility for men to graduate in this country without autopsy or hospital experience, and advocated reforms in this direction. Here are a few epigrams from Dr. Osler's lecture:

> With only a few drugs man can practice medicine very well.
>
> In the past fifty years our ideas have changed and we have reached a rational standpoint.
>
> We are the teachers and not the slaves of our patients.
>
> We work by wit and not by witchcraft.
>
> Don't make promises to heal when it is impossible to heal.
>
> The highest aim is not to cure, but to prevent disease.
>
> He cures most in whom most have the greatest confidence.
>
> Give up lecturing medical students to death and make them do practical work.
>
> No one professor in medicine can teach all there is or know about everything.

The banquet in the evening is mentioned under Philadelphia news this week, page 1687.

AMERICAN CONFEDERATION OF RECIPROCATING, EXAMINING AND LICENSING MEDICAL BOARDS.

Annual Meeting, held at Chicago, April 30, 1907.

The President, Dr. W. A. Spurgeon, in the Chair; Dr. B. D. Harison, Secretary.

The following state medical boards were represented: Indiana, W. A. Spurgeon, W. T. Gott; Michigan, B. D. Harison; Ohio, H. E. Beebe, A. Ravogli; Minnesota, W. S. Fullerton; Nebraska, B. F. Bailey; New York, C. E. Gorman; Massachusetts, E. B. Harvey; Kentucky, C. A. Mayer; Wisconsin, J. F. Stevens, P. H. McGovern; Utah, R. J. Richards; Colorado, S. D. Van Meter; West Virginia, J. L. Dickey; North Dakota, F. R. Smith; Idaho, W. F. Howard; Missouri, R. H. Goodier; Vermont, W. Scott Nay.

Others present were: A. D. Price, Vanderbilt University, Tenn.; S. C. Baldwin, State Medical Society, Utah; J. A. Witherspoon, Tennessee, Council on Medical Education, A. M. A.; S. L. Jepson, State Medical Society, W. Va.; V. C. Vaughan, Michigan, Council on Medical Education, A. M. A.; F. C. Zapffe, Illinois, secretary Association American Medical Colleges; W. J. Means, Ohio, chairman Judicial Council, Association American Medical Colleges; W. B. Hinsdale, Michigan, dean Homeopathic Medical College, U. of M.; H. N. Ludwick, Illinois, ex-secretary Wisconsin medical board; W. T. Councilman, Massachusetts, Council on Medical Education, A. M. A.; A. D. Bevan, Illinois, chairman Council on Medical Education, A. M. A.; N. P. Colwell, Illinois, secretary Council on Medical Education, A. M. A.; L. C. Morris, Georgia, Southern Medical College Association; A. B. Bailey and A. P. Andrus, Wisconsin.

The minutes of the Columbus (Ohio) meeting, April 25, 1906, were read and adopted.

Secretary's Report.

This report stated that there had been a conservative progress of the reciprocity movement during the past year, and that this movement had assumed a well-defined educational system, as well as a necessary policy of convenience in medical licensure. It called attention to the difficulty encountered from the fact that the term "medical reciprocity" was subject to an almost universal misinterpretation of its scope and intent. Medical reciprocity (a) does not mean a leveling of the products of medical registration of two or more states followed by unrestricted endorsement of medical licenses of such states, (b) but the accepting of present and future conditions of standard of two or more states and endorsement on mutually accepted products of a certain and known standard.

The only material thing accepted through Qualification 1 is the credit of the board examination and the recommendation of the reciprocating state covering moral and professional character. Under Qualification 1 the former prevailing idea that reciprocity involved the recognition of licentiates in classes as opposed to individual recognition is fast disappearing. A defective qualification, either involving preliminary or medical education, accepted in one state on account of exemptions in the law, or through error or defective administration, can not, through such state recognition, claim immunity in fulfilling the exact requirement of another state in reciprocity.

Qualification 2, which involves the recognition of the older and experienced graduate, is also fast becoming better understood. The material qualification involved in this form of reciprocity is contained in the following definite statement: "If the practitioner, at the date of his diploma and state license obtained on the basis of such diploma, could have fulfilled the requirements of the reciprocating state at such an even date and prior to the date of the requirement of the double qualification (diploma and state board examination), and, in addition, can furnish evidence of continued reputable and successful practice, then his qualifications may be endorsed." The fact that out of some 600 licenses reported endorsed during 1906 only 60 of these are under qualification 2 demonstrates that the danger attributed to this form of reciprocity is greatly exaggerated.

Since the 1906 meeting the regular board of Georgia and the West Virginia board have been admitted to the confederation, and several other boards have put into effect reciprocity agreements with other states, and other boards have, where possible, extended their reciprocity agreements to both qualifications.

Thirty-one states now endorse licenses through reciprocity, 13 under Qualification 1 only, and 18 under both qualifications, and several states are obtaining the necessary legislation covering the future endorsement of licenses under both qualifications.

The report suggested the issuing of a pamphlet similar to the one issued by the American Medical Association under the title of "Abstract of Laws." The report also called attention to the want of uniformity in application forms used by the several states and suggested the continuance of the committee on forms, having in view the remedying of this defect.

Licenses were endorsed through reciprocity during the year 1906 as follows:

States.	No. I.	No. II.	Total.
Connecticut Eclectic Board	6	..	6
Virginia	19	..	19
South Carolina, Regular	8	..	8
Indiana	12	9	21
Iowa	55	8	63
Delaware	4	..	4
Maryland	Not classified.		26
Ohio.	50	6	56
Missouri	32	3	35
Illinois	47	..	47
North Dakota	20	..	20
Wisconsin	16	12	28
Georgia, Homeopathic	1	..	1
Vermont	3	2	5
Minnesota	40	1	41
New York.	31	..	31
Kansas.	Not classified.		120
Michigan	44	17	62
	388	58	593

Advanced Standing.

Discussion on this subject elicited the fact that a large number of states have the statutory requirement of "four years in a medical college." It was the consensus of opinion, therefore, that the better policy for the confederation would be to take no action whatever relative to the subject of advanced standing, but that the subject should be left to the judgment of the individual board and the limitation of its medical act.

It was, therefore, moved by Harison (Michigan), seconded by Stevens (Wisconsin), that all matter relative to advanced standing adopted at the Columbus meeting, 1906, and at all former meetings, be expurged from the minutes. Carried.

Attention was called by the president to the report of the Council on Medical Education, American Medical Association, relative to the result of an inspection of the medical colleges of the country by the council. The result of this inspection was very highly commended by several members, and far-reaching benefits were anticipated in the cause of higher standards in the future.

Moved by Bailey (Nebraska), seconded by Ravogli (Ohio), that a committee of five be appointed (of which the president and secretary shall be members), whose duty it shall be to secure all data possible concerning the medical colleges of the country and to report at the next meeting of the confederation, with recommendations looking to better control of the colleges by the state in which they are situated. Carried.

The following were appointed members of such committee: Harison (Michigan), Spurgeon (Indiana), Stevens (Wisconsin), Hamel (Missouri), Bailey (Nebraska).

Moved by Mayer (Kentucky), seconded by Stevens (Wisconsin), that the chairman appoint a committee of three to deliberate on and formulate a plan for more uniform legislation in respect to the powers of licensing boards in the revocation of licenses for immoral and unprofessional character. Carried.

The president appointed as members of this committee: Mayer (Kentucky), Dickey (West Virginia), Canfield Indiana).

Preliminary Requirements.

Moved by Bailey (Nebraska), seconded by Gott (Indiana), that no change be made at this time in the standard of preliminary education adopted by the confederation at Columbus, 1906, and that a committee of three be appointed to confer with the secretary of the Association of American Medical Colleges to consider the flexibility of such standard and to report at the next meeting of the confederation. Carried.

The president appointed as members of such committee: Harison (Michigan), Gott (Indiana), Matson (Ohio).

Uniformity of Forms.

The committee on uniformity of forms, of which Dr. Stevens of Wisconsin is chairman, was continued.

Officers Elected.

Dr. W. A. Spurgeon, Muncie, Ind., a member of the Indiana State Board of Examiners, was re-elected president, and Dr. B. D. Harison, Detroit, secretary of the Michigan State Board of Registration in Medicine, was re-elected secretary.

The president, Dr. Spurgeon, stated that he wished to have recorded in the minutes a statement of appreciation of the very valuable assistance and advice the confederation had received from the Association of American Medical Colleges and from the Council on Medical Education of the American Medical Association, and he trusted that the confederation's relations with these bodies in an advisory capacity would continue in the future, as it meant much in the cause of uniformity of standards in preliminary and medical education. Several other members, representing state medical boards, re-echoed this statement of the president.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-second Annual Session, held at Washington, D. C.
May 7-9, 1907.

The President, Dr. Francis P. Kinnicutt, in the Chair.

The Need of Perfected Organization.

Dr. Francis P. Kinnicutt, New York, in the president's address, chronicled the death of three members during the past year, active members Drs. Stewart of Montreal and Atkinson of Baltimore, and honorary member Dr. Latimer of Baltimore. He spoke of the discoveries of Wright and Douglass regarding the opsonic power of the blood and the need for testing the practical availability of the procedure. The physician of the past and too largely of the present has been the individual, and the profession has taken no commanding position in municipal and state affairs. In those affairs they are now needed.

Connections of Occipital Lobes and Present Status of Cerebral Visual Functions.

Dr. Adolf Meyer, New York, gave a lantern-slide demonstration of specimens from cases showing that the optic radiations can be much further subdivided than has been done. Among the points illustrated were the isolation of the geniculo-calcarine tract, the afferent character of the external sagittal marrow, the efferent character of the internal sagittal marrow, subcortical fibers toward the motor area, and the absence of fibers to the frontal lobe.

DISCUSSION.

Dr. L. F. Barker, Baltimore, regarded Dr. Meyer's studies as definitely proving many of the points discussed and hence of especial value. The subject is of great importance in diagnosis and the anatomy of these parts should be further elucidated.

Certain Features of the Nervous Breakdown.

Dr. James J. Putnam, Boston, regards as the most striking example of this acute breakdown the so-called traumatic neurosis, though strains during school and college life and intercurrent events during chronic illnesses are also effective in its production. The controlling influence in the causation of these states, and also the controlling means of treatment, is the mental state of the patient. The methods of treatment must be based largely on re-education of the patient, specially the increase of his available stock of mental energy. The objects to be aimed at are two: First, to make the person more efficient; second, to make him more philosophic and ethical. In general it may be said there is no single clue to all methods of treatment.

DISCUSSION.

Dr. Adolf Meyer, New York, believes there is a possibility of misconception if the physician is asked to teach philosophy and ethics. This is a most important point, however, and both these will find a foundation as has psychology. The ethics of habits and reaction types will become of prime significance.

Dr. Charles L. Dana, New York, regards a large number of these cases not a nervous breakdown, but a psychosis. Some patients get over the condition in a short time, but with many it lasts.

Dr. Abraham Jacobi, New York, has in such cases almost always found changes in the heart, in some the presence of murmurs. Hence one must remember there is a physical change, as well as the psychic, to be treated.

Dr. S. Weir Mitchell, Philadelphia, said these cases are sometimes emotional conditions, sometimes physical breakdown. It is often a complicated condition that works out in the sick room into its component parts. Cases that begin acutely are extremely rare.

Dr. Putnam said that we rarely see acute cases except those due to trauma. Here strong encouragement is often effective. The condition is not a pure psychosis, hence the visceral and other tissue changes must be observed and treated.

Clinical Study of Aphasia.

Dr. Charles L. Dana, New York, studied some 30 cases of aphasia. Nearly all cases fall into one of four groups. First, pure motor aphasia; second, inability to read; third, sensory aphasia of Wernicke; fourth, mixed cases, in which speech, reading, writing, comprehension, in fact, almost everything, is lost. Students learn to say where the lesion is when the symptoms of these groups are presented. Apraxia occurs only with bilateral lesions, as a rule.

DISCUSSION.

Dr. William Thomson, New York, can work out 27 types of aphasia instead of 24, as mentioned by Dr. Dana. He detailed three cases, all absolutely devoid of motor symptoms.

Drs. Starr, Putnam, Prince and Dana all stated their conviction that the contention of Marie that the speech center is not in the convolution of Broca is not proven.

Inflammatory Masses in the Abdomen Simulating Malignant Growths.

Dr. E. G. Janeway, New York, described several cases in which firm masses in the abdomen, with or without exploratory operation, were pronounced inoperable tumors, but which later disappeared entirely. Some of these were in the iliac fossæ, two in connection with gastric ulcer, and two in the region of the gall bladder. These cases teach the clinician not to be too hasty in giving a bad diagnosis and prognosis. He has no doubt that the so-called removal of some tumors by the Roentgen ray and other methods has been due more to the "tincture of time" than to the agent employed. They also teach that operation does not always absolutely settle the diagnosis.

DISCUSSION.

Dr. William Osler, Oxford, Eng., said that often physicians have been deceived by these cases. They may be grouped in three classes, as they pertain to the region of the gall bladder, the stomach or the appendix and cecum. His attention has lately been directed to a group of cases in which a mass is felt in the sigmoid region. This may be due to thickened glandulæ epiploica, which will deceive the elect, or to perforation of a foreign body or pericolic inflammation. He agrees as to the fallibility of surgical operation, but always urges early interference. Some operations are disappointing, but many are satisfactory.

Dr. A. McPhedran, Montreal, spoke in this connection of tuberculous peritonitis. He believes that more cases of this disease recover without than with operation. He also mentioned a case of supposed malignant tumor of the pyloric end of the stomach, for which gastroenterostomy was performed and which entirely disappeared.

Etiology of Acute Pancreatitis.

Drs. H. U. Williams and F. C. Busch, Buffalo, analyzed cases from the literature and reported experimental observations. In cases where gallstones are absent they suggest that the previous passage of gallstones may have dilated the ampulla of Vater and thus allowed intestinal contents to pass into the pancreas. Experiments on cadavers suggested the possibility of this occurring. In some animals they caused pancreatitis by injecting into the pancreas duodenal contents. They also pushed through the duct bodies similar to gallstones and then tried by pressure to force duodenal contents into the pancreas. In some instances they succeeded in thus causing pancreatic lesions. In consideration of physiologic facts it appears that autodigestion of the pancreas indicates the entrance into the organ of enterokinase, but the introduction of that substance into the pancreas did not produce pancreatitis.

DISCUSSION.

Dr. Eugene L. Opie, New York, said it is not improbable that the mechanism mentioned by the writers does occur and that pancreatitis is due to the entrance of duodenal contents. However, the cases in which he has seen large stones in the ampulla of Vater have been those of chronic rather than acute pancreatitis, it appearing that bacteria instead of duodenal contents entered. Bile and bile salts appear specially efficacious in producing pancreatitis.

The Calcium, Magnesium, Phosphorus and Nitrogen Balances in a Case of So-called Phosphatic Diabetes.

Drs. L. F. Barker and C. Voegtlin, Baltimore, reported this case, the patient being a woman of 39, who for years suffered from dry skin, cracking of the heels, nervousness and periodic losses in weight. The urine was constantly of high specific gravity and high acidity. She was put on Folin standard diet and the salts measured. The results showed an abnormal metabolism. The calcium was at first high, more than double the normal. The phosphates were increased, but became about normal on diet. The total acidity of the urine was striking, running at times to 1,500 c.c., five times the normal, and averaging 700 c.c. on Folin diet. The relation of this form of acidosis to other forms due to starvation, diabetes, acute infections, etc., is interesting. There was no acetone or diacetic acid in the urine and the acidity was not due to lactic, hippuric or uric acids. The real cause is not known. Carbohydrate metabolism was normal in this patient, hence it appears different than diabetic acidosis. Whether this condition leads to the exhaustion of calcium and other salts is an interesting question.

DISCUSSION.

Dr. William Osler said the chief point of interest in this case is that any one would have pronounced it a case of diabetes until the urine was examined, but repeated tests failed to show the least trace of sugar. When he saw the woman he regarded the case as one of prediabetes and expected each examination of the urine to show that sugar had appeared.

Dr. A. E. Taylor, San Francisco, said he tested on himself the effect of an ash-free, alkali-free diet and felt nothing but lassitude for six days, when itching of the skin and general irritability began. Sleep became impossible and diacetic acid appeared. This was regarded as a danger signal and ordinary diet was resumed with disappearance of symptoms in a few hours. Here the equilibrium was disrupted, though there was no particular withdrawal of calcium.

Dr. Barker said that salts are just as important in diet as are fats and carbohydrates. There must be equilibrium or the muscles, including the heart, and nerves can not act properly. These results constitute an interesting outlook for the future in determining the origin of disease.

Relations Between Diabetes and Pregnancy.

Dr. Augustus A. Eshner, Philadelphia, collated the literature on this subject, comprising 34 cases, and reported an unusual instance. A colored woman of 34, who had had sugar in the urine for three years, became pregnant. During pregnancy sugar disappeared, but again appeared shortly after the birth of a macerated fetus at term. He found no similar case in literature. Diabetes is uncommon during pregnancy, and this condition rarely occurs in diabetics. The complication of one with the other usually increases the gravity of both. often the fetus dies *in utero*, or premature labor occurs. The mother sometimes dies of the disease shortly after labor.

DISCUSSION.

Dr. James Tyson, Philadelphia, now has under observation a diabetic woman who became pregnant while under treatment for the disease, the urine showing 2 to 5 per cent. of sugar. The symptoms have been in no way aggravated and pregnancy is now near term.

Experimental Fibrinous Pleurisy.

Dr. Eugene L. Opie, New York, detailed experiments which show that the disappearance of fibrinous exudates in the pleura can be studied under conditions analogous to those which obtain in pleurisy and pneumonia in man. He injects turpentine into the pleural cavities of dogs, producing sero-fibrinous pleurisy. Accumulation of fluid is at the maximum at the end of three days and fluid has entirely disappeared at the end of six days. Resolution of fibrin begins while fluid is present and is completed after the fluid has disappeared. In the first stage the fibrin digests itself in the presence of weak alkali, but later does so only in the presence of weak acid. It is possible that carbon dioxid, acting in the body as an acid, promotes resolution of the exudate by the enzyme. By aspiration of fluid and other means, as by repeated injections of turpentine, the characters of the exudate may be modified, even changed from sero-fibrinous to purulent.

Certain Acoustic Limitations of the Stethoscope and Their Clinical Importance.

Dr. Lewis A. Connor, New York, studies confirm that certain sounds can be heard by the unaided ear and not by the stethoscope. In the heart this is specially true of certain murmurs of aortic insufficiency, whizzing in character. In the lung it is true of high pitched bronchial and also of amphoric breathing. Three points were offered in explanation of this fact. First, high pitched sounds are less readily propagated in closed tubes, especially elastic tubes. Second, when the ear is placed on the chest wall sound is transmitted by the bones of the skull as well as by the ear itself. Third, all chest sounds are composite and some bear certain relations to the tube of the stethoscope and are by it increased or diminished. The practical point is that students are wrongly taught to use only the stethoscope; they should be encouraged to use the ear.

DISCUSSION.

Dr. S. Solis-Cohen, Philadelphia, finds it difficult to make students trained only to the stethoscope hear the sounds he does. Another point is that the stethoscope changes many sounds. The sole advantage of that instrument is in localizing sounds previously discovered by the ear.

Dr. E. G. Janeway, New York, said that certain pneumonias do not give sounds with the stethoscope. He also encountered one instance of a cavity not possible of demonstration with that instrument, though its presence was conclusive.

Dr. Abraham Jacobi, New York, mentioned the difference in area covered by the ear and the stethoscope as one source of difference in their findings.

(*To be continued.*)

Marriages

Sylvia F. Harris, M.D., and Samuel Hardy of Nevada, Cal., at Berkeley, Cal., May 9.

Henry L. Stevens, M.D., to Miss Kittie Kinnear, both of Laramie, Wyo., April 30.

Era M. Scofield, M.D., to Miss Bessie C. Brown, both of Jamestown, N. Y., April 30.

Edwin B. Daugherty, M.D., Eveleth, Minn., to Miss May Alness of St. Paul, May 1.

Francis M. Walsh, M.D., to Miss Eleanor Gertrude Murphy, both of Philadelphia, April 27.

Charles Edward Klontz, M.D., to Miss Elizabeth Case, both of Cherry Valley, Ill., May 2.

John R. Osborn, M.D., Prospect, Ohio, to Miss Hazel Barber of Rushsylvania, Ohio, April 30.

John T. Harbottle, M.D., to Miss Margaret Louise Hayes, both of Columbus, Ohio, April 30.

Walter W. Smith, M.D., Reily, Ohio, to Miss Marguerite Kitchell of Kitchell, Ohio, April 30.

John H. Seaman, M.D., New Haven, Mich., to Mrs. William P. Sprague, at New Haven, April 2.

E. E. Bbunner, M.D., Carrollton, Mo., to Miss Mary D. Neal of Southport, Eng., at Centralia, Mo., April 29.

Ferdinand Austin Kittinger, M.D., Lockport, N. Y., to Miss Adelaide F. King of Buffalo, N. Y., April 30.

Charles A. D. Clark, M.D., Harbor Springs, Mich., to Miss Matilde Beit of Sherman, Mich., at Cadillac, Mich., April 27.

Deaths

John Traston Main, M.D. Castleton (Vt.) Medical College, 1857; a member of the American Medical Association; sometime a member of the House of Representatives and Senate of Maine; for a long time a private pupil and assistant of Dr. Oliver Wendell Holmes; assistant surgeon of the Second Maine Volunteer Infantry in the Civil War; a member and president of the board of health of Jackson, Mich., and medical inspector of the City Hospital, died at his home in Jackson, May 1, after a long illness, aged 75.

Carl L. Rominger, M.D. University of Tübingen, Germany, 1840; a member of the Washtenaw County (Mich.) Medical Society, the American Association for the Advancement of Science, and the American Geographical Society; for many years state geologist of Michigan, and a recognized authority on his specialty, died at his home in Ann Arbor, from senile debility, April 22, after an illness of four months, aged 86.

John Swectland, M.D. Faculty of Medicine of Queen's University, and Royal College of Physicians and Surgeons, Kingston, Ont., 1858; sheriff of Carleton County, Ont.; formerly coroner for Lanark and Renfrew counties, and surgeon of the County of Carleton General Hospital; president of the Medico-Chirurgical Society; died at his home in Ottawa, Ont., May 5, from disease of the liver, after a long illness, aged 71.

Irvin B. Webber, M.D. Cincinnati College of Medicine and Surgery, 1870; a member of the Indiana State and Kosciusko County medical societies; president of the Northern Indiana Medical Association; United States pension examiner and health officer of Warsaw, died on a street car while returning home from Winona Lake, May 1, aged 61.

William Harrison Jopes, M.D. Missouri Medical College, St. Louis; a member and president of the board of managers of State Hospital No. 3, Nevada, Mo., for about 14 years, died at his home in Greenfield, Mo., April 12, from stricture of the colon, after an illness of three months, aged 72.

James Dudley Pendleton, M.D. University of Virginia, Department of Medicine, Charlottesville, 1860; for 30 years assistant clerk and clerk of the state senate of Virginia, died suddenly at the home of his daughter in Bedford City, Va., April 10, from cerebral hemorrhage, aged 77.

Marvin Stephen Buttles, M.D. New York University Medical College, 1865; once vice-president and president of the East River Medical Association; from 1864 to 1873 professor of obstetrics in the Medical Department of the University of the City of New York; from 1865 to 1872 surgeon of the Seventy-first Infantry, N. G. S. N. Y.; founder of the Olivet Female Infirmary, and medical officer of the New York fire department, died at his home in New York City, May 9, aged 73.

Arthur Bertin De Villeneuve, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1872; well known as a physician, journalist, musician and linguist, died at his home in New Orleans, from heart disease, April 30, after an illness of six days.

Charles Williams Ottley, M.D. Johns Hopkins Medical School, Baltimore, 1899; formerly of Atlanta, Ga.; for several years professor of biology in Robert College, Constantinople, Turkey, died at Johns Hopkins Hospital, May 8, from postoperative pneumonia, aged 36.

William H. Hotchkiss, M.D. Medical Institution of Yale College, New Haven, Conn., 1872; a specialist in diseases of the eye and ear, died at his home in New Haven, May 2, from cerebral hemorrhage, after an illness of a few hours, aged 60.

Fulton Rogers, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1867; a member of the American Medical Association, died recently at his home in Napoleonville, La., from chronic interstitial nephritis, aged 60.

George H. Fossard, M.D. Albany (N. Y.) Medical College; assistant surgeon in the Army during the Civil War and chief surgeon of New York Volunteers, died at his home in Brooklyn, N. Y., May 10, aged 68.

James W. Ferguson, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1876; of Haslett, Mich., died May 6, in a hospital in Toledo, Ohio, where he was under treatment for inflammatory rheumatism, aged 58.

James O. H. Banks, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1873; died at his home in Pocopson Township, Pa., April 29, from cancer of the rectum, after an illness of two years, aged 78.

William B. Tackett, M.D. University of Louisville (Ky.) Medical Department, 1849; one of the oldest practitioners of Johnson, I. T., died at his home in that place, May 2, from senile debility, aged 82.

Lester F. Smith, M.D. Illinois Medical College, Chicago, 1906; died at the home of his father in Brazil, Ind., May 1, from uremia following an operation on the prostate gland two weeks before, aged 23.

William Jackson Kendall, M.D. College of Physicians and Surgeons, Baltimore, 1884; died at his home in Paris, Va., February 20, from pneumonia, after an illness of five days, aged 45.

Samuel G. Milner, M.D. Homeopathic College, University of Michigan, Ann Arbor, 1877; of Detroit, died at Grace Hospital, in that city, May 2, a few hours after a surgical operation, aged 61.

Ira Lee Forsee, M.D. Chicago Homeopathic Medical College, 1904; died at his home in Louisville, Ky., May 2, from pneumonia following typhoid fever, after an illness of two months, aged 25.

James Warren Cameron, M.D. Hahnemann Medical College and Hospital, Chicago, 1878; died at his home in Salina, Kan., April 20, from appendicitis, after an illness of one week, aged 60.

James H. Ferrell, M.D. Homeopathic Hospital College, Cleveland, 1885; died at his home in Marion, Ohio, May 3, from uremia, after an illness of two weeks, aged 55.

Frederick Volz, M.D. Jefferson Medical College, Philadelphia, 1892; died suddenly at his home in Bloomington, Ill., March 27, from pulmonary hemorrhage, aged 42.

Anabel Holmes, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1892; formerly of Chicago, died April 22, at her home in Portland, Ore., aged 43.

James A. Elder, M.D. St. Louis (Mo.) Medical College, 1879; formerly of Saline County, Mo., died at his home in Pasa Robles, Cal., April 14, from paralysis.

Willard W. Wilcox, M.D. Dutton Medical College, Chicago, 1899; of Oklahoma City, Okla., was drowned while bathing at Tampico, Mex., recently, aged 60.

Augustus H. Warren, M.D. New York University, New York City, 1886; formerly of La Grange, Ill., was found dead in Quincy, Ill., April 16, aged 70.

Miscellany

THE INTERNATIONAL MOTHER TONGUE.

A Plea for the Use of Latin Derivatives to Facilitate the Reading of Articles by Foreigners.

E. CUSHING, CHICAGO.

In no other science or profession is there such constant and widespread interchange of ideas as between members of the medical profession in all lands, all working to a common end.

Everything that tends to make international communication easier is a direct boon to science and to the profession. The present agitation in favor of Esperanto shows the craving and blind groping for an international tongue. Those who are promoting Esperanto and Volapük overlook the fact, however, that every one now has at his command at least 5,000 words which are practically the same in English, French and all the Latin tongues and are understood by scientific Germans and others. Every word derived from the Latin is understood at once by any one who has ever studied Latin or is familiar with French, Spanish, Italian or Portuguese, scientific Russian, scientific German, scientific Danish, Swedish, etc. Terms from the Greek are also alike in all languages.

The Journal has already drawn attention to this fact, and has shown that a sentence can be couched in good English terms which yet will be intelligible to persons of other nations, with, perhaps, the exception of the more common, shorter words, prepositions and conjunctions which can be looked up in the dictionary and easily learned. Writers would aid the progress of science if they would bear this fact in mind, and, at least in the titles of their articles, use such terms as are understood the world around.

If medical writers would take pains to couch the summaries at the end of their articles in this International English, as it might be called, the cause of science would be immeasurably promoted. There is no doubt that anything "the Americans" have to say is listened to abroad with interest and respect—when it is understood. If other nations followed this same plan of using words which are already in international use, the reading of their scientific articles would be much facilitated for us.

All scientific journals and works in Germany have long been published in our ordinary type, and it is used commonly everywhere now, except in far eastern Europe. Consequently, there is no difficulty from this source. A knowledge of the verb "to be" and of the articles "the" and "a" is not indispensable, as the sense is so easily made out without them. "Is" and "are" are omitted as superfluous in some languages, and we know that Latin has no article, having only eight parts of speech.

The summary at the end of Dr. Camp's article on "Paralysis Agitans" in The Journal for April 13, page 1239, is a model specimen of this International English. There is only one word, "disease," which a foreigner would have to look up in the dictionary, besides an occasional preposition. The prepositions he would soon learn by heart if he could hope for frequent summaries in International English.

We quote the summary referred to in full, to show how beautifully the English language adapts itself to international use. The word "disease"—which is from a Gothic root and has no counterpart in other languages—might have been replaced by "malady," when the whole contents of the summary would have been clear to any scientific foreigner.

1. Paralysis agitans is not a neurosis nor is it senility.
2. The anatomic basis of the symptoms, muscular rigidity and tremor, and the symptoms depending on them, lies in the affection of the muscles.
3. The disease itself is probably a general toxemia, and there is suggestive evidence that it is due to alteration in the secretion of the parathyroid glands.

The conclusions of Camp's article in German, worded with a view to international comprehension, would read as follows:

1. Paralysis agitans ist nicht eine Neurose und ist nicht Senilität.
2. Die anatomische Basis für die Symptome, Muskel-Rigidität und Tremor, mit den davonabhaengigen Symptomen, liegt in der Muskel-Affection.
3. Die Paralysis agitans selbst ist, wahrscheinlich, eine generelle Toxaemie die aus alterierter Sekretion der Parathyroiden hervorgeht.

In French the same conclusions would read:

1. La paralysie agitante n'est pas une névrose et ce n'est pas la sénilité.
2. La base anatomique des symptomes, rigidité musculaire et tremblement, et les symptomes qui en dépendent, réside dans l'affection des muscles.
3. La maladie propre est probablement une toxémie générelle et les phénomènes observés plaident en faveur de l'assumption qu'elle est le résultat d'une altération dans la sécretion des glandes parathyroidiennes.

Comparison with the original English will demonstrate that every writer in every language has it in his power to couch at least the titles and summaries of his articles in an international mother tongue which will be understood by scientists under every flag.

The conclusions of Camp's article would not have been understood at all by the foreigner if they had been worded as follows. He would have had no idea that the writer was discussing paralysis agitans:

1. Shaking palsy is not a nervous disease nor is it the decay of old age.
2. The anatomic groundwork of the perceptible change in function, stiffness of the muscles, the shaking, and the changes in function springing from them, lies in a diseased condition of the muscles.
3. The disease itself is probably due to the action of poisons in the blood, and there are grounds for supposing that it is the result of changes in the secretion of the parathyroid bodies.

Couched in these terms the foreigner would view the summary "as through a glass, darkly," and pass over it without heed, skipping it as absolutely beyond his comprehension, even although he might be specially interested in Parkinson's disease.

In writing for international comprehension, it must be remembered that figures are the same in all languages, and are recognized at once by readers of all nationalities. They frequently provide welcome stepping-stones when an explorer is making his way with difficulty through the morass of an unfamiliar language; "2" is understood by every one, but "two" only by those familiar with English. Such local terms as "mumps," "bowels," "Genickstarre," "kusma," "coqueluche," and the like should be replaced by more scientific terms before an address or article is sent anywhere for publication.

Scientific writers, especially medical writers, are so modest that they often fail to realize that their article—if known to some investigator abroad—may lay the foundation or supply the finishing stone for some important structure with which their name will be indissolubly connected, or, at least, it may save other investigators from going needlessly over the same ground again.

The heedless may ask with the Irishman, "Why should we take so much trouble for posterity? What has posterity done for us?" but the thoughtful will realize that scientific works are a mine of information for workers of this and future generations in all lands, and that everything which tends to aid in the dissemination of scientific facts, now or later, hastens the reaping of the harvest.

Patent and Other Proprietary Medicines Abroad.

The jealous regard for individual rights in the United States and in England gives the probable reason for the reluctance with which these countries have interposed legal restrictions on the trade in "patent" and proprietary medicines. The result is that in these two countries the nostrum maker has had more chance to humbug the public and the profession than in any other country. However, there is an awakening in England, as well as here. The *Lancet* in its issues for November 17 and 24 contains a review of the subject of "patent" and proprietary medicines by a barrister at law, who takes up the matter from the lawyer's viewpoint. While we can not give space to the complete article, which we would like to do, we think the following quotations and abstracts are worthy of reproduction:

"There are virtually no restrictions in Great Britain on the sale of proprietary secret medicines, so long as these contain no scheduled poison and no considerable proportion of alcohol. By the use of the medicine stamp, absolute proprietary rights and absolute secrecy with regard to the composition of any medicine whatever may be indefinitely maintained." Medicines containing scheduled poisons must be sold at retail only by a registered pharmaceutical chemist or chemist and druggist, and in the shop of a registered chemist or of a limited company and must be labeled poison. Scheduled poisons do not, however, include such articles as acetanilid, sulphonal and trional. Excise licenses are necessary for the sale of preparations containing much alcohol.

Patents are granted to medicinal preparations for the period of fourteen years on the theory that they are novel and useful. The patent authorities are bound to search their records to determine the novelty of the new process, but have no authority to refuse the patent on the ground of novelty, but such a patent may be declared invalid if protest is made. According to high authority, a chemical substance is never the subject of patent. It is only the process of manufacture that can properly be patented. A trademark gives usually better protection to the proprietor of a medicine than a patent. To secure the protection of a trademark it is not necessary to show that the remedy is new or useful, but the name must be non-descriptive and can be registered at any time and applied to the remedy whenever it becomes convenient. It protects the property in the name, not only for fourteen years, but forever. The manufacturer attempts to secure a word which approaches, as near as may be safe, to the border line between descriptiveness and non-descriptiveness. The *Lancet* aptly illustrates this by the case of "tabloid." "The registration of the hybrid word, 'tabloid'—derived from a thoroughly familiar Latin root and an equally well-known Greek suffix—was a masterpiece of foresight and sagacity. The word so aptly describes the article to which it is applied that it naturally springs to the lips of the average person who wishes to buy compressed tablets; yet the word has been held by the Court of Appeal to be a valid mark and is private property for all time. The result is that there is a permanent quasi-monopoly in an article of commerce which was at one time the common property of all traders."

The shrewdness of manufacturers has led them to perpetuate the rights obtained by patent after the expiration of the patent by advertising the article under the trademarked name and thus continuing indefinitely the protection of the trademark to the article which has become known under that name. Decisions of the English courts have, however, made this protection invalid if anyone sees fit to contest it. "Where an article has been introduced as new and has first been manufactured under a patent, the name by which it is known becomes common property as soon as the expiration of the patent rights puts an end to the monopoly in the manufacture and sale of the article" (Kerly on Trademarks). Unfortunately, it is not worth while for any one firm to incur the expense of moving the court in order that the whole community may share in the benefits obtained. So, as often as not, the monopoly persists and the public, of course, has to pay.

EXCLUSIVE RIGHTS TO PUBLIC PROPERTY.

A good example of the abuses to which the patent and trademark laws are subject is shown by the following quotation from the *Lancet* article:

"There are at the present moment many firms of manufacturers who devote much thought to the perfection of devices whereby they may secure exclusive rights in this or that medicinal substance which is now public property. In some instances they boldly apply for a patent for some already known chemical substance or process, trusting that the insufficiency of present requirements of the law with regard to novelty in an application for a patent, or the complex language of their specification, or the addition, perhaps, of some illusory 'improvement,' and the inactivity of other traders will enable them to achieve their object. A good example of this is to be seen in the acetyl-salicylic-acid [Aspirin] case recently before the courts. In that case it was shown that a patent had been obtained, and for many years enjoyed, in respect to a chemical compound, the process for manufacturing which was perfectly well known before the patent was issued. The judge, in declaring the patent invalid, remarked that, by error, accident or design, the specification had been so framed as to obscure the subject as much as possible.

"But it is rarely that this method of securing proprietary rights in medicinal substances is attempted. The easier and more usual method is to apply to the coveted remedy a trademark consisting of some 'invented' word. This may be chosen especially to suit the substance or it may be a word which the manufacturer has had 'in stock' while he waits for something to turn up, to which the mark may suitably be applied. For example, since the acetyl-salicylic-acid patent was declared invalid rival firms have endeavored to 'collar' the trade in the compound by applying to it fancy trademarks and attempting to persuade medical practitioners to use these only when prescribing acetyl-salicylic acid. Can it seriously be contended that there is such a difference between the brands of acetylsalicylic acid sold by A under the name of 'aspirin,' or by B under the name of 'saletin,' or by C under the name of 'salacetin,' or by D under the name of 'acetysal,' or by E under the name of 'xaxa,' and the compound sold under its proper chemical name, as to make it desirable in the interests of the public health that the state should protect five separate proprietary interests in what is to all intents the same article, and that a well known and useful piece of public property? And can it be regarded as desirable that the real nature of the compound should be masked by the use of all these fancy words? To give other examples, different brands of hexamethylene-tetramine have the following fancy names: Urotropine, aminoform, formin, cystamine, uritone and naphthamin, while adrenalin competes with suprarenalin, epinephrin, adnephrin, adrin, suprarenin, haemostasin, renastyptin and paranephrin. All these, or nearly all, are registered trademarks."

AS OTHERS SEE US.

In the second article, the *Lancet*, November 24, the United States is designated as the "home of all that is worst in the proprietary medicine trade." Preparations strong in alcohol and morphin "flourish exceedingly." The attempts at legislation in various states are noted and their failure attributed to "strenuous opposition from the newspaper press, nearly the whole of which is afraid to offend the advertising nostrum manufacturers." "But in some respects the governments have powers which are not possessed in Great Britain. For instance, when 'liquozone' was publicly exposed in 1905, although no attempt was made by any government department in Great Britain to take action in the matter, the San Francisco board of health, exercising power vested in it, promptly forbade the sale or distribution of 'liquozone' on any terms whatever within the area of the board's jurisdiction."

CUBA.

In Cuba a law requiring the publication of the ingredients of proprietary medicines on the labels was modified through the influence of the nostrum proprietors so that the disclosure need only be made to a government official pledged to secrecy. In Porto Rico the law requires that all the formulas of all proprietary medicines shall be filed with the government before the medicines can be sold. The law had an immediate effect on nostrums imported from the United States and the Porto Rico druggists ceased to sell many American proprietary medicines in which they had formerly dealt.

AUSTRIA.

The laws of Austria are especially worthy of study. The qualified pharmacist is the only person who may compound or sell any preparation containing poison, and in all such cases a physician's prescription is necessary. Proprietary medicines can not be placed on the market without permission of the board of health, which must first have been informed of the exact composition of the article, supplied with samples, and satisfied that the compound is in some way novel or useful or that it is presented in an improved form. No recommendation of any proprietary medicine as a cure for any disease is allowed, and all advertisements in the press and elsewhere are under the direct and strict supervision of the police. The price of proprietary medicines is fixed by the board of health, and foreign proprietary medicines are not allowed to enter the country unless under certain exceptional conditions. The law is said to work well.

FRANCE.

In France only qualified pharmacists may make and sell proprietary medicines; the formula must have been published (a) in the "Codex" or (b) by the government, or (c) in an issue of the *Bulletin de l'Académie de Médecine;* the publication of advertisements for secret medicines is contrary to law. The law is loosely enforced.

GERMANY.

Germany excludes foreign proprietary medicines by a heavy import duty and regulates the traffic in home remedies by forbidding advertisements of certain remedies, requiring that the bottles shall not bear labels or be wrapped in circulars containing recommendations, certificates, etc. Some potent medicines may be sold only on a medical man's prescription. The composition of all scheduled remedies must be known to the druggist who sells them. Analyses of new medicaments and secret remedies are being made at the Berlin Pharmaceutical Institute and published in the *Apotheker Zeitung*. The regulations are not the same in all parts of the empire, but the general result is greatly to discourage the sale of secret remedies. A well-known English proprietary medicine was voluntarily withdrawn from the German market by the proprietors, who objected to disclosing the formula of their preparation and did not think that much business could be done if its sale were subjected to the restrictions on secret medicines? The advertising managers of two Hamburg journals were each fined $12 or five days' imprisonment for publishing advertisements of Allcock's plasters, the composition of which was not declared.

AUSTRALASIA.

Australia and New Zealand appear to be especial sufferers from the proprietary medicine evil and the trade has reached enormous proportions there. A writer in *The World's Work* is quoted as stating that these countries imported in 1905 proprietary medicines of the invoice value of nearly $1,500,000, many of them being of a flagrantly noxious character and advertised by grossly fraudulent means. Laws have been passed bringing medicines containing scheduled poisons under the regulations for the sale of poisons, and regulations have been established by the board of health of Victoria limiting the amount of alcohol in non-official remedies of which the average dose is more than one teaspoonful for adults to 10 per cent., also requiring the publication of the presence of a long list of narcotics. The federal government is empowered to forbid the importation of proprietary medicines containing narcotics, etc., without a declaration of the contents on the label and may require the disclosure of trade secrets and may confiscate unapproved articles; the postmaster-general may refuse to transmit letters sent in connection with a fraudulent business.

In New Zealand an attempt was made nearly three years ago to require certain nostrums to the number of 160 to bear on their labels a full disclosure of their constituents, with the quantity of each. The opposition of the proprietary men was so powerful through their influence with the business men and the newspapers that the regulation was toned down until it was required that the disclosure need be made only confidentially to the minister of public health, and only when such disclosure should be specially demanded. Thus whittled down the regulations clearly can not do much to protect the public.

Sanitary Conditions at Mauritius.—Consul Botkin, in his report, gives the following information regarding the sanitary condition of this British island in the Indian Ocean: The island has an area of 715 square miles, including reefs, bars, etc. The population numbers almost 400,000 people, who live on an area of half that of the entire island. The remainder of the island consists of mountains, forests, and military reservations, where dwellings are forbidden, though little of such idle land is fit for human habitation. The total population consists approximately of 260.000 Indians, 5,000 Chinese, 80,000 creoles (negroes and mixed), and 50,000 whites. The drainage is naturally very good, and the natural condition has been greatly improved by the substantial manner of building the roads and the permanent drainage canals on each side of the roads. There are few swampy lands and no stagnant water. Water for drinking and culinary purposes is derived mostly from Mare aux Vaccas, a fresh-water lake that occupies one of the large ancient craters near the center of the island and furnishes from some hidden source an inexhaustible supply of very pure water, which is piped to all the towns and villages. Owing to the porous nature of the thin soil and of the lava rocks beneath it, the rain water carries downward much surface filth, contaminating well water and causing much of the fever prevailing among the Indian coolies and lower class of creoles. Malarial diseases are generally present along the coast. The constant prevalence of malarial disorders and fever forced almost the entire white population, years ago, to abandon the port towns. Except during about ninety days in June, July and August, annually, very few white people are to be seen in Port Louis after 5:30 p. m. During those ninety days a moiety of the whites venture to sleep near their places of business, but even then the risk of getting the fever is very great. Bubonic plague is another constant menace to the colored populations of the coast towns. Plague made its first appearance on this island about eight years ago, and all efforts to stamp it out and prevent its recurrence have failed. Beriberi appeared among the convicts at Beau Bassin prison about March 1, 1907, and created great alarm throughout the island, but the health officials soon had the disease under control. They assumed that the cases of beriberi were caused by the daily ration of Saigon rice, which only recently the authorities had been furnishing to the prisoners in lieu of Indian rice as formerly. Wholesome wheat bread was substituted and the use of Saigon rice strictly forbidden at the prison. The result was a disappearance of the malady.

Etiology of Beriberi.—The study of beriberi has been assiduous and has attracted the attention of a number of European and Japanese pathologists. So far no satisfactory explanation of the etiology of the disease has been arrived at, although the recent researches point in the direction of an infection. The investigations of Wright led him to believe that the symptoms are due to an intoxication from the products of the growth of a bacillus which makes its domicile in the upper part of the duodenum. The difficulty of demonstrating the pathogenic character of an organism found in the gastrointestinal canal has, however, prevented his theory from gaining ground. C. W. Daniels ("Studies from Institute for Medical Research, Federated Malay States," vol. 4, part 1), reports a large number of observations on this disease made in the Federated Malay States, which give a basis for certain conclusions, although they do not settle the question of the etiology of the disease. The occurrence of the disease in prisons gives a good opportunity for testing certain theories of the disease, especially those which attribute it to the effect of certain articles of diet and to the location or character of the dwelling. As the prison fare is practically identical in the various prisons, it is possible to eliminate its influence in comparing the statistics of epidemics in different prisons. The author reaches the following conclusions:

1. Beriberi is an infectious disease. As a rule, a short period of incubation and a period of exposure of less than three months is requisite for full development of the disease where the "endemic index" is high.
2. There is no definite proof that intermediate host is required, but the balance of evidence is against its being conveyed by earth, air, water or food or contamination with sewage or other fecal matter.
3. There is some evidence that for a short period only after the occupation of small spaces, beds, bedrooms, etc., the "poison" or carrier of infection may remain.
4. Food as regards quantity and quality, its nature or relative proportions, may have an effect on the susceptibility of the patients, although the proofs are not conclusive, but is not the causative agent.
5. If an intermediate host for the unknown parasite is required, it must be either a cimex or a pediculus. Pediculi as carriers would better explain the incidence of the disease than any other bloodsucker.
6. A closer inquiry into the earlier stages of the disease is required. Where opportunities for such an inquiry occur, renewed attention should be bestowed on the blood and tissues, with a view to determining the presence or absence of any protozoon.
7. Prophylaxis. In view of the failures of various attempts at disinfection of buildings and places, and of various modifications of diet to have a marked effect, more attention should be paid to limiting the chances of personal infection, and particular attention should be paid to the personal cleanliness, freedom from vermin, and isolation of early or trivial cases of the disease.

Pernicious Anemia Cured with Intravenous Injection of Corrosive Sublimate.—A young man was suddenly attacked with high fever of an intermittent type, followed by sweats, and refractory to quinin and change of air. After the febrile period and an afebrile interval of nine days, remittent fever was observed, with vomiting, diarrhea and enlargement of the spleen, while the blood contained only 1,292,000 reds and 5,400 whites, with 25 per cent. hemoglobin. A week later the general condition was progressively worse and the blood picture was 645,000 reds, 4,300 whites and hemoglobin 20 per cent., with numerous megaloblasts. Baccelli made an intravenous injection of 1 cg. (1/6 grain) of corrosive sublimate, according to his well-known technic, giving six injections in the course of 8 days. Within 6 days the blood picture had improved to 1,450,000 reds, 8,800 whites and hemoglobin 29; three days later the reds numbered 2,208,000, the whites 6,500 and the hemoglobin had reached 35 per cent., while within three weeks of the last injection the blood findings were practically normal: Reds 3,500,000, whites 4,500, and hemoglobin percentage 70. Baccelli ascribes the fulminating progressive pernicious anemia to invasion of the system by some unknown germ which is destroyed by intravenous injection of sublimate. The patient has since had an attack of acute gastrointestinal disturbance with malarial symptoms, after errors in diet, and the parasites of quartan fever were found in the blood, but he recovered under a few doses of quinin, and the blood picture at no time showed any tendency to the pernicious anemia type. He has since been in good health. The case is reported in the *Policlinico*, xiv, page 149, 1907, the communication ending with the remark: "We hope that physicians everywhere will give this method of treatment a faithful trial, for the benefit of humanity."

Recent German Legal Decisions in Regard to Medical Fees.—A physician rendered an account in January of the fees due him from a certain patient, and when the account had not been paid in March, he brought suit for the amount. The judge affirmed that the defendant should have paid for the medical services at the time they were rendered. At the very latest he should have paid the bill at once on its presentation. In another suit a man was sent by his family physician to a specialist for a middle ear affection. The patient refused to pay the specialist any more than the regular fees he would have paid the family physician. The judge decided in favor of the plaintiff, affirming that a specialist is not justified in charging more than the regular fee without further notice. In another case the judge decided that the patient must bear the expenses of a consultation of physicians whether he had agreed to the consultation or not. If he wishes to protect himself against such expense he must inform the consulting physicians on their arrival that he does not want their aid. In another case a father had paid the physician's account for treatment of an aural affection in a child. The child returned to the physician again and was given another treatment for which a charge of about 75 cents was made. This the father refused to pay, as the child had returned without his knowledge or consent, but he was ordered by the judge to pay it.—From the *Zeitschr. f. ærztl. Fortbildung*, iv, 95, 1907.

Anesthesia of the Teeth from Cocain Tampon in Nose.—Escat has recently announced, and his statements are confirmed by Lederer, that a tampon moistened with cocain and inserted in the nose will induce anesthesia of the gums and teeth below the nasal fossa. The anesthesia does not develop until from 15 to 20 minutes after the tampon dipped in 5 or 10 per cent. solution of cocain has been introduced into the nose. The anesthesia is most intense about the thirtieth minute; the tampon is then removed, and the anesthesia persists for 15 minutes longer, and then gradually subsides. In examination of 500 patients the anesthesia was found crossed in 8 cases, and in 37 the gum and teeth on the opposite side were also partially anesthetized. In Lederer's experience the anesthesia amply sufficed for operations on the teeth, even extraction of carious roots, and in a communication to the *Prag. med. Wochschr.*, xxxii, 90, 1907, he discusses the anatomic basis for the phenomenon.

Ether to Check Suppuration.—Souligoux and Tillaux have reported unusually fine results from the use of ether in aborting suppurations. They scrub the skin with a freshly boiled nail brush until the epidermis is removed, and then dress the part with several compresses dipped in ether, covered with oiled silk. Every hour a corner of the dressing is raised and more ether poured in to keep the compresses moist. This is kept up for several days and the suppuration retrogresses to complete absorption in a few days, without the necessity for an incision. An article in the *Tribune Méd.*, xl, 217, 1907, describes some of their experiences. The favorable effect of the ether is ascribed to its penetration into the skin where it acts as a microbicide while stimulating phagocytosis.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

THE METRIC SYSTEM AND HOW TO USE IT.

W. A. Jolley, M.D.
BOULDER, COLO.

(*Concluded from page 1631.*)

1. *Liquid Measurements.*—Table 1 is intended to facilitate the acquirement of the metric system for practical prescribing, but it is not accurate enough for scientific work.

TABLE 1.

15 minims	1 cubic centimeter.
1 dram	4 cubic centimeters.
1 teaspoonful	5 cubic centimeters.
1 ounce	30 cubic centimeters.
1 pint	500 cubic centimeters.
1 quart	1,000 cubic centimeters.

Prescriptions should be planned so that numbers to which we are accustomed in our monetary system may be used—that is, decimal fractions and the short cuts used in financial calculations.

The majority of acute conditions for which physicians are called to prescribe subside in two or three days and do not require more than about twenty doses of any remedy; and when it is remembered that a teaspoon holds about 5 c.c it will be seen that 100 c.c is all that need be prescribed. If the dose of the drug is less than 5 c.c. multiply the selected amount by twenty (20) and add some vehicle to bring the total amount to 100 c.c.

This is a convenient amount to prescribe when the medicine is to be given three times a day for a week. For one month 500 c.c. is approximately the quantity to prescribe if the medicine is to be taken at meal times, as is usual in continued treatment.

When preparing antiseptic solutions 1,000 c.c. or 1 liter is convenient to use.

The following prescriptions will explain this more fully. Aconite is generally used in most fever mixtures, taken 0.5 c.c. at a dose. Liquor potassii citratis may be used as a vehicle. It requires practically no mental effort to write:

R.	Tincturæ aconiti (.5x20)	10
	Liquoris potassii citratis q. s. ad	100

M. Sig.: A teaspoonful every 4 hours.

The following prescription containing nux vomica may be used when a tonic is to be given, for a month:

R.	Tincturæ nucis vomicæ (.5x100)	50
	Tincturæ gentianæ comp. q. s. ad	500

Sig.: A teaspoonful before meals.

The metric system has no equal when preparing solutions of a definite percentage. For example, if there were no bichlorid of mercury tablets it would take the ordinary man several minutes to decide on the proper amount to be used in a 2 to 1,000 solution, but a prescription is easily written in the metric system:

R.	Hydrargyri chloridi corrosivi	2
	Aquæ q. s. ad	1,000

Sig.: Poison: Use for wash.

2. *Weights.*—It is more difficult to handle weights, for the quantities are so small and the specific gravity varies so greatly that one can not compare the different amounts as with liquids. The term "one grain" conveys to the mind an idea of a definite quantity that has been used as a standard from habit, not for convenience. In the case of alkaloids the grain is divided very minutely and the term is dropped altogether if the amount is a dram or more.

The metric system offers a number which does not have these objections. I will take 0.05 gram, or 50 mg., as a basis for smaller calculations, because it is approximately a grain and can be used even if large quantities are to be weighed.

This has the same advantages that 5 c.c. has in the liquid measurements, but to secure the advantages of the decimal system the prescription should be written for 10, 20 or 50 doses if powders, pills, capsules, tablets, suppositories, or any solids are to be given. For example:

R.	Pulveris ipecacuanhæ et opii (.5x10)	5

M. Ft. pulveres No. x.

A great obstacle lies in the fact that tablets are not made in the metric system, so that physicians who dispense their own medicines think that they can use only the apothecaries' weights, but this is a mistaken idea. Tablets can be selected, the dosage of which can be stated approximately in the metric system, and so label them until the tablets are made in the metric weights, as they will be eventually. Table 2 gives an idea of the approximate equivalents, not accurate enough for scientific work, but close enough for practical dispensing.

TABLE 2.

1/500 grain	= .000125.		
1/250 grain	= .00025.		
1/120 grain	= .0005.		
1/60 grain	= .001	or	1 milligram.
1/30 grain	= .002	or	2 milligrams.
1/10 grain	= .005	or	5 milligrams.
1/6 grain	= .01	or	10 milligrams.
1/3 grain	= .02	or	20 milligrams.
1/2 grain	= .03	or	30 milligrams.
1 grain	= .05	or	50 milligrams.
2 grains	= .125	or	125 milligrams.
5 grains	= .3.		
15 grains	= 1 gram.		
1 dram	= 4 grams.		
1 ounce	= 30 grams.		

As a practical illustration I select a few of the above equivalents which can be used when ordering tablets:

Aconitin	1/500	grain can be labeled .000125.
Strychnin sulphate	1/60	grain can be labeled .001.
Strychnin sulphate	1/30	grain can be labeled .002.
Calomel	1/6	grain can be labeled .01.
Calomel	1	grain can be labeled .05.

That sacrifices extreme accuracy for mathematical convenience, as is the practice in writing prescriptions in the apothecaries' system.

It is easy to use the metric weights in ointments and suppositories. For example:

R.	Ichthyol	2
	Olei citronellæ	5
	Adipis lanæ hydrosi	50

M. et ft. unguentum.

R.	Pulveris opii	2
	Olei theobromatis	20

M. et ft. suppositoria No. xx.

3. *Solids and Liquids.*—Manufacturers and wholesale druggists use the avoirdupois ounce (437.5 grains) when selling drugs. A druggist may take an unbroken package without remembering this fact and fill a prescription with it, in which case the patient will receive less than intended. This can not occur in the metric system. The following prescription illustrates the ease with which solids can be accurately combined with liquids:

R.	Potassii iodidi (.25x100)	25
	Syrupi sarsaparillæ comp. q. s.	500

Sig.: One teaspoonful three times daily.

The accuracy of the metric system is especially evident in handling alkaloids when percentage solutions are to be made, as is often the case with cocain. For example:

R.	Cocainæ hydrochloridi	4
	Aquæ destillatæ q. s. ad	10

M. Sig.: Four per cent. solution of cocain.

4. *Practice.*—Having thus obtained a theoretical knowledge of the principles involved, a practical knowledge should be acquired by actual work with graduates, bottles, and scales, using common drugs until one is familiar with the different terms and the quantities they represent. The next step can be

combined with a study of the changes in the new Pharmacopeia. A physician might take a file of prescriptions and ascertain the principal drug he is using. He can consult the new Pharmacopeia and study the preparations made from each, the percentage of active principle, dose, and pharmaceutical indication. This information could be written on a card to be studied at leisure, as follows:

Nux vomica:

Nux vomica contains 1.25 p. c. of strychnin, dose......		05
Extract nux vomica contains 5 p. c. of strychnin, dose..		0125
Fluidext. nux vomica contains 1 p. c. of strychnin, dose.		05
Tinct. nux vomica contains 1 p. c. of strychnin, dose...		5
Iron and strych. citrate contains 1 p. c. of strychnin, dose		125
Elixir iron, quinin and strych. contains .275 in 1,000..	4	
Glycerite of iron, quinin and strych. contains .8 in 1,000	1	
Syrup of iron, quinin and strych. contains .2 in 1,000..	4	
Syrup iron hypophosphite comp. contains .115 in 1.000..	8	

Such drugs as opium, belladonna, digitalis, coca, cinchona, aconite, ipecac, iron, arsenic, and a few others could be handled as described. Drugs are being standardized and the strength of the active principles expressed in percentages. Tinctures are made to contain a definite percentage of the crude drug. Test solutions and all scientific work is based on the metric system. Continued use will bring out the advantages of this system which are not apparent at first.

To Determine Amount of Active Principle.—The amount of the active principle in each prescription can easily be calculated when written in the metric system as follows: In the first prescription given in this article 10 c.c. of the tincture of aconite was prescribed; 100 c.c. contains .045 gm. of aconitin, 10 c.c. will have .0045, and each dose will contain .0002 aconitin.

In the second prescription it must be remembered that as 100 c.c. of the tincture of nux vomica contains .1 gm. strychnin, then 50 c.c. contains .05, and each dose will represent .0005 strychnin.

In the fourth prescription the amount of opium is 1/10 of the entire quantity = .5, the quantity of morphin is 12 per cent. of .5 = .06. In each powder, .006.

5. Dosage for Children.—One advantage of the metric system is the facility with which dosage for children can be computed. Consider the age of an adult as 20 and use that number for a denominator and the child's age for the numerator, as follows: Estimate the dosage for an adult for one dose in that particular condition. This then will be the total required in a mixture containing 100 c.c. for a child one year old if a teaspoonful is given as each dose; a child two years old will require twice that amount in the 100 c.c., and so on up to the adult.

There is no short cut to knowledge of the metric system. One can not drop at once that which has been used constantly for years; but when once this has been done and the metric system taken up in its place a step forward has been made in practical medicine. Remember the fundamental principle: *Do not transpose doses.*

Scabies.

Sabouraud claims that scabies may be cured in an hour and a half by the following method of treatment:

The patient is first rubbed for half an hour with black soap (green or soft soap); he then takes an alkaline bath for half an hour. After coming out of the bath the entire surface of his body is to be well rubbed with:

℞.	Oil of verbena	
	Gum tragacanth, of each..............	1 part
	Precipitated sulphur	100 parts
	Glycerin	200 parts

To be well mixed.

A final bath is then to be taken, lasting from fifteen to twenty minutes. The clothing and body linen must be disinfected. During the two weeks succeeding this treatment four baths of starch water are given. In case there should be cutaneous irritation, local applications of ointment of zinc oxid are used.

In the treatment of this condition Potter recommends the following combination:

℞.	Hydrargyri chloridi corrosivi.........	gr. iv		26
	Alcoholis	fʒvi	24	
	Ammonii chloridi......................	ʒss	2	
	Aquæ rosæ q. s. ad....................	℥vi	180	

M. Sig.: Apply as a lotion to affected parts.

Bulkley advises the following:

℞.	Sulphuris sublimati	ʒii	8
	Olei cadini	fʒii	8
	Cretæ preparatæ	ʒiiss	10
	Saponis viridis		
	Adipis, āā	℥i	30

M. Ft. unguentum. Sig.: Apply to affected parts.

For children and individuals with delicate and sensitive skin Stelwagon recommends the following:

℞.	Sulphuris sublimati		
	Balsami peruviani, āā	ʒii-vi	8-24
	Adipis benzoinati		
	Petrolati, āā, q. s. ad..................	℥iv	120

M. Ft. unguentum. Sig.: Apply to affected areas.

For the average dispensary patient the same author advises the following:

℞.	Sulphuris sublimati................	ʒiv-vi	15-24
	Balsami peruviani	ʒiv	15
	Beta-naphthol	ʒi-ii	4-8
	Adipis benzoinati		
	Petrolati, āā, q. s. ad..................	℥iv	120

M. Ft. unguentum. Sig.: Apply to affected areas.

Before the ointment is applied Stelwagon has the patient take a hot bath, using plenty of soap, preferably green soap unless the skin is over-sensitive. All the affected parts are rubbed thoroughly with a coarse wash cloth, or, in case of patients with rather tough skin, with a brush. The ointment is then rubbed in vigorously over the entire surface below the chin line, particularly in areas where the eruption is well marked. The ointment is rubbed in night and morning for from two to four days, the patient wearing the same underwear continuously. Ten or twelve hours after the last application the patient takes a bath and changes his underwear; the bed linen is also changed. Stelwagon asserts that one such course of treatment thoroughly carried out usually suffices. Itching usually lessens or wholly disappears after the first application; slight itching may occur toward the end of the treatment, due to the irritation of the sulphur. Occasionally this may be mistaken for a return of the scabies.

After the preliminary soaking and scrubbing Crocker, in private practice, uses the following application recommended by Kaposi:

℞.	Naphthol	15 parts
	Prepared chalk	10 parts
	Soft soap	50 parts
	Lard	100 parts

M. To be well rubbed into the affected areas.

For infants and young children Crocker uses this half strength and omits the soft soap. It is not irritating to the skin, as is sulphur, and it has no odor. It is too expensive, however, for dispensary practice.

Incompatibles.

PRECIPITATION BY ACID.

In the following prescription the liquid extract of licorice is evidently intended to conceal the taste of the quinin, but the acid precipitates the glycyrrhizin, making a turbid mixture and much reducing the sweetness of the licorice:

℞.	Quininæ sulphatis..................	gr. xv	1
	Acidi sulphurici dil....................	ʒi	4
	Fluidextracti glycyrrhizæ	f℥ss	15
	Aquæ q. s. ad.........................	f℥iii	90

The *Pharmaceutical Journal* advises the druggist in this case to ask the prescriber to authorize omission of the acid and suspension of the quinin instead.

Medicolegal

Liability in Turning Sick Person Improperly Away.

The Supreme Court of Minnesota says that the case of Orlando Depue vs. John Flateau, Sr., and John Flateau, Jr., was an unusual one on its facts, and "all-four" precedents are difficult to find in the books. In fact, after considerable research, the court has found no case in which the facts are identical with those in this case. The facts were, briefly, as follows:

The plaintiff, a cattle buyer, called at the house of the defendants to inspect some cattle with a view to purchase.

Being unable to decide that evening, he requested the privilege of remaining over night; this was not granted by the defendants. Flateau senior invited him to remain for supper, which he did. After the evening meal, the plaintiff and both defendants repaired to the sitting room of the house, and the plaintiff made preparation to depart for his home. His team had not been unhitched from the cutter, but was tied near the house. Though the evidence was somewhat in doubt as to the plaintiff's condition while in the defendants' home, it was clear that he was seriously ill and too weak to take care of himself. He was found early next morning about three-quarters of a mile from the defendants' home nearly frozen to death. The result of his experiences necessitated the amputation of several of his fingers, and he was otherwise physically injured and his health impaired.

At the conclusion of the plaintiff's case, the trial court dismissed the action on the ground that the evidence was insufficient to justify a recovery.

The Supreme Court reverses an order denying a new trial. It says that two questions were presented for consideration: (1) Whether, under the facts stated, the defendants owed any duty to the plaintiff which they negligently violated; and (2) whether the evidence was sufficient to take the case to the jury on the question of whether the defendants knew, or, under the circumstances disclosed, ought to have known, his weak physical condition, and that it would endanger his life to send him home unattended.

It was insisted by the defendants that they owed the plaintiff no duty to entertain him during the night in question, and were not guilty of any negligent misconduct in refusing him accommodations, or in sending him home under the circumstances disclosed. Reliance was had for support of this contention on the general rule as stated in Union Pacific Railway Co. vs. Cappier, 66 Kan. 649, where the court said: "Those duties which are dictated merely by good morals or by humane considerations are not within the domain of the law. Feelings of kindness and sympathy may move the Good Samaritan to minister to the sick and wounded at the roadside, but the law imposes no such obligation; and suffering humanity has no legal complaint against those who pass by on the other side. . . . Unless a relation exists between the sick, helpless or injured and those who witness their distress, of a nature to require and impose on them the duty of providing the necessary relief, there is neither legal obligation to minister on the one hand, nor cause for legal complaint on the other."

This is no doubt a correct statement of the general rule applicable to the Good Samaritan, but it by no means controls a case like that at bar. The facts of this case bring it within the more comprehensive principle that whenever a person is placed in such a position with regard to another that it is obvious that, if he does not use due care in his own conduct, he will cause injury to that person, the duty at once arises to exercise care commensurate with the situation in which he thus finds himself, and with which he is confronted, to avoid such danger; and a negligent failure to perform the duty renders him liable for the consequences of his neglect. This principle applies to varied situations arising from non-contract relations.

In the case at bar the defendants were under no contract obligation to minister to the plaintiff in his distress, but humanity demanded that they do so, if they understood and appreciated his condition. And, though those acts which humanity demands are not always legal obligations, the rule to which the court has adverted applied to the relation existing between these parties on this occasion and protected the plaintiff from acts at their hands that would expose him to personal harm. He was not a trespasser on their premises, but, on the contrary, was there by the express invitation of Flateau senior. He was taken suddenly ill while their guest, and the law, as well as humanity, required that he be not exposed in his helpless condition to the merciless elements.

In its substantial facts this case is not unlike that of Railway Co. vs. Marrs, 27 Ky. Law Rep., 388. In that case the railway company was held liable for the death of one Marrs, who was found asleep and intoxicated in the railway yards, and having been aroused and ordered off the premises, neglected to go, and about forty minutes later, having again fallen asleep on the tracks, was run over and killed.

The case at bar is much stronger, for here the plaintiff was not intoxicated, nor a trespasser, but, on the contrary, was in the defendants' house as their guest, and was there taken suddenly ill in their presence, and, if his physical condition was known and appreciated, they must have known that to compel him to leave their home unattended would expose him to serious danger. If the defendants knew and appreciated his condition, their act in sending him out to make his way to Madelia the best he could was wrongful and rendered them liable in damages.

The Supreme Court does not wish to be understood as holding that the defendants were under absolute duty to entertain the plaintiff during the night. Whether they could conveniently do so did not appear. What they should or could have done in the premises could only be determined from a full view of the evidence disclosing their situation, and their facilities for communicating his condition to his friends or near neighbors, if any there were. All these facts would enable the jury to determine whether, within the rules of negligence applicable to the case, the defendants neglected any duty they owed the plaintiff.

Pupils with Certificates from Anti-Vaccinationist May be Excluded During Epidemic.

The Supreme Judicial Court of Massachusetts says that in the two cases of Mary D. Hammond and J. Forest Hammond vs. Town of Hyde Park, each of the plaintiffs was suspended from one of the public schools of the defendant town because of a refusal to be vaccinated at a time when smallpox was prevalent in the town. A short time before the suspension the school committee made a regulation as follows: "Voted to exclude from attendance all unvaccinated children, and also all children who do not present a certificate of revaccination as required by the board of health, until such time as this committee may become satisfied that the imminent danger from smallpox in our town has ceased."

The Massachusetts statutes give the school committee of a town "general charge and superintendence of all public schools," etc. This power is broad and ample. For the promotion of the best interests of pupils and of all the people, it necessarily has been construed broadly by the court.

In section 6 of chapter 44 of the Revised Laws of Massachusetts is this language: "A child who has not been vaccinated shall not be admitted to a public school, except on presentation of a certificate signed by a regular practicing physician that he is not a fit subject for vaccination." Each of these plaintiffs presented such certificate. It appeared that it was given without an examination of either of them; and the daughter of the physician testified, he being deceased, that her father was a member of what is called the Anti-Vaccination Society, and it was his opinion that nobody was a fit subject for vaccination, and he would give a certificate to anybody who applied for it that that person was not a fit subject for vaccination.

The judge instructed the jury as follows: "The statutes seem to provide that the school committee may exclude from the public schools children who have not been vaccinated, except such as present certificates from a practicing physician that they are unfit subjects for vaccination. The plaintiffs in these cases have presented certificates, which the court rules were sufficient in point of form, that they are or were unfit subjects for vaccination. That having been done, the school committee has no authority under the laws of this commonwealth to exclude such children from the public schools." He then ordered verdicts for the plaintiffs and reported the cases for the determination of this court.

The question on this instruction is whether the statute which absolutely forbids the admission of an unvaccinated child to a public school at any time without a certificate from a physician is an implied enactment that, with a certificate, such a child shall be permitted to attend at all times, even when smallpox is raging in the neighborhood. The court sees nothing to indicate such an intention on the part of the legislature. This is a prohibition of attendance at any time except on a condition. There is an implication that, with the certificate, such a child properly may be permitted to attend when there is no particular reason to apprehend danger; but it was not intended to take away from the school committee the power to make proper regulations for the protection of all the pupils, if the prevalence of smallpox seems to require special precautions. The ruling of the lower court is wrong.

Physician Not Liable for Communication of Smallpox.

The Supreme Court of Illinois says that the case of Haas vs. Tegtmeier was brought for the recovery of damages alleged to have been caused by the defendant, a physician, bringing into and infecting the plaintiff and his minor children with smallpox while the defendant was treating the wife of the plaintiff for pneumonia.

The first count of the amended declaration, or statement of the plaintiff's cause of action in this case, charged that the defendant, during the time he was treating the plaintiff's wife, was also treating a patient for smallpox; that it became the duty of the defendant to exercise reasonable care and caution to avoid carrying and spreading said contagious disease to the family of the plaintiff, but that, disregarding his duty in that regard and without taking necessary precautions, the defendant infected the plaintiff and four of his minor children with said disease, from which they became dangerously ill, etc. The second count was substantially like the first count, except that it stated the case with a little more elaboration and detail. The damages were laid at $2,500.

After issue joined a trial was entered on with a jury, and, during the progress of the trial, the plaintiff asked and was granted leave to amend the second count of the declaration. What was filed in pursuance of that order "by way of amendment" was not an amendment to the second count of the declaration, but was a new and complete count within itself. Said count averred that the plaintiff learned that the defendant was treating a person afflicted with smallpox on the 27th day of December, 1904, and on that day notified the defendant to cease treating the plaintiff's wife and desist from visiting the plaintiff's house; that thereupon the defendant assured the plaintiff that he had not entered the house of the smallpox patient and would not do so, but that he had treated him by seeing him through a window from the outside, and would so continue to do, and that there was, therefore, no danger of communicating the disease from the smallpox patient to the plaintiff or his family. The declaration averred that, relying on these assurances, the plaintiff permitted the defendant to continue his visits to his house for the treatment of his wife until her death, which occurred Jan. 5, 1905; that the assurances and representations of the defendant that he had not entered the house and room in which the smallpox patient was confined were false and untrue; that he had entered said house and room, and continued to do so until the death of the patient, Jan. 1, 1905, and that in consequence thereof he caused the plaintiff and four of his minor children to contract said contagious disease of smallpox. The damage in this count also was $2,500. The defendant demurred to this count of the declaration and the trial court sustained the demurrer.

The trial proceeded to a conclusion under the amended declaration and issue joined thereon, and resulted in a verdict for the defendant, on which the trial court rendered judgment for the defendant. The plaintiff appealed to the Appellate Court, where the judgment of the Circuit Court was affirmed, and then he appealed to the Supreme Court.

The Supreme Court, unfortunately, does not state any of the grounds of either the Circuit Court or Appellate Court decisions. It simply dismisses the appeal to it because of the statute providing for an appeal from the Appellate Courts to the Supreme Court, in actions where there has been no trial on an issue of fact in the lower court, only where the amount claimed in the pleadings exceeds $1,000. It was contended that the count demurred to stated a different cause of action from that stated in the first count, and presented an issue of fact in the Circuit Court on which there was no trial. But the Supreme Court does not agree with that. It says that it was true that the amended count averred that the defendant was permitted to continue his visits to the plaintiff's house by reason of false representations that the defendant had not been in the house and room of the smallpox patient, and would not enter therein, but such amended count, like the original counts, counted on damages claimed to have been sustained by the plaintiff by reason of the defendant infecting his family with smallpox.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, New York.

May 4.

1 *Raynaud's Disease. J. V. Shoemaker, Philadelphia.
2 Non-Operative Treatment of Gastric Diseases. F. B. Turck, Chicago.
3 Mental Responsibility and Crime. A. Gordon, Philadelphia.
4 *Mucous Mucomembranous and Membranous Colitis. J. P. Tuttle, New York.
5 *Treatment of Chronic Suppuration of the Middle Ear. E. B. Dench, New York.
6 *Preliminary Consideration of the Treatment of Cancer. T. H. Evans, Philadelphia.
7 Artificial Hyperemia, with Special Reference to Bier's Method. H. F. Wolf, Philadelphia.
8 *Case of Cerebellar Abscess. J. D. Richards, New York.
9 Professional Confidences. E. S. McKee, Cincinnati.
10 *Cesarean Operation Under Difficulties. F. T. Woodbury, Gandara, Island of Samar, P. I.

1. **Raynaud's Disease.**—Shoemaker reports a case of this affection, occurring in a woman 34 years of age. The disease was of eight years' duration. The patient is still under treatment.

4. **Colitis.**—Tuttle claims that catarrhal colitis is as common a disease as catarrhal rhinitis. As causes of membranous colitis he mentions movable kidney, appendicitis, gallstones, cholecystitis and gastroenteroptosis. The clinical history of colitis is discussed fully.

5. **Suppuration of Middle Ear.**—Dench claims that the radical operation offers the ideal method for the treatment of chronic suppuration of the middle ear.

6. **Treatment of Cancer.**—Evans says that in taking up the subject of carcinoma it is essential to recognize the resulting morbid physiology and the antecedent changes in nutrition. Before using injections of trypsin and amylopsin, he placed his patients on a diet suitable for diabetics, because he thought he had reason to suspect a relation between sugar metabolism and conditions of malignant growth which have to do with digestive changes. He insists on the necessity of regulating the diet when the Beard treatment of carcinoma is employed. He invariably regulates the carbohydrate hygiene. A restricted diet, a limitation of sugars, even so far as to absolute diabetic diet, will allow more dosage of trypsin and amylopsin and will prevent, he asserts, the untoward results which have been reported as due to them.

8. **Cerebellar Abscess.**—Richards reports a case of cerebellar abscess following chronic suppurative otitis media, in which an operation was done successfully. The abscess was evacuated and rubber drainage tubes were inserted. These were replaced later by perforated bone tubes. No attempt was made to introduce the finger into the brain or to indulge in unnecessary manipulation. The patient is alive and in good health.

10. **Cesarean Section Under Difficulties.**—Woodbury reports a case of Cesarean section, done at Gandara, Island of Samar, P. I., under most difficult circumstances. Both mother and baby lived.

Medical Record, New York.

May 4.

11 *Pulmonary Tuberculosis. H. C. Clapp, Boston.
12 Surgery in Diabetes. J. Wiener, New York.
13 *Rare Forms of Chorioiditis. C. S. Bull, New York.
14 Treatment of Typhoid and Pneumonia. L. Weber, New York.
15 *Pus Tubes in the Male. W. T. Belfield, Chicago.
16 The Preappendicitis State. J. G. Sheldon, Kansas City, Mo.

11. **Pulmonary Tuberculosis.**—Clapp gives details for the guidance of the physician in the treatment of the consumptive

patient at his own home. Such treatment must always be under the supervision of the physician. Among poor patients he advises the formation of a tuberculosis class, to which patients come once a week for directions. He maintains that the patient should go out of doors in rainy and snowy weather, at all times of the year, properly protected from wet and wind. His clothing should be of the lightest weight and the smallest number of garments of any material that will keep him comfortable. Clapp believes that a morning temperature of 99 F. indicates no exercise for the day, while over 101.5 calls for rest in bed for part of the day.

13. **Rare Forms of Chorioiditis.**—Bull calls attention to the chorioiditis that arises in the course of severe malarial infection and in intestinal intoxication. It is caused by microorganisms conveyed to the eye by the blood current, where they are arrested, and adhere to the walls of the chorioid vessels. Malarial chorioiditis is rare and found only in the severe southern forms of the disease. The entire uveal tract may be involved, including the chorioid, iris and ciliary bodies. The attacks are periodic, relapses are frequent, and the course is tedious. Treatment consists in the administration of quinin, iron and arsenic, with attention to the diet and general hygiene. Chorioiditis from intoxication of gastrointestinal origin is a still rarer condition. In these chorioid infections there are the usual symptoms. The physical findings are yellowish patches on the retina, similar to those seen in malaria, and a marked skin eruption of a pemphigoid type.

15. **Pus Tubes in the Male.**—Belfield says that pus infection in the seminal tube of the male is quite as frequent as in the Fallopian tube in the female. It is infrequently recognized, since the symptoms are common to other urinary conditions. Gonococci, pyogenic bacteria and tubercle bacilli are some of the causes of infection. The author suggests simple incision with a cautery knife from the rectum to relieve pus tubes. He also suggests that the vas deferens may be opened, the cut edges stitched to the skin and a solution injected through a curved hypodermic needle. Injections are made daily until the infection is over, when the fistula can be closed.

Boston Medical and Surgical Journal.

May 2.

17 Gall-Bladder Disease, with Special Reference to Its Gastric Symptoms. P. K. Brown, San Francisco.
18 *Sahli's Desmoid Reaction. H. W. Carey, Troy, N. Y.
19 *Roentgen Diagnosis of Urinary Calculus. P. Brown, Boston.
20 Summer Climate of Oracle, Pima County, Arizona. I. W. Brewer, Fort Huahuea, Ariz.
21 Extensive Nerve Injury from Removal of Cervical Glands. J. W. Courtney, Boston.

18. **Sahli's Desmoid Reaction.**—Carey verifies Sahli's results in determining the sufficiency of gastric digestion by means of the desmoid capsule. In the 25 cases on which he bases his results, it was found that, with but one exception, there was no discrepancy between the desmoid reaction and the analysis of the test breakfast. He believes that this reaction is of value in determining the digestive sufficiency of the gastric juice and its ability to digest the meal with which the capsule is given. In other words, it is a test for both free hydrochloric acid and pepsin, and a positive reaction indicates that both constituents are present in sufficient quantities to digest the full meal. As a means of differentiating between various functional disorders it is of little or no value. Neither does it give any clue as to stasis or loss of motility. Carey believes, therefore, that, while it can not take the place of the stomach tube and test breakfast, it can be used as a valuable control. It permits of differentiating the mild from the severe cases of gastric insufficiency.

19. **Roentgen Diagnosis of Urinary Calculus.**—Brown emphasizes the value of what he terms the ante-operative preparation of the patient when examination for urinary calculus is to be made by means of the Roentgen ray. He advocates local compression of the area to be examined and a previous emptying of the stomach and bowel, so as temporarily to force away the intestinal content from the renal, ureteral or vesical regions. Arrangements for such an examination should be made at least 24 hours ahead. He recommends the use of castor oil as a preliminary purgative and the additional use of a soap-suds and glycerin enema shortly before the sitting.

Lancet-Clinic, Cincinnati.

April 27.

22 The Reason Why: Especially Concerning the Stomach. M. A. Austin, Anderson, Ind.
23 Pruritus of the Anal Region. B. Asman, Louisville, Ky.
24 *Present Operative Necessities for Cure in Tuberculous Orchitis. C. E. Barnett, Fort Wayne, Ind.
25 The Opsonins. A. L. Knight, Madisonville, Ohio.

May 4.

26 Diagnosis and Treatment of Fracture Occurring in the Vicinity of Joints. W. D. Haines, Cincinnati.
27 A Possible Explanation of the Formation of Drug Habits. H. A. Rodebaugh, Columbus, Ohio.
28 Early Diagnosis of Phthisis Pulmonalis in Adolescents. G. Strohbach, Cincinnati.

24. See abstract in THE JOURNAL, Dec. 8, 1906, page 1944.

St. Louis Medical Review.

April 27.

29 Three Cases of Balantidium Coli. D. A. Gray, Little Rock, Ark.
30 Etiology of Chronic Enlargement of Prostate. H. J. Scherck, St. Louis.
31 Diagnosis of Obstructive Prostatic Hypertrophy. B. Lewis, St. Louis.
32 Hypertrophy of Prostate Not Causing Urinary Obstruction. J. L. Boogher, St. Louis.

Journal of Cutaneous Diseases, New York.

April.

33 *Diet as an Etiologic Factor in Diseases of the Skin. H. W. Stelwagon, Philadelphia.
34 *Diet as a Therapeutic Measure in Diseases of the Skin. G. H. Fox, New York.
35 *Dermatitis Exfoliativa. B. Foster, St. Paul.
36 Significance of Indican in the Urine or Those Afflicted with Certain Diseases of the Skin. M. F. Engman, St. Louis.

33. **Diet as a Cause of Skin Diseases.**—Stelwagon says that, while certain foods are toxic to some individuals, it must be remembered that skin eruptions may be the result of overeating, or that even underfeeding, may be the result of toxic and putrefactive changes which the food has undergone before or immediately after consumption, and, further, the possibility of chemical preservatives and not the food itself should be borne in mind.

34. **Diet in Treatment of Skin Diseases.**—Fox believes that many persons affected with diseases of the skin are in the habit of eating too much, especially of nitrogenous foods. He says that, when prescribing a diet, it is far better to allow a few nutritious and easily digested articles for a time than to make out an expurgated diet list. The effect of the diet on the disease must be studied carefully in order that the patient may eat only that which he can digest and which does the most good. The food should also be prepared properly and the patient should eat regularly without haste and not while under the stress of excitement and worry.

35. **Dermatitis Exfoliativa.**—Foster reports 12 cases of this affection, four of which occurred shortly after birth. The treatment which Foster has found most satisfactory consists of prolonged permanent warm baths. After coming out of the bath the patient is enveloped in flannel, soaked with either cod-liver oil or olive oil. Foster suggests administering carbolic acid internally in one-half grain doses, watching the kidneys carefully.

St. Paul Medical Journal.

April.

37 *Dangers in Impure Foods. V. C. Vaughan, Ann Arbor.
38 *How Far Has the Sanatorium Treatment of Tuberculosis Proved Successful? A. C. Klebs, Chicago.
39 *Management of Gastric Ulcer. J. W. Bell, Minneapolis.
40 *Therapeutic Abortion. C. Johnson, Willmar.

37. **Dangers in Impure Foods.**—The dangers and the nature of impure foods are set forth fully by Vaughan; in fact, he covers almost the entire realm of food adulterations as well as food preservatives. He lays down the following requirements as being, in his opinion, the essentials of a substance before its employment as a food preservative should receive legal sanction: 1. It must be a real preservative, keeping the food in a wholesome condition and not merely retaining the appearance of freshness while bacterial changes continue. 2. In the largest quantities used, it must not materially impair any of the digestive processes. 3. It must not be a self-poison in any amount; or if such, it must be added to foods only by persons qualified by special training and officially authorized, and food containing these substances must be labeled plainly and the kind and amount of the preservative used must be made known, not only to the buyer but to each consumer.

38. **Sanatorium Treatment of Tuberculosis.**—Klebs' views on this subject are so well known that it is not necessary to repeat them.

39. **Management of Gastric Ulcer.**—The treatment described by Bell agrees with that generally employed in cases of acute and chronic gastric ulcer.

40. **Therapeutic Abortion.**—Johnson is of the opinion that therapeutic abortion is generally advised too reluctantly. Instead of being a remedy of last resort, it should be advised early, whenever the condition of the mother is such that there is no reasonable probability that she can carry the fetus to the age of viability without serious danger to life and health.

Northwestern Lancet, Minneapolis.

April 1.

41 *Significance and Danger of Chronic Otorrhea. C. J. Spratt, Minneapolis.
42 *Administration of Mercury in Treatment of Syphilis. G. P. Crume, Minneapolis.
43 Surgical Diagnosis. J. E. Moore, Minneapolis.
44 *Hydatid Moles. O. T. Batcheller, Brainerd.
45 *Refractive Error as an Etiologic Factor in Headache. C. L. Sherman, Luverne.
46 Case of Submucous Nasal Septum Resection. R. A. Campbell, Minneapolis.

41. **Chronic Otorrhea.**—Spratt points out the dangers that may result from a neglect to treat a chronic discharge from the ear. He advises early incision of the tympanic membrane as a prophylactic measure, and cleanliness, free drainage and operation, if necessary, as curative measures.

42. **Mercury in Syphilis.**—The use of mercury in the treatment of syphilis is discussed in general by Crume. With regard to hypodermic injections, the only objection he has to them is that they are painful; nor are they indicated, he says, when the patient is debilitated by other diseases or when he is very obese. Certain it is, Crume declares, that it makes relapses not only less severe and frequent, but obstinate, virulent and malignant types become a rarity.

44. **Hydatid Moles.**—Batcheller reports one case and discusses the clinical history of the condition. His patient went to term, delivery was uneventful, but the postpartum flow lasted for about two weeks.

45. **Refractive Error as Cause of Headache.**—Sherman reports three cases to illustrate how both refractive error and other derangements must be corrected in order to secure relief from severe headaches.

Kentucky Medical Journal, Bowling Green.

April.

47 Skilful Use of Digitalis. T. C. Holloway, Lexington.
48 *Treatment of Acute Gonorrhea. E. L. Heflin, Louisville.
49 Rational Gynecology. F. L. Koontz, Louisville.
50 Surgery of the Stomach. J. R. Wathen, Louisville.
51 First Hour Surgery in Strangulated Hernia. J. G. Carpenter, Stanford.
52 La Grippe. J. T. Price, Harrodsburg.
53 The Doctor's Automobile. J. B. Bullitt, Louisville.
54 *Treatment of Placenta Prævia. F. M. Beard, Shelbyville.
55 *An Unusual Obstetric Case. P. Beauchamp, Adairville.
56 *Cancer of the Intestine. D. Barrow, Lexington.
57 Doctor's Differences: Their Cause and Cure. G. G. Thornton, Lebanon.
58 Diagnosis and Treatment of Incipient Tuberculosis. J. Martin, Cynthiana.
59 Pneumonia. E. T. Bruce, Louisville.

48. **Treatment of Gonorrhea.**—The point especially emphasized by Heflin is that whether the case be treated by irrigations, injections, internal administration, or along other lines, the treatment should be continued until the patient is well—not until the discharge ceases, but until the urine is free from shreds and the microscope fails to reveal the presence of the diplococcus of Neisser.

54. **Treatment of Placenta Prævia.**—Beard reports two cases of placenta prævia, in one of which there was a twin pregnancy. In the latter there was a double placenta prævia marginalis. In both cases a successful delivery was effected.

55. **Unusual Obstetric Case.**—The case reported by Beauchamp was one of left acromio-iliac presentation. Embryotomy was done after all other attempts at delivery had failed. The head was hydrocephalic; the occipito-mental diameter was 12 inches.

56. **Cancer of Intestine.**—Barrow reports three cases of cancer of the intestine, in which operation was done. One patient died 18 months after the operation from recurrence of the growth, causing obstruction. The remaining two patients are well, one two years, and the other four years after operation. In both of these cases the tumor involved the cecum, necessitating the resection of a portion of the cecum and the ileum.

Bulletin of the Johns Hopkins Hospital, Baltimore.

April.

60 The Library of a Medical School. W. Osler, England.
61 Some Ana of the Marburg Collection. M. L. Raney, Baltimore.
62 *Method of Preserving Outlines of Visceral Lesions on Nainsook or Suisse Material. H. A. Kelly, Baltimore.
63 Clinical Study of Mushroom Intoxication. W. W. Ford, Baltimore.
64 *Review of 105 Reported Cases of Acute Pancreatitis. A. Egdahl, Iowa City, Iowa.
65 Vena Cava Superior Receiving Two Upper Right Pulmonary Veins and Opening into Both Atria. N. W. Ingalls, Cleveland.

62. **Preserving Outlines of Visceral Lesion.**—In order to increase the accuracy of his examination, Kelly makes a pictorial record on a transparent stiff tissue, such as nainsook, or suisse material, laid over the abdomen, on which the surface markings seen beneath are easily transcribed. New records are made each time the patient returns for examination, thus permitting of comparison. An analine or crayon pencil may be used.

64. **Acute Pancreatitis.**—Egdahl concludes his review of 105 cases of acute pancreatitis as follows: 1. Gallstones are probably the most common single cause of pancreatitis. Judging from this series, about 42 per cent. of the cases of acute pancreatitis are associated with gallstones. 2. Gastrointestinal disorders are the next most common cause of acute pancreatitis. In this series of cases about 30 per cent. belong to this group. Seventeen out of 32 of this group gave a history of alcoholism. It is probable that retrojection of bile may be caused by intestinal disorders closing the papilla of Vater. 3. Acute pancreatitis may be caused by many other conditions, such as typhoid, tuberculosis, mumps, trauma, syphilis, emboli, appendicitis, malaria and gastric ulcer. 4. The organism most commonly present is *B. coli communis;* next comes the streptococcus and the staphylococci. 5. Typhoid is the most common of the acute febrile diseases present according to the previous histories of these acute cases of pancreatitis. In the present series three were associated directly with typhoid fever alone, and four had suffered from typhoid some time before the onset of the pancreatitis, and had apparently recovered; another had had typhoid and erysipelas. But two out of these cases were associated with gallstones.

Journal of the Arkansas Medical Society, Little Rock.

April 15.

66 *Injuries of the Eyeball. J. W. Price, Memphis.
67 Congestion of the Brain in Infancy. W. T. Whaley, McNeil.
68 *Malformations and Maternal Impressions. G. A. Warren, Black Rock.
69 Treatment of Diseased Conditions of the Kidneys. R. L. Saxon, Holly Grove.
70 Hemoglobinuria. R. N. Smith, Collins.
71 Anthrax of the Postnasal Space. C. C. Stephenson, Little Rock.

66. **Injuries of Eyeball.**—Price reports five cases of injury of the eye as illustrative of some points which he makes.

68. **Maternal Impressions.**—Warren believes in maternal impressions. He thinks that those who laugh at such things are laughing at science and that mind has power over matter *in utero.* He reports one case and refers to a number of others in support of his views.

Annals of Surgery, Philadelphia.

April.

72 *Experience in Cerebral Surgery. F. Hartley and J. H. Kenyon, New York.
73 *Possibilities and Limitations of Brain Surgery, with Especial View to Traumatisms. F. D. Gray, Jersey City, N. J.
74 *Value of Trephining as a Paliative Measure in Tumors of the Brain. H. A. Bruce, Toronto.
75 *Operations for Neoplasms of the Tongue. J. Rogers, New York.
76 *Method of Using Tongue in Supplying Defect of Cheek. W. Bartlett, St. Louis.
77 *Injuries and Diseases of the Hyoid Bone. R. Winslow, Baltimore.
78 *Symptoms and Signs in Urinary Lithiasis. C. L. Leonard, Philadelphia.
79 *Tuberculosis of the Bladder. G. Walker, Baltimore.
80 Circumcision. A Plastic in Constriction Prepuces. O. H. Allis, Philadelphia.

72. **Experiences in Cerebral Surgery.**—Hartley and Kenyon present much valuable material in the narration of their ex-

periences in cerebral surgery. They describe an armamentarium which is the outcome of their experiences, one on which they can rely absolutely in every case, and they give in detail their method of procedure in all kinds of cases, citing illustrations in order to elucidate their statements. The paper is well illustrated.

73. **Brain Surgery for Traumatisms.**—Gray reports five cases and calls attention to the importance of proceeding carefully before passing an opinion on the nature and extent of the injury in cases of traumatism of the skull.

74. **Tumors of the Brain.**—Bruce reports five cases of tumor of the brain, which show how important it is that such cases should be submitted to surgical treatment early, and what good results can be obtained by the safe and simple procedure of trephining.

75. **Operations for Tumors of the Tongue.**—Rogers presents a brief historical review of the different typical operations and a short description of each to aid in the selection of a method which may be suitable for any given case.

76. **Plastic Surgery of Cheek.**—Bartlett reports the case of a man 71 years of age who had a carcinomatous ulceration of the cheek. The ulcer was excised, but the opening left was so large that it was impossible to bring the edges of the mucous membrane together. Bartlett then decided on carrying out the following procedure: A deep horizontal incision was made into the side of the tongue, practically separating half of the member into two flaps, an upper and a lower. The edge of the upper flap was sutured with catgut to the fringe of mucous membrane which adhered to the superior maxilla. The edge of the lower flap was united in like manner close to the inferior maxilla. The separation of these tongue flaps revealed a raw muscle surface which furnished the best sort of a base on which to implant the superficial tissues of the cheek. By undermining the skin above and below the external defect the edges were brought together easily. A few silkworm sutures were placed through the skin, and the body of the tongue, in order to approximate the edges of the former, and to obliterate any dead space which might otherwise have formed. On the eleventh day the silkworm sutures were removed and the healing was found to be perfect. The tongue was anchored in place. Fifteen days after the operation chewing, talking and swallowing were absolutely normal. The tongue, although fixed in its new position, was still capable of a very wide range of movement. The patient had had no teeth on the operated side, but Bartlett states that the method could be made applicable to any patient simply by withdrawing the teeth on the affected side.

77.—See abstract in THE JOURNAL, Jan. 26, 1907, page 352.

78. **Urinary Lithiasis.**—Leonard points out the difference in symptoms and signs between renal and ureteral lithiasis that have a bearing on the indications for treatment after the size and position of the calculus have been determined by the Roentgen ray. The study is based on 352 cases examined by the Roentgen rays for suspected calculus.

79. **Tuberculosis of the Bladder.**—Walker reviews the cases of tuberculosis of the bladder which are recorded in the records of the Johns Hopkins Hospital. He says that he has not seen in his own practice, nor has there been in the surgical wards of the Johns Hopkins Hospital a single instance of complete recovery from bladder tuberculosis. The paper is very complete and has appended to it an eight-page bibliography which will prove of great value to other workers in this field.

The Laryngoscope, St. Louis.
March.

81 Etiology of Inflammatory Diseases of the Nose and Accessory Sinuses. W. L. Ballenger, Chicago.
82 Pathogenic Conditions of the Nasopharynx in the Adult. E. Pynchon, Chicago.
83 Extensive Cholesterin Infiltration of the Mastoid Cells. E. B. Dench, New York.
84 *Sarcoma of Tonsil Treated with Coley's Toxins. F. P. Emerson, Boston.
85 Choice of Anesthetics in Nose and Throat Surgery. S. J. Goodman, Columbus, Ohio.
86 Turbinectomy. E. Moraweck and G. C. Hall, Louisvllle.
87 Papilloma of Larynx in a Child. J. C. Beck, Chicago.
88 Tuberculous Ulceration of the Tongue. J. T. Campbell, Chicago.
89 New Instruments. L. Ostrom, Rock Island, Ill.
90 New Nasal Instruments. J. H. Abraham, New York.
91 A New Tonsillotome. F. C. Ruppert, New York.
92 New Self-Retaining Septal Speculum. S. Goldstein, New York City.

84. **Sarcoma of Tonsil.**—Emerson reports a case of spindle-celled sarcoma of the tonsil occurring in a woman 64 years of age, in which the mixed toxins of *Bacillus prodigiosus* and *Streptococcus erysipelatus* were employed with some success. The growth disappeared entirely, the patient regained good health, but died seventeen months after treatment was begun from a recurrence of the tumor.

Ohio State Medical Journal, Columbus.
April 15.

93 *Early Diagnosis of Gastric Carcinoma. W. G. Thompson, New York.
94 Puerperal Eclampsia. L. A. Yocum, Wooster.
95 *Calomel. J. H. Ray, Coalton.
96 Technic for Location of Foreign Bodies in the Eye. C. F. Bowen, Columbus.
97 President's Address Delivered Before the Academy of Medicine of Toledo and Lucas County. H. E. Smead, Toledo.
98 Progress of Neurologic Medicine. C. J. Aldrich, Cleveland.

93. **Early Diagnosis of Gastric Carcinoma.**—In this paper Thompson sets forth at length the means that may be employed to make an early diagnosis of carcinoma of the stomach, and he discusses briefly the conditions which combine to make operation not only justifiable but desirable.

95. **Calomel.**—In all cases of acute infectious disease Ray gives one grain of calomel and soda every hour for twenty-four hours, or longer, if needed. Children from 1 to 5 years of age are given from one-fourth to one-half grain. He claims excellent results from this dosage and method of administration.

96.—See abstract in THE JOURNAL, Sept. 16, 1906, page 889.

American Journal of Medical Sciences, Philadelphia.
April.

99 *The Medical Staff and Its Functions. S. S. Goldwater, New York.
100 *Abnormal Involution of the Mammary Gland. J. C. Warren. Boston.
101 *Surgical Aspects of Gastric Carcinoma. J. B. Deaver, Philadelphia.
102 *Hydrocephalus Complicating Epidemic Cerebrospinal Meningitis. H. Koplik, New York.
103 *Cardiovascular Regulation During and After Operation. H. W. Cook, Minneapolis, Minn.
104 *Clinical Studies of the Cerebrospinal Fluid. F. P. Rous, Baltimore.
105 Tropical Neurasthenia and Its Relation to Tropical Acclimation. L. H. Fales, Madison, Wis.
106 Experimental Arterial Degeneration. J. L. Miller, Chicago.
107 *Congenital Anomalies of the Hands and Feet. C. A. McWilliams, New York.
108 Standards and Work of the Philadelphia Pediatric Society's Milk Commission. S. McC. Hamill, Philadelphia.

99. **Medical Staff.**—This paper was discussed editorially in THE JOURNAL, April 13, 1907, page 1273.

100. **Abnormal Involution of Mammary Gland.**—Warren calls attention to the more or less active epithelial processes which are going on in nearly half of the cases of abnormal involution. He reports six cases, in three of which the involution was associated with cancer. One case was accompanied by cyst formation and a little epithelial change; in another there was acinal hyperplasia and some epithelial proliferation, and in the remaining case there was marked epithelial hyperplasia. Warren urges that it is important that a careful examination be made of both breasts because in a series of 41 consecutive cases both breasts were involved in nearly 22 per cent. Warren's plastic resection of the mammary gland, which he has described before, is considered by the author to be the ideal operation in these cases.

101.—See abstract in THE JOURNAL, Jan. 26, 1907, page 351.

102. **Hydrocephalus Complicating Epidemic Cerebrospinal Meningitis.**—Koplik reports seven cases of this kind and discusses fully the symptoms and diagnosis. He says that it seems to him that such cases definitely fix the indication for the performance of lumbar puncture in cerebrospinal meningitis of the acute type. In those cases in which an early diagnosis detected threatened hydrocephalus, in the second or third week of the disease, a single lumbar puncture was sufficient in some instances not only to relieve the symptoms, caused by increasing fluid in the ventricles, but to arrest the progress of the disease at a critical moment by the removal of the excess of toxins or bacteria from the interior of the

cranial cavity. Koplik resorts to lumbar puncture only when he is convinced that there is an accumulation of fluid in the ventricles.

103.—This article also appeared in the *Northwestern Lancet*, April 15, 1907.

104. **Clinical Study of Cerebrospinal Fluid.**—Rous made a very careful study of the cerebrospinal fluid, with special reference to pressure in the subarachnoid cavity, the protein contents of the fluid and the number and character of cells per cubic millimeter. He says that except along the broadest lines there is nothing specific in the permutations of protein, pressure in cells; but along these lines, the fluid from cases of tuberculous meningitis is characteristic as compared with that from cases of paresis or of cerebrospinal syphilis, while these also differ from the normal fluid. He says that if a case be suspected to be one of tuberculous meningitis, but the fluid prove to be normal as regards pressure, protein and cells, the disease may be ruled out. The methods employed by Rous are described in full.

107. **Congenital Anomalies of Hands and Feet.**—McWilliams reports six cases. Some of the anomalies noted were web fingers, supernumerary digits and thumbs, absence of forearm and fingers and clubbing of the fingers and toes.

California State Journal of Medicine, San Francisco.

April.

109 Opsonins. L. Porter, San Francisco.

110 Opsonic Technic. L. S. Mace, San Francisco.

111 *The Nauheim Treatment of Acute and Chronic Heart Failure. P. K. Brown, San Francisco.

112 Alcohol: The Effect of Its Use and Abuse. (To be continued.) A. W. Holsholt, Stockton, Cal.

111. **Nauheim Treatment of Heart Disease.**—Brown believes that the Nauheim bath, properly given, with resisted movements, has a distinct place in the treatment of acute and chronic heart failure. He reports ten cases in point. He says that it is of advantage to simplify the treatment, and for this reason it is best given in the patient's home when conditions are favorable.

American Journal of Surgery, New York.

April.

113 Study of One Thousand Cases of Ectopic Pregnancy Reported in the Literature During the Past Ten Years. O. M. Steffenson, Chicago.

114 Stomach Diseases, Reflex and Organic. M. A. Austin, Anderson, Ind.

115 Blood Examination in Surgical Diagnosis. I. S. Wile, New York.

116 Ambulatory Treatment of Epididymo-Orchitis. H. Crouse, El Paso, Texas.

117 Surgical Postures. M. W. Ware, New York.

118 Indications for Submucous Resection of the Nasal Septum. W. W. Carter, New York.

119 Importance of Examination of the Rectum. T. B. Breck, Cleveland, Ohio.

120 *Improved Method of Performing Phlebotomy. L. Jacobs, New York.

120. **Improved Method of Performing Phlebotomy.**—The instrument employed by Jacobs is an aspirating needle, two inches long, and of a caliber of one-sixteenth of an inch. To this is attached a piece of rubber tubing from four to six inches long, at the end of which is attached a small glass canula. The latter is a slight refinement. After the application of a tourniquet to the arm a vein is selected, preferably at the anterior aspect of the elbow. The needle is then introduced through the superficial tissues into the lumen of the vein in a reverse direction to that of the blood current. This is immediately followed by a flow of blood. A sterile flask can be used for its collection. A fairly firm compression bandage is then applied over the site of the puncture. The entire procedure requires about five minutes. The advantages claimed for this method are: 1. No incision is necessary. 2. The procedure is clean, easy and effectual. 3. The amount of blood withdrawn can be measured exactly. 4. The blood is sterile and can be used for cultural purposes.

American Journal of Obstetrics, New York.

April.

121 Shall the Operative Treatment of Gonococcal Salpingo-oöphoritis be Conservative or Radical? H. J. Boldt, New York.

122 Pathologic Changes Caused by the Gonococcus. B. M. Anspach, Philadelphia.

123 Gonorrhea in Pregnancy and the Puerperal State. E. P. Davis, Philadelphia.

124 The Protection of the Innocent. H. A. Kelly, Baltimore.

125 Restoration of Function in the Innocent. G. E. Shoemaker, Philadelphia.

126 Blood Pressure During Pregnancy and the Puerperium. W. J. Vogeler, New York.

127 *Blunt Dissection with Scissors in Plastic Gynecologic Operations. T. J. Watkins, Chicago.

128 Regulation of Midwives in New York. J. M. Mabbott, New York.

129 Traumatism as an Etiologic Factor in Gynecology. C. S. White, Washington, D. C.

130 Treatment of Pernicious Vomiting of Pregnancy. R. C. Norris, Philadelphia.

131 Prolonged Pregnancy. L. M. Allen, Baltimore.

127.—See abstract in THE JOURNAL, Dec. 1, 1906, page 1850.

New York State Journal of Medicine, Brooklyn.

April.

132 *President's Address of the Medical Society of the State of New York. J. D. Bryant, New York.

133 *Practical Legislation for the Prevention of Blindness from Ophthalmia Neonatorum. F. P. Lewis, Buffalo.

134 *Plea for New Methods for the Prevention of Blindness. L. Howe, Buffalo.

135 *Symptoms and Diagnosis in the Staphylococcus and Streptococcus Joint Infections. L. W. Hotchkiss, New York.

136 *Symptomatology and Diagnosis of the Rheumatoid Diseases. R. R. Fitch, Rochester, N. Y.

137 *Mechanical Treatment of Non-Tuberculous Joint Infections. H. L. Taylor, New York.

138 *Operative Treatment of Non-Tuberculous Joints. W. Wood, Brooklyn.

139 Influenza in Children. H. Heiman, New York.

140 Medical Charities of Manhattan and the Bronx. (Continued.) F. L. Lattimore, Philadelphia.

141 History of the Medical Society of the State of New York. (Continued.) J. J. Walsh, New York.

132.—See abstract in THE JOURNAL, Feb. 16, 1907, page 631.

133-134.—See abstracts in THE JOURNAL, Feb. 9, 1907, page 536.

135.—See abstract in THE JOURNAL, Feb. 23, 1907, page 721.

136, 137, 138.—See abstracts in THE JOURNAL, Feb. 16, 1907, page 630.

Indiana Medical Journal, Indianapolis.

February.

142 Endometritis. M. Thorner, Indianapolis.

143 Immediate Treatment by the General Practitioner of Injuries of the Eye. F. A. Morrison, Purdue.

144 *Some Causes of Inefficiency in Medical Practice. J. B. Roberts, Philadelphia.

145 Aneurism of the Innominate, with Autopsy. D. M. Green, Muncie.

144.—See abstract in THE JOURNAL, Oct. 13, 1906, page 1220.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

April 20.

1 Effects of Respiration on the Circulation. J. Barr.

2 *The Pulsus Bisferiens. T. Lewis.

3 *Calcium Salts in the Blood and Tissues. W. B. Bell.

4 *Etiology and Pathology of Peptic Ulcer. F. B. Turck, Chicago, Ill.

5 Case of Repeated Abdominal Section for Perforation of Gastric Ulcers. W. M. Willis.

6 *Case of Cellulitis. G. H. Makins.

7 Dislocated Spleen with Torsion of Pedicle Complicating Pregnancy. H. Meek.

8 *Haffkine's Antiplague Vaccine. T. C. Lucas.

9 *Case of Chloroma. T. H. Butler.

10 Albumosuria and the Duration of Albuminuria in Cholera. U. N. Brahmachari.

11 Case of Double Bezold's Disease. C. J. Heath.

2. **Pulsus Bisferiens.**—Lewis refers to a number of cases in which this form of pulse was observed. He says that there appears to be only one constant relationship with the pulsus bisferiens, and that is a greatly dilated and hypertrophied left ventricle. There appear to be two types, the one associated and the other unassociated with arteriosclerosis.

3. **Calcium Salts in Blood and Tissues.**—Bell believes that the calcium salts exert a special influence on the female genital functions, and in this connection he refers to the fact that the oviducts of birds secrete calcium salts. Again, during lactation, when the mother is giving to her infant large quantities of lime salts in her milk, the menstrual function is normally in abeyance. Some of his observations seemed to show that pregnancy is terminated when the fetus ceases to absorb or to receive calcium salts from the mother's blood, and a large accumulation occurs in her system, bringing about contraction of the uterine muscles. Finally, late in life, when no calcium salts are required for the building-up processes, or for those of reproduction, these salts accumulate in the tissues,

especially in the vessels, atrophy occurs and the individual declines. Bell is carrying on his work in this direction and promises to publish a more detailed report later.

4. **Peptic Ulcer.**—Turck says that there seems to be some toxic condition produced, which overcomes natural resistance, resulting in cytolysis and possibly some chemical substance formed within the alimentary tract, which, when absorbed, may neutralize the protective bodies in the blood and tissues, resulting in autocytolysis. Turck succeeded in producing ulcer of the stomach and duodenum in dogs by feeding the colon bacillus for a variable length of time. In another series of experiments, the feeding of the colon bacillus was stopped after one or two months; the dogs were kept under good hygienic conditions on ordinary food for another month and were then killed. Ulcers were found in the stomachs of these dogs in various stages of healing, showing that the problems involved in the two series of experiments are fundamental and far reaching. Turck thinks that they enter into the question of the etiology not only of peptic ulcers but of many diseases. In the first series of experiments, reported on previously, there was no evidence of healing; in fact, the ulcers caused the death of the animal either by perforation or by hemorrhage. Careful data were kept of all of these experiments, and they are reported on in full in this paper. Turek found that healing proceeds about as follows: Round-cell infiltration, the formation of bands of connective tissue until finally only a very narrow scar remains.

6. **Cellulitis.**—Makins reports a case of cellulitis, which he regards as an example of a rare infection, possessing distinctly characteristic features. It followed infection by an organism set free by the wounding of an old blind diverticulum of the large intestine. It was first assumed to be an ordinary infection by the colon bacillus until the entire absence of gas formation was noted. The organism seemed to be of the same nature as certain organisms cultivated from feces by Houston. Prominent features of the cellulitis were the remarkable dark red marbling of the skin, unaccompanied by any gaseous emphysema, the extensive venous thrombosis, the steady progress of the infection in a contrary direction to that of the lymph stream, the strict limitation of the process to the subcutaneous tissue, the widespread sloughing of the connective tissue infected, and, lastly, the strong similarity of the discharge in odor, color and consistence to liquid feces.

8. **Haffkine's Antiplague Vaccine.**—Lucas adds his testimony to that already given in support of the very great value of this method in reducing not only the incidence, but also the mortality of the disease.

9. **Chloroma.**—Butler reports a case occurring in a girl, 11 years of age, who died in about seven weeks. There was considerable exophthalmos, due chiefly to vascular engorgement and to thrombosis of the cavernous sinus. It was absent after a severe hemorrhage and after death.

The Lancet, London.

April 20.

12 *The Lymphatic System of the Stomach. J. K. Jamieson and J. F. Dobson.
13 *Suicide and Sanity. T. C. Shaw.
14 *Early Diagnosis of Tuberculosis. J. Hay.
15 *Immediate and Ultimate Results of Sanatorium Treatment of Tuberculosis. N. D. Bardswell.
16 *Ligatures and Buried Sutures with Special Reference to Catgut. A. E. Johnson.
17 Indications for Treatment of Cholera. N. H. Choksy.
18 *Case of Pressure on Trachea. F. deH. Hall.
19 Successful Treatment of Tuberculosis and Leprosy. S. F. Wernich.
20 Fracture of the Base of the Fifth Metatarsal Bone. H. Burrows.
21 *Case of Scopolamin Poisoning. A. W. Moore.

12. **Lymphatic System of Stomach.**—Jamieson and Dobson record the results of their study of 30 stomachs, injected according to the method employed by Gerota.

13. **Suicide and Sanity.**—Shaw inclines to the belief that the true suicide is oftener than is supposed a sane man. He says that if a man, in his own personality, destroys himself he is a genuine suicide, but if, through disease, he has his personality altered and a self-destructive act ensues, it is clearly the act of another person. Shaw says that the instinct of health is conservative, but subject to the deliberate will which may extinguish or invert it, while the instinct of disease is destructive.

14. **Early Diagnosis of Tuberculosis.**—Hay deals with the question more especially as it is met with in an out-patient department.

15. **Sanatorium Treatment of Tuberculosis.**—Of 277 patients treated by Bardswell at the King Edward Sanatorium at Midhurst, only 29 failed to obtain any benefit at all; 78 were discharged, apparently cured. Of these 78, no less than 66 were early cases. The results of the treatment of patients with somewhat extensive disease of fairly recent origin were less satisfactory. Only 10 out of 97 had their disease completely arrested; 50 were discharged with the general health completely restored and the disease considerably arrested; 37 were not sufficiently improved to warrant expectations of their ever recovering completely from the disease. Of 66 cases of chronic progressive disease of long standing, only one patient was discharged, with the disease completely arrested; 16 patients were discharged with a fair prognosis, the disease being considerably arrested and general health fully restored. The remaining 49 patients left with a decidedly unfavorable prognosis. These 277 patients were seen during a period of six years. Of this number, 17 died in the sanatorium. Of the 260 patients discharged, 97 are in their normal health at the present time, 50 are in either fair or poor health, 103 have died, and 10 have been lost sigat of.

16. **Ligatures and Sutures.**—According to Johnson, the only absolutely safe method of sterilizing ligatures and sutures is to keep the material hermetically sealed in glass tubes until required for use. It is his custom to seal up animal ligatures in tubes, containing xylol or a mixture of xylol and absolute alcohol, and then heat the tubes in water at a temperature of 212 F. for from half an hour to an hour. Johnson has never succeeded in obtaining a culture from the specimens of catgut so prepared.

18. **Pressure on the Trachea.**—Hall reports a case of compression of the trachea at its bifurcation by a mass of enlarged glands. An interesting feature in the case was the suddenness with which the symptoms of compression developed.

21. **Scopolamin Poisoning.**—Following the instillation into both eyes of a 1 per cent. solution of scopolamin, Moore's patient, a girl, aged 4½ years, became hysterical and then delirious, presenting all the symptoms of scopolamin poisoning. The child did not recover completely until after two days.

Medical Press and Circular, London.

March 27.

22 Tropical Sanitation. R. Ross.
23 *Cancer of the Ovary. F. B. Jessett.
24 Primary Carcinoma of the Vagina. H. Macnaughton-Jones.
25 *Treatment of Inveterate Cases of Ménière's Complex of Symptoms by Hypnotic Suggestion. T. W. Parry.
26 Case of Sarcoma of the Parovarium. W. D. Spanton.
27 Case of Large Myoma, with Sarcomatous Outgrowth; Abdominal Hysterectomy. W. D. Spanton.

April 3.

28 *Arthritis. F. J. Poynton.
29 Rearing of Children. G. Carpenter.
30 Tuberculosis. E. J. McWeeney.
31 *Three Cases of Pubiotomy. M. J. Gibson.

April 10.

32 Acroparesthesia. A. J. Whiting.
33 *Treatment of Tuberculosis by Marine Climates. W. Ewart.
34 An Improved Gag. J. W. Cousins.
35 *Case of Chronic Pancreatitis. W. I. de C. Wheeler.

April 17.

36 Study of Diseases Peculiar to Children. L. H. Ormsby.
37 Non-operative Treatment of Malignant Disease. W. A. Potts.
38 Operative Treatment of Traumatic Psychoses. B. Hollander.
39 Medical Treatment of Gastric Ulcer. S. A. Arany.
40 Two Cases of Missed Abortion. J. Dunlop.

23. **Cancer of Ovary.**—Jessett reports a case of alveolar carcinoma of the ovary, involving the sigmoid flexure.

25. **Ménière's Disease.**—Parry says that the use of hypnotic suggestion in the treatment of Ménière's disease can not be overestimated. He refers to a man who has been under this treatment for two years, with most amazing results. The symptoms have all been very much alleviated in severity, and the patient's general health is good.

28. **Arthritis.**—Poynton discusses arthritis as a manifestation of diseased states and not as in itself a disease.

31. **Pubiotomy.**—Gibson reports three cases of pubiotomy, which terminated satisfactorily. Cesarean section was proposed, but rejected.

33. **Treatment of Tuberculosis by Marine Climates.**—Ewart says that the mere airing and salting are not sufficient of themselves to cure pulmonary tuberculosis, but declares that the seaside is par excellence the place for the prevention sanatorium.

35. **Chronic Pancreatitis.**—In the case reported by Wheeler in a man, aged 35, the disease had been of seven years' duration. The head of the pancreas is hard and nodular and somewhat enlarged. The man is at present working as a laborer and is free from all pain, but at times he notices that his stools become light in color.

Clinical Journal, London.

March 27.

41 Utility of the Sphygmomanometer. H. B. Shaw.
42 Causation and Treatment of Rectal Hemorrhage. P. L. Mummery.

April 3.

43 Difficulties in Gynecologic Diagnosis. A. E. Giles.
44 *Empyema in Children. T. R. C. Whipham.
45 Affections of the Pancreas. S. Phillips, A. W. M. Robson and P. J. Cammidge.
46 Diseases of the Gall Bladder and Ducts. A. W. M. Robson.

April 10.

47 Points in Rectal Surgery. H. Cripps.
48 *Treatment of Acute Appendicitis. B. G. A. Moynihan.
49 Case of Hematuria Due to Bilharzia Hematobia. H. Curtis.

April 17.

50 Doubtful Case of Cerebral Tumor. W. H. White.
51 Surgery of New Growths of the Prostate Gland. J. Pardoe.

44. **Empyema in Children.**—Whipham favors the resection of part of the rib, in the case of young children, in such a position as will ensure the most efficient drainage. In older children, simple incision may prove sufficient. In order to favor expansion of the lung, he allows the child to be up and walking about as soon as circumstances will allow it. He does not recommend irrigation of the pleura.

48. **Treatment of Acute Appendicitis.**—Moynihan summarizes his views in the matter as follows: (1) In acute appendicitis the safest treatment is immediate operation, if the diagnosis can be made with accuracy in the first few hours, at a time when the appendix alone is affected. (2) If the diagnosis is not made until some hours—twenty-four or more—have elapsed, then treatment should consist in complete abstinence from food, constant cleansing of the mouth, occasional administration of saline injections, and, above all, the avoidance of aperients. (3) If acute peritonitis develops, it can be traced, in a great majority of cases, to the administration of an aperient. (4) When general peritonitis has developed, or is developing, the treatment on the principles enunciated by Murphy is attended by a success far in advance of any achieved by other methods.

Obstétrique, Paris.

Last indexed XLV, page 1366.

52 (X, No. 6, pp. 481-592.) *Results of Too Much Fat in Human Milk. (Excès de beurre.) P. Planchon.
53 Mechanism of Childbirth. (Accouchement.) L. Gigli.
54 Proposed Modification of Law to Protect Child-Life. (Loi Roussel.) P. Budin.
55 (XI, No. 1, pp. 1-96.) Hygiene of Infancy. (Allaitement, etc., du nourrisson.) P. Budin.
56 *Edema of Cellular Tissue Around the Cervix in Pathologic Childbirth. (Suites de couches pathologiques.) Coudert.
57 *Extraction of Detached Head. (Extraction de la tête isolée et retenue dans l'utérus.) Trillat and Latarjet.
58 Superfetation. (Superfoetation et ses causes d'erreurs.) L. Bouchacourt.
59 (No. 2, pp. 97-192.) *Serious Hemorrhages in the New-Born. (Hem. graves du nouveau-né.) P. Lequeux.
60 *Importance of Determination of Hemoglobin Percentage in Obstetrics. (Hemoglobinométrie.) L. Devraigne.
61 (No. 3, pp. 193-288.) Podalic Version by Internal Maneuvers with Shoulder Presentation. (Version pod.) L. A. Demelin.
62 Embryotomy on the Living Child. (Embryotomie.) P. Budin.
63 (No. 4, pp. 289-384.) Obstetrical Polyclinics in Germany. (Policliniques obstétricales.) V. Neujean.
64 (No. 5, pp. 385-480.) *Surgical Treatment of Diffuse Puerperal Peritonitis. (Périt. puerp. généralisées.) C. Jeannin. Commenced in No. 3.
65 (No. 6, pp. 481-576.) Facial Paralyses of the New-Born. (Paralysies faciales du nouveau-né.) L. Demelin and P. Guéniot.
66 Purulent Rhinitis in the New-Born, with Greenish-yellow Discharge. (Rhinite pur. à écoulement citrin.) C. Jeannin.
67 (XII, No. 1, pp. 1-96.) Experimental Demonstration of Absorbing Power of Vaginal Mucosa After Delivery. (Pouvoir absorbant de la muqueuse vag.) J. Pery.
68 *Importance of Blood-Agar Cultivation of Streptococci in Puerperal Infection. (Strept. pyog. et inf. puerp.) C. Gonnet.

52. **Excess of Fat in Human Milk.**—Planchon describes thirteen cases in which the healthy children of healthy working women became affected with diarrhea, vomiting and eczema of unknown cause. In each instance the milk was found to contain an excess of fat, proving too rich for the children.

56. **Inflammatory Edema of the Pericervical Cellular Tissue.**—In the two cases reported by Coudert the acute inflammatory edema of the pericervical tissue subsided spontaneously in the course of from 10 to 20 days. The tumefaction in the vaginal recesses resembled that observed when the cheek swells on account of a carious tooth, swelling enormously and then completely subsiding, without leaving a trace. Treatment should include absolute bed rest, with hot vaginal injections, made very slowly and cautiously to avoid the slightest traumatism. Ice may be applied to the abdomen, and morphin may be necessary in case of much painfulness, with possibly hot rectal injections. The physician should scrupulously refrain from any direct intervention on the uterus or adnexa.

57. **Extraction of the Detached Head Retained in the Uterus.**—Trillat and Latarjet review the various methods of treatment and the indications for this condition, which, they say, the modern accoucheur rarely has occasion to see. In case of severe hemorrhage, they advise the extraction of the placenta before paying attention to the head. In the four cases of fatal hemorrhage on record under these circumstances, the only patient saved had been treated by this technic.

59. **Serious Hemorrhages in the New-born.**—Impressed by the frequency and severity of hemorrhages in new-born infants, Lequeux has been investigating the reasons for this circumstance, aside from mechanical causes. A hemorrhagic tendency during the first two weeks of life is more frequent than is generally accepted. In 2,162 maternity cases at the Saint-Antoine Hospital during 1905, 41 of the infants presented this hemorrhagic tendency, but without external manifestations in 16. The hemorrhagic tendency was observed in over 52 per cent. of the infants dying soon after birth. Of the total 41, only 15 were girls. Infection seems to be at the bottom of the hemorrhagic tendency, either the streptococcus, staphylococcus or colon bacillus being generally found in such cases. In one instance alone syphilis seemed to be the exclusive causal agent. Most frequently the infection is of postpartum origin; epidemics of this hemorrhagic tendency have been observed. The liver is the organ most frequently and severely affected, and next the spleen. The infection of these organs explains the polycythemia and leucocytosis observed, but the liver is responsible for the leucocytolysis and the vasomotor disturbances. It is interesting to note, Lequeux adds, that it is to an excess in the defensive measures on the part of these organs that the hemorrhagic tendency is due, the congestion, leucocytosis and diapedesis observed occurring in such excessive measure that they create the hemorrhagic syndrome. The latter can thus be regarded as the ultimate manifestation of the resistance of the infantile organism to toxi-infections.

60. **Value of Estimation of Hemoglobin in Obstetrics.**—Devraigne urges the importance of knowledge of the proportion of hemoglobin in the blood as an aid for prognosis in maternity cases, especially when there has been more or less hemorrhage before the patient is seen. He gives the findings in a number of cases to show how easy it is to tell from the tint of the blood in the hemoglobinometer the vital capacity of the blood. In two cases of hydatidiform moles the percentage of hemoglobin was 60 in one and varied from 31 to 50 in the other. In one case of tubal pregnancy the hemoglobin was only 40, confirming the diagnosis of internal hemorrhage. In cases with repeated small hemorrhages the hemoglobin was only 30, 55, or thereabouts. The blood recuperated exceptionally slowly in cases of low hemoglobin percentage resulting from abortion. He suggests that when the hemoglobin is below 35, owing to

repeated hemorrhages in early pregnancy, it might be wise to induce abortion in order to forestall the serious and prolonged anemia that follows spontaneous abortion. The measure is indicated all the more as spontaneous abortion is almost inevitable in case of such vital depression as is indicated by the low hemoglobin percentage.

64. **Surgical Treatment of Diffuse Puerperal Peritonitis.**—Jeannin's long article reviews the principal works published on this subject since Guillemeau's suggestion of operative treatment in 1643. He has collected from the literature 118 cases of generalized puerperal peritonitis in which surgical intervention was attempted, and adds three unpublished cases from his own experience. A summary of each case is given in tabulated form, the tables filling about 18 pages. The proportion of recoveries was 49.5 per cent. In sixty-three cases in which the peritonitis was in an acute form the proportion of recoveries was 41.2 per cent. The outcome was better the later the date after delivery when the peritonitis first manifested itself. Comparison of the different modes of surgical intervention shows that the clinical results harmonize with the theoretical assumptions in regard to the superior advantages of celiotomy by multiple routes, but without removal of any of the genital organs, as the preferable method for treatment of acute generalized puerperal peritonitis. The mortality with median laparotomy was 37 in 70 operations; with laparotomy with multiple incisions, 2 in 7; with laparotomy and colpotomy, 1 in 5; with posterior colpotomy, 4 in 7, while abdominal hysterectomy showed 12 deaths in 18 cases, and vaginal hysterectomy, 3 deaths in 4 cases. He advocates lowering the pelvis to permit free drainage after the operation, and the use of an abundance of physiologic salt solution. There should be no delay, he affirms, in operating after the peritonitis is diagnosed. The usual signs of acute peritonitis may be lacking or disguised, and in case the symptoms of peritonitis persist after curetting the uterus, an exploratory incision should be made, with continuous irrigation, and application of ice to the abdomen. The most important differentiating signs of puerperal peritonitis are the unfluctuating rapidity of the pulse, which is small, with a lack of proportion between the number of pulsations and the temperature, especially in case of hypothermia; the acceleration of the rhythm of respiration; the change in the general condition, too marked to be explained by any of the symptoms observed, and, lastly, the history of the case—peritonitis occurring with special frequency as a sequel of induced abortion or perforation of the uterus. If peritonitis really exists the patient is doomed, he states, unless laparotomy is done. In case general anesthesia is contraindicated, subcutaneous injection of cocain may be sufficient for the operation. The first incision, he says, should be made on the linea alba, below the umbilicus, and should be from 5 to 8 cm. long. The surgeon must bear in mind that the recent pregnancy has possibly made the abdominal walls very thin, and the intestine may be adherent. He advises three other incisions, one in the pouch of Douglas and two in the flanks. An assistant pushes a clamp into the floor of the pouch of Douglas, lifting it up, and the surgeon makes an incision from above, cutting down to the clamp, in the tissues stretched between the slightly opened blades of the instrument. He then passes a large drain down to the clamp, which seizes it and draws the end out through the vagina. The incision in the flanks should be on a prolongation of the axillary line. Each incision should be about 5 cm. long. By quick work the anesthetic is required only for a few minutes. In case the peritonitis is generalized, he irrigates with from 10 to 15 liters of salt solution at 40 C. (104 F.) until the fluid comes away clear, but if there is any doubt as to the generalization of the peritonitis it is better to abstain from irrigation. Drains should be left in the various incisions, and the patient placed in bed with the chest higher than the pelvis. During the operation a liter of salt solution should be injected subcutaneously, possibly with the addition of 1 mg. of strychnin to the liter. The dressings are changed every twelve hours. Nothing should be given by the mouth during the rest of the day. The next day the intestines should be emptied with an injection of 500 gm. of olive oil, followed by irrigation with salt solution, the salt solution being given in this way and subcutaneously for several days. So long as the vomiting persists the patient should not eat or drink anything, but the patient may be allowed to suck small pieces of ice. When the gastric intolerance has subsided, milk diluted with water or bouillon can be given in small quantities at a time. A tendency to collapse should be combated with injections of ether and caffein, and, possibly, intravenous injection of normal salt solution.

68. **Pyogenic Streptococcus and Puerperal Infection.**—Gonnet advocates the use of blood-agar culture media as a means of differentiating pyogenic streptococci in the lochia and blood. Examination of 100 pregnant women near term in his service never revealed pyogenic streptococci in the vagina. In 16 the *Streptococcus gracilis* was found but it vanished during delivery and caused no symptoms at any time. Blood-agar cultures were made of the lochia of all the patients after delivery, and when pyogenic streptococci were found the patient was isolated at once as a possible source of danger to others. In one case this occurred while the temperature was still normal, but serious puerperal infection with high temperature soon developed. It was thus diagnosed by the blood-agar before it had really manifested itself. Since these measures have been systematically adopted, the puerperal morbidity in the service has materially diminished. As soon as pyogenic streptococci are detected in the lochia, blood-agar cultures are made from the blood. In the 6 cases in which they were discovered in the blood, all the patients succumbed. A number of other patients presented exactly the same symptoms, but the blood was found constantly sterile. Most of these patients recovered, but two died with symptoms of severe intoxication, probably from the toxins of the streptococci. Benefit was derived from intrauterine injection of turpentine and subcutaneous injection of a physiologic salt solution to which turpentine had been added. The latter seems to have a marked prophylactic action, the streptococci not passing into the blood thereafter. Each tube of agar is heated to boiling point and then gradually cooled to 48 C. (118 F.), when about 2.5 c.c. of blood is added to each tube and the contents shaken and poured out on a Petri dish. The agar "sets" in about 15 minutes, and the dish is then placed in the autoclave at 37 C. In placing the dishes in the autoclave they are turned upside down, which prevents condensation of droplets of moisture on the surface. In from 12 to 14 hours the dishes are examined. If they are sterile they are of a uniform bright red when held up to the light. The blood can be smeared with a platinum loop on the surface of hardened agar. The presence of streptococci can thus be determined in 24 hours, and the number of the colonies and their mode of proliferation show the gravity of the infection. Gonnet gives several illustrations of the aspect of the streptococcus colonies on the blood-agar.

Semaine Médicale, Paris.

69 (XXVII, No. 14, pp. 157-168.) *How to Recognize and Cure Congenital Dislocation of the Hip. (Luxation cong. de la hanche.) Calot.

70 (No. 15, pp. 169-180.) Antidotes and Antagonists in Therapeutics and Toxicology. (Antidotisme et antagonisme.) M. Roche.

69. **Diagnosis and Cure of Congenital Luxation of the Hip.**—Calot thinks that the general practitioner can confidently attempt the cure of congenital hip dislocation when the child is under the age of 4. Older than this, special skill is necessary to correct the conditions. Usually the patient is a little girl who has always limped, but walking is not painful and palpation shows that the head of the femur is not in its normal place and is smaller than normal. The condition should be corrected at once like a simple traumatic dislocation, and the correction maintained with a plaster cast for five or six months, when a complete cure is generally realized. Between the ages of 8 and 10 reduction is still possible, but a much longer time is required for permanent restoration of approximately normal conditions, and after 10 the trouble may be regarded as incurable. He shows in sixteen illustrations the technic of preparation of the parts for reduction by stretching the retracted tissues around the joint and the adductors, then reducing the head to its proper place and holding the thigh in a cast compelling 70 degrees of flexion, 70 of abduction and

70 of apparent external rotation. The leg is bent on the thigh at an angle of about 100 degrees. The plaster cast reaches from the umbilicus to the toes. The child wears this cast for two months and a half, and is not allowed to attempt to walk, but is kept out of doors all day. This cast is then replaced with another which holds the limb in inward rotation of 60 degrees, abduction of 40 degrees and flexion of 40 degrees. The patella in the first cast faced the patient's head, but in the second cast faces the inner side of the other leg. This cast is also worn for two months and a half, after which the child is left entirely free, although kept reclining for two weeks longer, with daily massage of the limb, but no direct mobilization of the joints. Then the child is allowed to stand, holding by the back of a chair, for five minutes every hour. A week later the first attempts at walking are made, assisted by a person on each side or with canes, the attempts being repeated for five minutes each hour. After a month or so of these exercises the child soon learns to walk readily, especially if assisted by massage, baths and systematic training in walking. By the end of the year Calot states that all traces of the former limping will have disappeared. The earlier the treatment is commenced the better. Some of the best results were attained with children between 12 and 24 months. Calot has long been in charge of the children's seaside sanatorium at Berck.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

71 (XXXIII, No. 13, pp. 489-536.) XXV Anniversary of Discovery of Tubercle Bacillus. (Entdeckung des Tub.-Bac.) F. Loeffler.
72 Present Status of Experimental Cancer Research. (Krebsforschung.) A. Dietrich.
73 *Pneumonia After Traumatism. (Kontusionspneumonie.) M. Litten.
74 *Pseudoleukemia with Periodical Fever. (Pseudoleuk.) N. J. Tschistowitsch.
75 *Treatment of Mediastinal Tumors with Roentgen Rays. (Weitere Beiträge, etc.) J. v. Elischer and K. Engel.
76 Cosmetic Operations on the Nose. (Kosm. Nasenop.) Gerber.
77 *Ear Affections and Life Insurance. (Ohrenerkrankungen.) M. Levy.
78 *Importance of Intermissions Between Classes for Physical Development of Children. (Verwertung der Schulpausen.) G. Muskat.
79 (No. 14, pp. 537-576.) Enteritis and Appendicitis. (Ent. und App.) E. Sonnenburg.
80 *Chronic Rheumatic Joint Affections. (Chron. Gelenkrheumatismus und Arthritis deformans.) A. Hoffa. Id. G. A. Wollenberg.
81 *Treatment of Tetanus. (Tetanus.) Tilmann.
82 *Modification of Bassini Radical Operation for Hernia. (Modif. der B. Rad.-Op. der Hernien.) T. Papaioannou.
83 *Prevention of Recurrences After Gallstone Operations. (Aetiologie der Rezidive und Pseudorez, nach. Gallenstein-op.) O. Ehrhardt.
84 Dosage of Suprarenin Injected into Spinal Canal. (Dosierung des in den Wirbelkanal gespritzten Suprarenins.) J. Biberfeld.
85 *Transmission of Syphilis to Dogs. (Gelungene Uebertragung der Syph. auf Hunde.) E. Hoffmann and W. Brüning.
86 Research on Hemolysis, Especially in Staphylococcus Affections. (Hämolytische Unt.) G. Arndt.
87 Fever with Carcinoma. (Fieber beim Carc.) F. Fromme.

73. **Pneumonia from Traumatism.**—The form of traumatism to which Litten alludes is a contusion, without cutaneous lesion. The sudden and widespread compression induces such physical conditions that the resisting power of the lung is lowered. In case of an old process in the lung, the affection caused by the contusion may localize at this point. On the other hand, injuries may occur with extensive cutaneous suggillation, while the lung below may not have been injured. The interval after the accident before the pneumonia develops may range from 10 hours to 3, or possibly to 6 days; the average interval is 1 or 2 days. The traumatic shock is an important factor in the outcome. The patient may have been able to work in the interval between the accident and the pneumonia, but this does not disprove the connection between them. The symptoms are those of any pneumonia, although the sputum may be a little less tenacious than in ordinary pneumonia and may be unusually profuse, even from the first, in some cases. All but one of his 14 patients with contusion pneumonia recovered. Other observers have reported 4 deaths in 14; 3 in 5; 13 in 19 cases, and so on. If death occurs it is early in the disease. The pneumonia is sometimes accompanied by pleurisy without effusion, or may pass into chronic pneumonia or terminate in gangrene. In one of the 2 cases reported, a young, previously healthy man was helping another workman to lift a very heavy paving stone. Suddenly he let go, complaining of severe pain in his chest, and hemoptysis followed. Two days later typical pneumonia developed which terminated in fatal gangrene. In this case the authorities did not regard the pneumonia as dependent on the lifting of the stone, and indemnity was refused the heirs, but the final appeal was referred to von Leyden and Kraus and they cited a number of precedents and affirmed the probable connection between the pneumonia and the assumed injury of the lung from the exertion of lifting the weight. Litten thinks that there can not be the least doubt as to the connection between them. In lifting a heavy weight the person usually takes a deep inspiration and holds the glottis closed, so that the lung is distended to the maximum with air and is thus especially liable to tear readily. He says, further, that a chronic lung affection, which has never impaired the earning capacity, should not disqualify for an indemnity in case of contusion pneumonia. The indemnity is not paid for the special sickness, but only because the individual is incapacitated for work.

74. **Pseudoleukemia with Periodical Fever.**—The patient in the case reported was a woman of 38, extremely anemic, the blood findings suggesting pseudoleukemia, with periods of fever lasting for ten or fourteen days, with afebrile intervals of eight or twelve days. Others have reported similar cases, grouping them as pseudoleukemia or Hodgkin's disease. In the case reported, the favorable influence of iodid suggested a possible connection with syphilis, although no other signs of it could be detected. There was no perceptible enlargement of the lymph glands and the recovery was complete after seven months. An infectious origin seems evident from the history of the case. The attacks of fever were all alike, the temperature gradually rising, with a typhoid-like curve, reaching a maximum of 104 F., and then gradually subsiding to normal. The spleen became enlarged as the temperature rose and subsided again as it fell. During the fever the pulse was accelerated, reaching 100 and 120. General weakness, with loss of appetite and pain in the enlarged spleen were noted during the periods of fever, while the patient felt well except for weakness during the afebrile intervals. Quinin and arsenic did not display the slightest effect, but recovery was soon evident when the patient was given potassium iodid—5 gm. (75 grains) potassium iodid in 200 gm. (℥vi) of water: A tablespoonful twice a day. Iron and arsenic were given at the same time, and the result was striking. The fever vanished and the patient regained her strength and has had no recurrence during the year since. All the other cases in the literature ended in death.

75. **Roentgen Treatment of Tumors in Mediastinum.**—In the first of the two cases reported the patient recovered so completely under Roentgen treatment of the tumor diagnosed in the mediastinum that he considered himself cured and refused to continue the treatment further. About 250 minutes of exposures were given in this case. The other patient had about twenty exposures, although not entirely cured, and was exhibited at the local medical society to illustrate the benefits of Roentgen treatment of tumors in the mediastinum. Autopsy later in these cases revealed that the primary trouble had been a sarcoma in the mediastinum, but that this primary malignant growth had become completely transformed into cicatricial tissue. All the symptoms of the malignant disease subsided under Roentgen treatment. The first patient lived a year in apparently perfect health with no impairment of his earning capacity. In the second case the symptoms also subsided, but the interval before the metastases gave trouble was shorter. Torrey has related a similar case in which the sarcoma of the chest was found transformed into cicatricial tissue at the death of the patient later from typhoid. The experiences related also confirm Kienböck's statement that a vascular, rapidly growing sarcoma is the most readily influenced by the Roentgen rays of all forms of cancer. If the patients in the above cases had consented earlier to resume the Roentgen treatment on recurrence of symptoms, the results might have been better.

77. **Ear Affections in Regard to Life Insurance.**—Levy has collected from the literature 900 cases of chronic ear affections and tabulates the details from several standpoints. His

conclusions from this research and other experiences are that life insurance companies are not justified in excluding from insurance all persons with chronic ear affections, as they do in Germany. If the ear affection is shown by its clinical course to be a benign one, the life expectancy is scarcely affected by it, and candidates should be accepted, with an extra premium. The decision as to the benign character of the affection can be made only by a specialist.

78. **Exercise During the Intervals Between Classes.**—Muskat urges brief and frequent gymnastic exercises, between classes, not attempting many movements, but doing each exercise very carefully and with precision. He states that the medical school inspectors have reported that about half of all the school children suffer from curvature of the spine, not including the children who are merely round-shouldered.

80.—This paper is practically the same as that which appeared in The Journal, May 11, 1907, page 1586, by Hoffa and Wollenberg.

81. **Tetanus.**—Tilmann relates a case in which gangrene developed three days after a child had been kicked in the arm by a horse. The arm was amputated at once, but two days later tetanus developed and the child succumbed. He calls attention to the case to show that amputation, removing the focus, is not inevitably of benefit in case of tetanus. In this case the focus had been removed two days before the first symptoms of tetanus. The operation was done in a well-equipped operating room and infection with tetanus during the amputation is out of the question. In another case of tetanus described the knee had been run over and a large skin flap torn off. Symptoms of tetanus developed on the tenth day and 10 c.c. of tetanus antitoxin were injected into the spinal canal, and the same amount into the right sciatic nerve, with morphin and chloral every hour. The next day 12 c.c. of antitoxin were injected into the sciatic nerve on the left side, and the next day 20 c.c. into the right side. The patient soon recovered. Every suspicious wound at Tilmann's clinic is examined for tetanus bacilli; if found, antitoxin is injected at once.

82. **Modification of the Bassini Technic.**—The details of the technic are shown in several illustrations, as it has been applied in 89 cases in Papaioannou's service and in 21 elsewhere. Primary healing without infiltration or injury of the seminal cord or tendency to recurrence was the rule in every case, including one very large hernia reaching below the knees. The stump of the sac is fastened 2.5 cm. above the inner inguinal ring where the seminal cord emerges, and 4 safety sutures above and below produce a solid muscular wall holding back the stump of the sac. The rows of the sutures do not come above each other, but lap at least 2 cm.

83. **Recurrences After Gallstone Operations.**—Ehrhardt remarks that the principal causes of recurrence are generally supposed to be the overlooking of concrements, the development of adhesions and the continuance of hysteric disturbances. Infectious plugs of mucus in the biliary passages are liable to simulate true recurrence, but the main cause of recurrence of symptoms is to be sought in the glandular elements of the mucosa which are frequently of abnormal size and development, sometimes extending down to the peritoneal covering of the gall bladder. Inflammation may persist in one of these little recesses in the mucosa—which he calls Luschka's ducts—and possibly a minute concrement in one may be overlooked. They are to the gall bladder what an incipient diverticulum is to the intestine. The practical conclusions are that the best way to prevent recurrence is to remove the gall bladder entirely.

85. **Transmission of Syphilis to Dogs.**—Hoffmann and Brüning announce that inoculation of two dogs in the cornea with scraps from a human primary syphilitic lesion induced an affection presenting the characteristics of syphilis, even to the positive finding of the pale spirochete. Inoculation in the anterior chamber and also scarification of the cornea, in both rabbits and monkeys, induced a syphilitic keratitis. This confirms the fact that it is not necessary to inoculate the virus into a blood vessel, but that the lymph spaces offer favorable conditions for the proliferation of the spirochetes.

Münchener medizinische Wochenschrift.

88 (LIV, No. 10, pp. 449-504.) Diagnosis of Infantile Scorbutus. (Barlow'sche Krankheit.) W. v. Starck.
89 *Influence of Cholin and of Roentgen Rays on Course of Pregnancy. (Einfluss des Cholins, etc.) v. Hippel and H. Pagenstecher.
90 *Action of Roentgen Rays on Nephrectomized Animals. (Zur Frage des Leukotoxins.) J. Schmid and A. Géronne.
91 Strength of the Percussion Stroke. (Perkussionsschlag.) R. Geigel.
92 *Benzidin Test for Occult Bleeding in Urinary and Digestive Organs. (Benzidinprobe.) E. Schlesinger and F. Holst.
93 *Operative Treatment of Jacksonian Epilepsy. (Op. behandelter Fall von Jacksonscher Epilepsie.) S. Auerbach and E. Grossmann.
94 Enophthalmus. A. H. Pagenstecher.
95 *Silver Acetate in Prophylaxis of Ophthalmia Neonatorum. (Blennorrhoe der Neugeborenen.) Seefelder.
96 Treatment of Hammer Toes. (Hammerzehen.) Wende.
97 Experiences with Disinfection in East African Ports. (Desinfektion in ostafrik. Häfen.) Wagner.
98 (No. 11, pp. 505-552.) *Improved Technic of Electrophysiology. (Saiten-Elektrometer.) M. Cremer.
99 *Course of Urobilinuria in Typhoid Fever. (Urobilinurie.) J. Rubin.
100 *Cysticercus in Fourth Ventricle as Cause of Sudden Death. (Zystizerken im IV Vent.) M. Versé.
101 Microscopic Worms in Stomach of a Patient with Ozena. (Rhabditiden im Magen einer Ozänakranken.) O. Frese.
102 Systematic Treatment of Hay Fever. (Heuschnupfenbehandlung.) G. Avellis.
103 Deliveries Under Scopolamin-Morphin Semi-anesthesia. (Sk.-Morph. Halbnarkose.) O. Bass. Id. Hocheisen.
104 *Protection of Perineum. (Dammschutz.) E. Toff.
105 *Instrument for Obtaining Drop of Blood for Diagnostic Purposes: the Hemostix. (Hämostix.) M. Schottelius.
106 *Radiotherapy Applied within the Cancer (Intratumorale Bestrahlung als Fortschritt der Radiotherapie.) H. Strebel.
107 Knee-Elbow Posture to Aid Internal Version (Behandlung der verschleppten Querlage.) Langes.

89. **Influence of Cholin and Roentgen Rays on Course of Gestation.**—The rabbits in the experiments related were injected with cholin or exposed to the Roentgen rays, the results indicating that gestation was arrested and the embryo absorbed under their influence. See editorial in The Journal, May 4, page 1530.

90. **Influence of Roentgen Exposures on Nephrectomized Animals.**—The toxic effects of the exposures were greater in the nephrectomized animals. This suggests that a leucotoxin is formed under the action of the rays and that this leucotoxin is eliminated by the kidneys.

92. **Further Experience with the Benzidin Test for Invisible Hemorrhage.**—Examination of the stools from more than 150 patients and urine from 200 patients during the last few months has confirmed the reliability and the accuracy of the benzidin technic. It was described in these columns on page 1334 of the last volume. Admixture of blood from the food may obscure the findings in seeking for minimal hemorrhage in the digestive tract, but this error is not possible in examination of the urine. The test with urine is twenty times more sensitive than the Heller urine test and five times more than the guaiac and aloin test. The reliability and delicacy of the test render it very valuable for examining for blood in the urine and for hemoglobinuria. The urine must be treated first with glacial acetic acid and ether to prepare it for the test. From 0.5 to 1 c.c. of glacial acetic acid is added to 10 c.c. of the urine and lightly shaken. Then about a third of ether, by volume, is added and the whole is thoroughly shaken and set aside for a short time. The separation of the supernatant layer of ether is aided by addition of from 5 to 10 drops of alcohol and slight shaking. The limpid layer of ether is then taken up in a pipette and transferred to another reagent glass containing the benzidin reagent. The contents of the glass are shaken a little to distribute the ether extract through the reagent. In the presence of even traces of blood, the fluid turns green in a few seconds, or blue in case there is much blood present. The benzidin reagent is merely 0.5 c.c. of a freshly prepared mixture of benzidin and acetic acid and 2 or 3 c.c. of a 3 per cent. solution of hydrogen dioxid. The specimen of stool, the size of a pea, is suspended in about one-fifth of a reagent glass of water and boiled up briefly. A few drops of this suspension are added to the benzidin mixture; in case of the presence of blood the fluid turns green or blue. The patients are not allowed to eat any meat during the three or four days preceding the test. Positive findings then indicate without fail that the source of the blood is in the stomach or intestines. In cases giving negative findings, con-

trol examination with other tests never resulted positively. Schlesinger and Holst sum up their experiences, therefore, in the statement that the testimony is all in favor of the accuracy and reliability of the benzidin technic.

93. **Operative Treatment of Epilepsy.**—Auerbach reviews the opinions and experiences of the most prominent German surgeons on this subject, and reports a case of Jacksonian epilepsy showing remarkable improvement to date after excision of a part of the cortex, 5x15x30 mm., corresponding to the motor disturbances as determined by electric tests. In childhood and youth the results of operative intervention are liable to be better than after 40, as also when the disturbances are more strictly limited to one side, and when there is a history of trauma affecting the head or of an encephalitic process. The disturbances in the case described developed during the incubation stage of scarlet fever, without trauma. He thinks that accumulating evidence is limiting more and more the assumption of an idiopathic epilepsy as some unsuspected underlying lesion is becoming such a frequent discovery.

95. **Silver Acetate in Prophylaxis of Ophthalmia Neonatorum.**—Seefelder states that he treated one eye with 2 per cent. silver nitrate and the other eye with 1 per cent. silver acetate in 50 infants in his practice and found that the results were fully as good with the acetate as with the nitrate. The acetate has the advantage, he says, that it is harmless under all circumstances, which can not be said of the silver nitrate.

98. **String Electrometer.**—Cremer has had a string electrometer made, similar to the string galvanometer, and states that it is superior to all other instruments yet devised for electrophysiology. He describes its workings in detail.

99. **Urobilinuria in Typhoid.**—Rubin gives the tracings of the curve of urobilinuria in eight cases of typhoid fever. They show that very high urobilinuria, in the onset of a febrile affection suggesting typhoid, speaks against its typhoid nature. Pronounced negative findings also have the same significance when the fever is subsiding by lysis. Pronounced urobilinuria acompanying lysis is a good omen, but when the urobilinuria persists into convalescence it should be regarded as an indication for great caution in the diet and in allowing the patient to get up. He should not be dismissed until the urobilin in the urine has returned to normal proportions.

100. **Cysticercus in Fourth Ventricle.**—Versé describes two cases in which sudden death occurred and autopsy revealed dead cysticerci free in the fourth ventricle. In both cases the foramen of Magendie had been long occluded. The sudden death must have been due to the internal hydrocephalus which had likewise long existed. One of his patients, a woman, died as she sat up in bed.

104. **Protection of the Perineum.**—Toff remarks that the number of cases of laceration reported from various clinics shows that the technic for preventing injury of the perineum is still far from perfect. He believes that better results could be attained if more regard were paid to the most favorable diameter of the head in guiding delivery. Most of the tears occur while the brow is passing, the suboccipito-frontal diameter being one of the largest, while the occipito-frontal and the mento-occipital are still larger and more dangerous. He stands or sits on the right of the patient, and as soon as the head appears in the vulva he strives to deliver more and more of the back of the head past the symphysis, while forcing the head of the child forward on its breast. After the occiput has passed the symphysis, then the face can be readily delivered, especially if the patient is turned on her left side. Pressing the back of the neck against the symphysis also aids in gaining space to spare the perineum. By this means the shortest diameter of the head, passing from the suboccipt to the bregma, is the one involved when the head is emerging. In face presentation the same principle is followed, working out the chin as far in advance as possible, bending the head backward, and delivering the back of the head as the face was delivered above. The technic is illustrated with 6 diagrams.

105. **Instrument for Obtaining Blood for Diagnostic Purposes.**—Schottelius gives an illustration of a convenient little instrument for obtaining a drop of blood. Two metal rings fit on the tips of the thumb and forefinger. Each ring is shaped like a broad signet ring, but one has a slit in which works a small triangular knife on a spring. Holding the lobe of the ear between the thumb and forefinger, armed with these rings, pressure on the knife makes the desired little incision, exactly the right size and depth, when the ear can be at once released. The physician can put on the rings and make the incision without attracting the patient's attention to the instrument. It has been in use in his clinic for several years with constant satisfaction.

106. **Intratumoral Roentgen Treatment of Cancer.**—Strebel has done a large amount of pioneer work in radiotherapy. He advocated three years ago the introduction of radium inside the tumor as a routine procedure in radium treatment of cancer. He has since devised a small Roentgen tube to use in the depths of the tumor. The tumor is incised under adrenalin-Schleich infiltration, the tube is introduced and a weak current turned on. The adrenalin and the pressure of the tube keep the blood expelled from the parts, while most of the radiant energy is utilized, absorption by the skin being abolished. The epidermis is generally assumed to absorb 1/10 of the radiant energy, while the derma proper absorbs more than ½. He claims that in ordinary superficial exposures the rays penetrate only a short distance into the tissues, the deeper parts of the tumor escaping most of their influence, and that all this is done away with by this intratumoral exposure which brings the action of the rays exactly where they are most needed. He also says that it obviates danger of the dreaded Roentgen dermatitis, as the rays do not reach the skin first, and that the exposures can be continued as long as desired without fear of cutaneous lesions. One form of the tube has the outer side protected so that the tube can be shoved in under the skin and send its rays downward only, sparing the protected skin above. This has been found useful in treating metastases and tumefied glands near the surface. With these intratumoral exposures "cancer nests" can be thoroughly destroyed without injury to the skin. His experience has convinced him that the formation of antibodies or other immunization processes can be utilized as adjuvants to direct Roentgen treatment of the tumor proper. This he accomplishes by not restricting the exposures to the tumor alone, but by a general application of the rays to larger portions of the body, in order to accelerate the hemolytic processes and thus induce a kind of autoserotherapy in the cancer patient. He adds that recent research showing the marked hemolytic properties of potassium chlorate and the way in which cancer is influenced by it (Lomer) justifies its tentative administration internally and externally as an adjuvant to radiotherapy. He also refers to the works of Werner, Exner, Heineke and others which have demonstrated that local and general Roentgen exposures induce hyperleucocytosis and lymphopeny; that substances appear in the tissues after exposure for which the polynuclear leucocytes display a positive chemotactic affinity, and that exposure of the leucocyte-producing organs checks new formation of leucocytes. He thinks that these facts can be utilized in radiotherapy of cancer, promoting the destruction of the malignant tumor by accelerating the hemolytic processes in general.

Norsk Magazin f. Lægevidenskaben, Christiania.

Last indexed, page 1468.

108 (LXVIII, No. 2, pp. 105-216.) *Mouse Tumors and Experimental Transmission of Cancers. (Musekræft og experimentel Kræftforskning.) M. Haaland.
109 *Pathogenesis and Treatment of Ulcer of the Stomach. (Ulcus Ventriculi.) J. Thesen.
110 *Carcinoma of the Prostate with Metastases in Spine and Peritoneum. (Carc. Prostatae.) A. Nilssen.

108. **Mouse Cancers.**—Haaland describes his experience with experimental transmission of tumors with research on heredity, immunity, etc. He remarks in conclusion that experimental transmission of malignant tumors is still in its infancy and has not yet produced any results that can be applied in practice. It has afforded, however, a glimpse into the various factors which influence the origin and development of malignant tumors and suggested the principles for successful war on malignant disease. In particular it emphasizes the importance of the general constitution in the development of malignant disease. The cancer theories to date have assumed that the

tumor is due to embryonal or aberrant cells or to an impulse from some unknown parasite, but experimental research has demonstrated that these are not enough—there must be some constitutional predisposition or the cancer cell is unable to proliferate and to produce a tumor. The transplantable mouse tumors enable us to submit this constitutional tendency to experimental tests. The experiments described are susceptible of various explanations, but Haaland thinks that the most plausible is Ehrlich's assumption that the tumor growth is a "fight between cell avidities."

109. **Treatment of Ulcer of the Stomach.**—Thesen explains gastric ulcer as a chronic, infected ulceration, secondary to some septic process in mouth, nose or throat, accompanied by a local lymphangitis with hyperalgesia of the corresponding parietal peritoneum. The latter is the cause of the pains. He cites statistics to show that the ulcers are always located on parts of the stomach corresponding to certain lymphatic tracts, especially the retroperitoneal. The symptoms are explained by this conception of the origin of gastric ulcer, and its correctness is confirmed, he thinks, by his fine results in 35 cases of gastric ulcer in which treatment was based on these premises. He enforces strict bed rest for three weeks, or for six weeks in the older cases, and applies a wet pack around the entire trunk, as he ascribes the pains to the retroperitoneal glands rather than to the stomach itself. He agrees with Lenhartz in regard to the necessity for not starving the already famished patients any more, and he also agrees with those who insist that rest is what the ulcerated stomach needs. He reconciles these apparently contradictory indications by assuming that the food can not directly induce pain in the stomach, and that direct irritation of the ulcer has only a very mildly deleterious influence on the ulcer. On the other hand, the slightest movement of the stomach is painful, and any movement of the kind is extremely prejudicial for the healing of the ulcer. He therefore gives his patients all the food they can take without its causing painful movements of the stomach. The quantity is more important in this respect than the quality. The meals must be small and frequent, or, as he expresses it, the ulcer patients do not have any meals but keep lunching all day long—never taking more than from 15 to 100 c.c. at a time. One of his patients could eat a raw plum without hearing from it, but had pain after even a small cup of milk. In case of thirst or too small amounts of urine, he supplies water by rectal injection. The foods that excite the stomach peristalsis least are the white of egg, raw scraped meat and fish, butter and cream, and he restricts the diet to these. He obtains good results from bismuth, but he explains them differently from others, ascribing the benefit to the disinfecting action of the bismuth on the surface of the ulcer and also to the probable fact that the bismuth albuminoses formed are taken up by the lymph and are carried into the lymphatics where they exert a direct curative action on the lymphangitis. He does not give the bismuth according to the usual technic, but administers it in suspension in the smallest possible amount of water, in the morning, on the fasting stomach, without previous lavage. He gives the bismuth for five days, then empties the bowels with a copious enema, and recommences the bismuth on the seventh day, until he has thus given fifteen powders. He then suspends the bismuth, as a rule, but has sometimes given up to 45 powders without appreciable harm. All pain generally vanishes by the second powder, and he ascribes to the credit of the bismuth the fact that his patients are so soon able to eat without pain. He has never found blood in the stools after they show traces of bismuth except after severe hematemesis. He has experimented with silver nitrate, but never noted such benefit as after the bismuth, probably because the dosage must be so small. In the first 5 days, with 10 gm. of bismuth, the patient is allowed from 250 to 550 c.c. milk, with from 0 to 4 raw eggs. The sixth day no bismuth, but a copious enema. In the next 5 days the food allowed is gradually increased to 750 c.c. milk, 50 c.c. cream, 5 eggs, a little fish and 3 biscuits with butter and raw scraped meat. He gives the bismuth in 100 c.c. of water and allows the patient half this amount of water afterward. The patient then reclines with the pelvis raised for 20 minutes, and no food is allowed till after he has rested quietly for 45 minutes. The milk is given in sips at first, and, even later, more than 50 c.c. is never allowed at a time. He sometimes substitutes kefir or uses lime water with the milk. After the eighteenth day the patient is allowed to get up. The eggs are given raw at first, but later can be lightly cooked. He does not approve of bread until two or three months after the commencement of the course of treatment.

110. **Metastases from Cancer of the Prostate.**—In the case reported the carcinoma in the prostate had induced metastases in the seminal vesicles, bladder, peritoneum and spine. In the spine the process was an actual osteoplastic carcinosis and the principal symptoms were those of compression of the cauda equina.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Medical Jurisprudence, Forensic Medicine and Toxicology. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics and Toxicology in Cornell University, and Tracy C. Becker, A.B., LL.B., Counselor at Law, Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. With the Collaboration of Others. Second Edition. Volume II. Cloth. Pp. 1008. Price, $6.00. New York: William Wood & Co., 1907.

Practical Physiological Chemistry, A Book Designed for Use in Courses in Practical Physiological Chemistry in Schools of Medicine and Science. By Philip B. Hawk, M.S., Ph.D., Demonstrator of Physiological Chemistry in the Department of Medicine of the University of Pennsylvania. With Color Plates and Other Illustrations. Cloth. Pp. 416. Price, $4.00. Philadelphia: P. Blakiston's Son & Co., 1907.

Diagnosis of Organic Nervous Diseases. By Christian A. Herter, M.D., Professor of Pharmacology and Therapeutics at Columbia University. Revised and Enlarged by L. Pierce Clark, M.D., Visiting Neurologist to the Randall's Island Hospitals and Schools. With 109 Illustrations. Cloth. Pp. 690. Price, $3.00. New York and London: G. P. Putnam's Sons, 1907.

Die Behandlung der Angeborenen Hüftgelenksverrenkung, and Die Behandlung der Tuberkulösen Wirbelsäulenentzündung, von Dr. F. Calot. Uebersetzt von Dr. P. Ewald. Illustrated, mit einem vorwort von Prof. Dr. Oscar Vulpius. Paper. Stuttgart: Verlag von Ferdinand Enke, 1906-7. (See abstract in The Journal, May 18, page 1728.)

Practitioner's Handbook of Materia Medica and Therapeutics. Based on Physiological Actions and the Indications in Small Doses, to Which is Added Some Pharmaceutical Data. By Thos. S. Blair, M.D., Member Visiting Staff of Harrisburg City Hospital, etc. Cloth. Pp. 253. Price, $2.00 net. Philadelphia: The Medical Council.

Tics and Their Treatment. By Henry Meige and E. Feindel. with a Preface by Prof. Brissaud. Translated and Edited with a Critical Appendix by S. A. K. Wilson, M.A., M.B., B.Sc., Resident Medical Officer, National Hospital for the Paralyzed and Epileptic, London. Cloth. Pp. 386. Price, $2.50. New York: William Wood & Co., 1907.

Surgical Diagnosis, by Daniel N. Eisendrath, A.B., M.D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois, College of Physicians and Surgeons. Illustrated, partly in colors. Cloth. Pp. 776. Price, $6.50 net. Philadelphia and London: W. B. Saunders Co., 1907.

Sixth Annual Report of the Board of Trustees of the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis, Ray Brook, N. Y., For the Year Ending Dec. 31, 1906. Transmitted to the Legislature Jan. 28, 1907. Paper. Pp. 39. Albany: J. B. Lyon Company.

Clinical Lectures on Neurasthenia, by Thomas D. Savill, M.D., London, Physician to the West End Hospital for Diseases of the Nervous System. Third Edition, Revised and Enlarged. Cloth. Pp. 216. Price, $1.50 net. New York: William Wood & Co., 1907.

Gallstones and Diseases of the Bile-Ducts. By J. Bland-Sutton, F.R.C.S., Eng., Surgeon and Lecturer on Surgery to the Middlesex Hospital. With 48 Illustrations. Cloth. Pp. 234. Price, $2.00. New York: William Wood & Co., 1907.

Lessons on Massage, by Margaret D. Palmer, Formerly Masseuse and Manager of the Massage Department of the London Hospital. Third Edition. Cloth. Pp. 272. Price, $2.50 net. New York: William Wood & Co., 1907.

Surgery of the Rectum. By Fred C. Wallis, B.A., M.D., B.C. Cantab., F.R.C.S., Surgeon to the Charing Cross Hospital. Cloth. Pp. 168. Price, $2.00 net. New York: William Wood & Co., 1907.

Experiments on Animals.. By Stephen Paget. With an Introduction by Lord Lister. Third Edition, Revised. Cloth. Pp. 387. Price, $3.00. New York: William Wood & Co., 1907.

Forty-Fifth General Assembly of Illinois. Index to Senate and House Bills. Paper. Edited and Published by the Bureau of Legislative Publicity, Springfield, Ill.

The Miracle Worker. By Gerald Maxwell. Frontispiece by G. F. Gray. Cloth. Pp. 349. Price, $1.50. Boston: John W. Luce Co., 1907.

Wellcome's Photographic Exposure Record and Diary, 1907. Cloth. Pp. 259. New York and London: Burroughs, Wellcome & Co.

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Original Articles

MEDICAL LEGISLATORS OF TWO REPUBLICS.

CHARLES A. L. REED, M.D.
Chairman of the Committee on Medical Legislation of the American Medical Association.
CINCINNATI.

FRANCE AND THE UNITED STATES.

There are ninety-two physicians in the two houses of the present French Congress—the Ninth, elected last year.

There were four physicians in the two houses of the last Congress of the United States—the Fifty-ninth, that expired by limitation in March, 1907.

These facts are mentioned in distinct paragraphs for the purpose of emphasizing the contrast, in this particular, between the two great republics of the world. This contrast becomes all the more striking when it is remembered that the population of France, in 1906, was 38,228,969, while that of the United States for the same year, the estimate being based on the census of 1900, was approximately 85,000,000.

I have no recent figures as to the number of physicians in France, but I have a distinct recollection that a few years ago it was quoted at 28,000. The number of physicians in the United States in 1906, according to the "American Medical Directory," the official medical directory of the United States, just issued by the American Medical Association, was 122,167. These figures bring into even more striking contrast conditions which, considered in relation to each other, amount to a sociologic phenomenon.

THE MEDICAL LEGISLATORS IN THE TWO COUNTRIES.

A study of this phenomenon is of interest not only to sociologists in general, but more particularly to American physicians who are more or less acquainted with the personnel of the medical profession of France and who have some knowledge of the cities and people and, consequently, of the political constituencies of that country. But before giving the names of the various medical representatives and their constituencies it may be of interest to state that the French Congress, like the American Congress, is composed of two houses. The upper house in France, like that in this country, is called the Senate, while the lower house, corresponding to our House of Representatives, is called the Chamber of Deputies. The French Senate has 300 members, of which 40 are physicians; the American Senate consists of 90 members, of which one is a physician. The French Chamber of Deputies has 595 members, of which 52 are physicians; the American House of Representatives has 386 members, of which, in the Fifty-ninth Congress, 3 were physicians.

THE PERSONNEL OF THE TWO DELEGATIONS.

Now let us consider the personnel of the medical delegations as found, respectively, in these two great legislative bodies.

In the French Senate are Goujon (Ain), Gacon (Allier), Vagnat (Hautes-Alpes), Trezoul (Ariege), Gauthier (Aude), Ouvrier (Aveyron), Flassieres (Bouches-du-Rhône), Blanchier (Charente), Combes (Charente-Inférieure), Dellestable and Labrousse (Corrèze), Ricard (Côte-d'Or), Villard (Creuse), Denoix and Peyrot (Dordogne), Saillard and Borne (Doubs), Lannelongue (Gers), Lancet (Gers), Lourties (Landes), Reymond (Loire), Vigier (Loiret), Rey (Lot), Pettijean (Nièvre), Labbé (Orne), Bataille (Puy-de-Dôme), Pedebidon (Hautes-Pyrénées), Gauthier (Haute Saône), Guillemaret (Saône-et-Loire), Trancoz and Chautemps (Haute-Savoie), Piettre (Seine), Boularan (Tarn), Rolland (Tarn-et-Garonne), Ligallis and Clemenceau (Var), Parisot (Vosges), Lordereau (Yonne), Gérente (Alger), Aubry (Constantine).

In the Chamber of Deputies are Buzonet (Ain), Thiorier (Allier), Isoard (Basses-Alpes), Durand (Aude), Hugon (Cantal), Roy (Charante-Inférieure), Ravier (Cher), Lachand and Rouby (Corrèze), Santelli (Corsica), Baudet (Côtes-du-Nord), Clament, Sireyjol, Pourleyron and Sarrazin (Dordogne), Evesque (Drôme), Dubuisson (Finistère), Chapius (Jura), Laurent (Loire), Vazeille (Loiret), Dudouyt (Manche), Pechadre and Pozzi (Marne), Chapuis (Meurthe-et-Moselle), Defontaine and Dron (Nord), Beaudon, Delpierre and Chopinet (Oise), Cachet (Orne), Delilas-Fanien and Morel (Pas-de-Calais), Sabatiere and Chabige (Puy-de-Dôme), Pujade (Pyrénées-Orientales), Cazeneuve (Rhône), Dubreff and Simyan (Saone-et-Loire), Empereur (Savoy), Levraud, Brousse, Vaillant and Meslier (Seine), Delbet (Seine-et-Marne), Amodru (Seine-et-Oise), Joyeux-Laffuie and Cibiel (Vienne), Vacherie and Boutard (Haute-Vienne), Villejean (Yonne), Duquesnay (Martinique), de Mahy (Réunion).

In the United States Senate is Gallinger (New Hampshire). In the United States House of Representatives (Fifty-ninth Congress) were Barchfeld (Pennsylvania), Burton (Delaware), Samuels (Pennsylvania).

Information as to the personnel of the newly elected Sixtieth Congress is not yet available. It is known, however, that Burton and Barchfeld have been reelected.

WHO'S WHO?

Now, who are these men? What is their status, individually and collectively, socially and in the profession of their respective countries? Are they really representative men either professionally or politically?

Have they shown capacity as legislators and administrators? These are important questions, for it is only in the light of correct answers to them that the desirability of medical representation in the legislative bodies can be determined.

First, then, as to France. To begin with, it may be asserted that the entire delegation is a distinguished one; for, to be a member of the *corps legislatif* of France is, of itself, a distinction. And what is true of France, in this particular, is equally true of America. But in France there are other distinctions, some carrying with them tangible insignia. Thus, something over a hundred years ago, an order was established, membership in which was, and is yet, conferred as a reward for military and civil services of extraordinary merit. A conspicuous act of bravery in war may bring the prize at once, but it is conferred in times of peace only after twenty years of distinguished service, either military or civil. This is the great Legion of Honor, to be a chevalier of which may well be the ambition of any man. It may be of interest, therefore, as showing the position of the French medical legislators in their own country, to state that about one-third of them—to be precise, twenty-nine out of the ninety-two—wear the coveted cordon, recognized the world over as the insignia of honor. Another distinction, created in 1808, that of *officier de l'académie*, with the insignia of double palms, conferred on *littèrateurs* and *savants*, is held by a score or more members of the medical delegation. A number of them have foreign decorations, showing that these medical legislators, many of them at least, are prophets honored not only in their own country, but beyond its confines. And let it be understood, furthermore, that these honors come, not as meaningless expressions to favored friends, but as merited recognition for things done, labor rendered and results achieved.

PROFESSIONAL DISTINCTIONS OF THE FRENCH DELEGATION.

But if these results have been achieved, if these things have been done, they who have achieved and done them must, of course, be otherwise known of men. And so they are, many of them at least. There are at least twenty-five of the names given that appear repeatedly in each volume of the *Index Medicus* for the last twenty years. Anybody can see them who may take the trouble to make the reference. It would be impossible in this short article to give the bibliography of all of them, and to give that of one without that of others would be invidious. Some have professorial distinctions. There, for instance, is Cazeneuve, who is a member of the faculty of the world-famed medical school at Lyons and one of the most constant contributors to the *Lyon Médicale*. And there is Adrièn Pozzi, who is professor of surgery at Reims after having been *agrégé* for years at Paris. He was one of the collaborators on the well-known work on gynecology issued several years ago by his celebrated elder brother, Professor Samuel-Jean Pozzi, of Paris, who, by the way, was himself a senator in the second Congress preceding the present one. Both Pozzi and Cazeneuve are in the Chamber of Deputies, where they have for colleagues such men as Laurent, the leading surgeons at Roanne, where he is chief of the *maternité;* Villejean, who is a *professeur agrégé* at Paris; Sabatier, who is a writer on ophthalmologic subjects; Pujade, whose work on "The Practical Cure of Tuberculosis" was crowned by the Academy of Medicine of Paris; Dubief, who is an alienist of distinction; Dron, whose contributions on cancers of the eye have commanded general attention; Isoard, whose labors in connection with original hygienic investigations at Marseilles are generally quoted; and there are doubtless others in this same body who are equally entitled to mention, but whose achievements I do not happen to know.

If we turn to the Senate, we find an equally gratifying range of professional distinctions. There are Labbé, whose long service at the Beaujon and as *professeur agrégé* at Paris brought him the merited distinction of the presidency of the national surgical society; Peyrot, the distinguished surgeon, whose works, "Diseases of the Chest and Abdomen" and "Manual of External Pathology" are authoritative; Saillard, director of the medical school, professor of surgery and chief of the hospitals at Besançon; Lannelongue, whose "Lessons in Clinical Surgery" is one of the best known works in France; Borne, a *leuréat* of the Medical Faculty of Paris, which accorded him the Corvisart prize; Reymond, another *lauréat* of the Paris Faculty, who is a well-known writer on bacteriology and surgery; Goujon, also a *lauréat*, whose writings on physiologic subjects are quoted both in and out of France; Blanchier, who conducted some of the earliest and most important original experiments on salicylate of soda; Rolland, who has followed up the work of Charcot in psychiatry; Parisot, an authority on pediatrics, whose labors in the popularization of vaccination and for the protection of infants of earliest ages places him in the category of philanthropists; and, finally, there are Combes and Clemenceau, both physicians, the former a writer on psychology, both of whom are such conspicuous characters in the world as to require special mention, even in the short space of this article.

COMBES.

Combes was a former, as Clemenceau is the present, premier of France. Justin Louis Emile Combes was born at Roquecombe (Tarn) in 1835. After graduating in medicine and letters he settled in Paris. He took up psychology as a special study and wrote an interesting work on the psychology of St. Thomas Aquinas. He drifted into philosophy and historiography, on which topics he made numerous valuable contributions. His political career began, like that of many physicians in France, by being elected mayor of the town in which he lived. That was in 1876. Nine years later he went to the Senate.

From that date he has been a national figure in France. The laws of primary education; those relating to instruction in Algiers, and to the higher education of the Mussulmans in that country; measures for the construction of the French navy; others for the regulation of the railroads, are a few of the subjects that bea the stamp of his individuality and show the range o his versatility.

His great achievement, however, was the abolition o the concordat that had long existed between France an the Vatican. He began this while he was a minister o public instruction in the so-called Bourgeois cabine (1895-1896); he kept it up while in the cabinet o Waldek-Rousseau (1899-1902), and finally carried i into effect in the cabinet of which he himself was premier (1902-1905). This great achievement—the separation of church and state in France—was probably on of the greatest revolutionary steps ever effected in an country, and probably the only revolution in the histor of France, of equal moment, so well conceived that i execution was effected without the shedding of blood. The master hand in this great *coup d'état* was Combes, the physician.

CLEMENCEAU.

Then came the short-lived cabinets of Rouvier—short lived, apparently, because they contained no physician to protect them, although Dujardin-Beaumetz, an artist who was under-secretary of state, had a name familiar to medical ears. But when Sarrien, who followed, was forced by ill health to retire as premier, President Fallières requested Dr. Clemenceau to organize a ministry—the one now in office. This remarkable man, Clemenceau, deserves more than a passing word. Born in 1841, he graduated in medicine at the age of 28, and he seems to have entered almost at once on a political career. He began, of course, as mayor, and presided over Montmartre during the dark days of the commune. After the war with Germany he, as a member of the National Assembly, assisted in the reconstruction of the government. President of the Municipal Council, secretary of the Chamber, recognized parliamentary leader of the extreme left, Senator and President of the Council (*Premier*) are the chief offices that he has held in succession. In the meantime he has established and conducted several newspapers, *La Justice, Le Bloc* and, finally, *L'Aurore,* through which, successively, he has promulgated his strong anticlerical convictions. He is to-day carrying to completion the great reforms inaugurated by Combes, and is himself inaugurating policies which, if successful, will give the people of France a larger control over public utilities and a larger share in the proceeds derived from the natural resources of the country. Strong, courageous, magnetic and always a fighter for his convictions, that is Clemenceau, the physician.

OTHER MEDICAL CABINET OFFICERS.

But there are other members of the present French Congress who have done duty in the cabinet. Thus, for example, Chautemps, now Senator from the Haute-Savoie, was a member of the Ribot cabinet in 1898. The Deputy from Réunion, de Mahy, has served in the cabinets of Freycinet (1882), Fallières (1885), Tirard (1887), and has served since as Vice-president of the Chamber. Vigier, Senator from Loiret, has seen duty in a half-dozen cabinets.

OTHER POLITICAL ACTIVITIES OF FRENCH PHYSICIANS.

The examples of Combes and Clemenceau demonstrate the capacity of physicians for the various phases of public life in France. Nearly all of them have begun as local councillors, each in the *commune* in which he lives, or in the *canton* or, possibly, in the *arrondissement,* the three grades of local government boards peculiar to that country. As a matter of fact, just sixty-five of these physicians have, at one time or another, served as members, often as officers, of the Council. Then, too, a goodly number of them have been mayors; it seems, indeed, as if the mayoralty is the stepping stone from the Council to Congress. But it is interesting to see the number of French cities, and important ones, too, that either have or have had physicians for mayors. Marseilles, Reims, Dijon, Lyons, are among the more important, while members of the present Congress embrace former mayors of Donjon, Briançon, Varilhes, Sijean, Mur-de-Barrez, Pons, Guéret, Peyriac, Saint Hippolyte, Auch, Aire, Châteauneuf, Saint-Denis, Catus, Louhans, Crepy, Campagne-les-Hesdin, Arlac, Pont-du-Château, Cluny, Chamarande, Rançon, Fort-de-France, Annecy and about twenty-five others. It would seem from this that medical men in France shoulder and carry their full share of the burden that falls, or should fall, on all alike in a great republic such as theirs and ours.

AMERICAN MEDICAL LEGISLATORS.

Now let us turn to the contrasting picture furnished by the United States. Four physicians in the Congress of this great country! Fortunately, we have to apologize only for the smallness of the delegation. The "who's-who" inquiry can be made with resulting qualification. Thus, Dr. Jacob H. Gallinger, Senator from New Hampshire, was a practicing physician in Concord and for many years enjoyed a reputation that extended over the larger part of New England. He began his political career as a representative in his state legislature in 1872. He has since served as a member of a constitutional convention, surgeon-general of his state, representative in Congress and, finally, United States Senator. Dr. Andrew Jackson Barchfeld, representative from the Thirty-second Pennsylvania District, graduated in medicine in 1884, and is a surgeon of prominence in Pittsburg, where he resides, being a member of the staff of the South Side Hospital of that city. He is a member of professional organizations from his county society to the American Medical Association. Dr. Hiram Rodney Burton, representative-at-large from the State of Delaware, has been for thirty-five years a practitioner of medicine in his native town of Lewes, and in every way identified with the activity and welfare of his county and state. Dr. Edmund William Samuels, the representative from the Sixteenth Pennsylvania District, is another active practitioner of medicine who has served his community in various public capacities before coming to Congress. Illustrated biographic notices of these four conspicuous and honored members of our profession will shortly appear in The Journal. It is with a desire not to forestall interest in these notices that more is not said in this connection. It is, however, proper to state that, while the medical profession of the United States, as compared with that of France, in the matter of participation in national legislation, has occasion to blush, its chagrin arises from disparity in the number rather than in the quality of its representatives.

COMPENSATION OF CONGRESSMEN IN THE TWO REPUBLICS.

The great interest that medical men in France display in matters of state can not be accounted for on the basis of compensation received. The pay, or the "indemnity," as it is called in France, is only 9,000 francs, or about $1,800, for both Senators and Deputies, while the pay in the United States is 37,500 francs, or $7,500, in both branches of Congress. It is not germane to our subject, but it will do no harm to observe that members of the British Parliament serve entirely without compensation, and that the medical profession always has liberal representation in that body. Certainly with these wholesome examples before us it must be apparent that, relatively speaking, the medical profession of the United States is not doing its full duty in these higher activities of American citizenship. May the future accord us a better record!

SOME MEDICAL MEMBERS OF STATE LEGISLATURES.

I have found it practically impossible to get a list of all the physicians who are members of state legislatures.

I am convinced, however, that, if fully compiled, it would be long enough to show that the members of our profession are beginning to take an increasing interest in the legislative affairs of their respective states. The list is subjoined. Additional names will be published as rapidly as they are received.

PHYSICIANS IN STATE LEGISLATURES.

ALABAMA.

NAME.	RESIDENCE.	OFFICE.
G. T. McWhorter	Riverton	Senator
M. C. Ragsdale	McCalla	Representative
J. R. Vann	Abbeville.	Representative

INDIANA.

M. M. McDowell	Vincennes.	Senator
Evan L. Patterson	Brookville.	Senator
L. T. Cox	Napoleon.	Representative
A. W. Portor	Loogootee.	Representative
H. G. Read	Tipton.	Representative
Charles E. Scholl	Camden	Representative
John W. Vizard	Pleasant Mills	Representative

ILLINOIS.

M. D. Fostor	Olney	Representative

IOWA.

E. W. Clark	Grinnell	Senator
J. A. DeArmand	Davenport	Senator
J. A. McKlveen	Chariton	Senator
Henry Young	Manson	Senator
James F. Clark	Fairfield	Representative
Jesse D. Elliott	Hawleyville	Representative
P. M. Jewell	Decorah	Representative
Charles L. Marston	Mason City	Representative

KANSAS.

E. F. Richardson	Onaga	Representative

KENTUCKY.

A. D. James	Bowling Green	Representative

DELAWARE.

Thomas O. Cooper	Wilmington	Representative
John W. Messick	Georgetown	Representative

CONNECTICUT.

Junius F. Smith	Brookfield	Representative
F. I. Nettleton	Shelton	Representative
Noah Wadhams	Goshen	Representative
George K. Knight	Lakeville	Representative
William L. Higgins	South Coventry	Representative
C. H. Pendleton	Hebron	Representative

MINNESOTA.

H. H. Witherstine	Rochester	Senator
John H. Dorsey	Glencoe	Representative

MISSISSIPPI.

Carroll Kendrick	Kendrick	Senator

MISSOURI.

Frank DeVilbiss	Spring Garden	Senator
Frank P. Young	Kirksville	Representative
Joseph P. Porth	Jefferson City	Representative
I. Phillips	Buffalo	Representative
Numa R. Holcomb	Oak Grove	Representative
Walter E. Gibson	DeSota	Representative
E. M. Roseberry	Neosho	Representative
Thomas B. Cook	Rayville	Representative
S. J. Wade	Benton	Representative
R. H. Hanson	Hartville	Representative
Golburn H. Wilson	St. Louis	Representative

NORTH DAKOTA.

J. D. Taylor	Grand Forks	Senator
J. W. Sifton	Jamestown	Senator

NEBRASKA.

Frederich Wilcox	Hubbell	Senator
W. G. Fletcher	Orchard	Representative
F. A. Marsh	Seward	Representative

NEW HAMPSHIRE.

George H. Saltmarsh	Lakeport	Senator

NEW YORK.

Frank M. Boyce	East Schodack	Senator
Fred A. Dudley	King Ferry	Senator
Orlando W. Burhyte	Brookfield	Representative
W. Lovell Draper	Wilson	Representative
Samuel A. Glück	Brooklyn	Representative

OHIO.

NAME.	RESIDENCE.	OFFICE.
William M. Denman	West Unity	Senator
J. W. Guthrie	Manchester	Representative
A. J. Crawford	Glouster	Representative
Young Stephenson	Georgetown	Representative
L. M. McFadden	Washington C. H.	Representative
Wm. Curtis Whitney	Westerville	Representative
John H. Criswell	Marion	Representative
F. F. Demuth	Cecil	Representative
George B. Nye	Waverly	Representative
Edwin B. Harper	Clinton	Representative

COLORADO.

B. L. Jefferson	Steamboat Springs	Senator
G. D. Dulin	Las Animas	Representative
A. B. Harbison	Aguilar	Representative

OREGON.

Wm. G. Cole	Pendleton	Senator
O. C. Smith	Portland	Senator
J. N. Smith	Salem	Senator
B. H. McCallon	Dallas	Representative
H. B. Belknap	Prineville	Representative
Geo. H. Merryman	Klamath Falls	Representative

PENNSYLVANIA.

Daniel P. Gerbrick	Lebanon	Senator
Edwin M. Herbst	Oley	Senator
W. C. Miller	Bedford	Senator
Charles B. Quail	Auburn	Senator
John W. Bowman	Lemoyne	Representative
Rein K. Hartzell	Allentown	Representative
J. S. Hunt	Easton	Representative
J. S. Krebs	Northumberland	Representative
John M. Martin	Grove City	Representative
E. S. Meals	Harrisburg	Representative
E. E. McAdoo	Ligonier	Representative
W. W. Sprowls	Houston	Representative
C. L. Stevens	Athens	Representative
E. P. Weddell	Scottdale	Representative

SOUTH DAKOTA.

—— Michals	Gettysburg	Representative

SOUTH CAROLINA.

Olin Sawyer	Georgetown	Representative
J. H. Saye	Yorkville	Representative
C. T. Wyche	Prosperity	Representative

TENNESSEE.

Z. D. Massey	Sevierville	Senator

TEXAS.

J. A. Todd	Parker	Representative
R. W. Chapman	Geneva	Representative
Ralston	No address	Representative

WASHINGTON.

J. I. Pogue	Alma	Senator
C. G. Brown	Spokane	Senator
H. C. Fulton	Asotin	Representative
J. W. Cloes	Tacoma	Representative

WISCONSIN.

J. H. Noble	Eau Claire	Senator
Thomas A. Miller	La Crosse	Representative
Wesley Irvine	Manawa	Representative

WHY IS IT AS IT IS?

But why, the question of "pay" or "indemnity" aside, do so many French physicians go to Congress? And why do so few American physicians seek entrance to our great national legislative assembly? No man may answer these questions with any pretention to accuracy. There is so much in the antecedents, traditions, laws, customs, temperaments—in the blood, if you please—of the two peoples, so much of a determining character that it is impossible in this connection, even to survey the whole question.

But there are a few obvious facts that may throw a little side light on the situation and that may be mentioned without offence to either party. The facts relate chiefly to ideals, and let it be remembered that ideals determine the destinies not alone of persons but of peoples. But to illustrate: When the Frenchman exclaims *"Ma Patrie!"* he probably throws more passionate patriotism into the expression than does the American who sings of "My Country." Of course, I am not now speaking of times of great national crises, when the depths of patriotism are stirred by the possibilities of impending calamity. But the meaning of this difference is that, under ordinary every-day circumstances, the demands of his country are more imperative to the Frenchman than are the demands of America to Americans.

Then, too, in France every man, the physician as well as his neighbor, dreams of the day when he shall become a *rentier* or a retired man. And he not only dreams of it, but he labors for it, economizes and saves to hasten its coming. His ambition for wealth is not great, but his longing for independence and emancipation—emancipation from the cark and care of pills, potions and patients—is irresistible. The time arrived, he, or many of him at least, takes not to idleness and dissipation but to the realization of something bigger, better and broader that is within him. In sympathetic touch with society, having felt its pulse literally as well as figuratively, he knows of its hopes, aspirations, wants and woes as no other man knows them. So quite naturally he takes to live functions, and from being a doctor he becomes something more than a doctor. Having achieved rational independence on a basis of modesty and contentment, he seeks to be a man among men, to live not by moping days, but by pulse beats and heart throbs and to do those things that will make him spoken of by his children and his children's children. So there are ninety-two of him in the present French Congress.

Now, let us turn to our own beloved country and to our still more beloved profession—the best country and the best profession on the footstool. And let us counsel frankly and honestly among ourselves. In the first place, have our educational methods of the past been conducive to the highest ideals, professional and civic? With us has a profession been accepted as a means or an end? Frankly, how many of us look beyond our daily round to a larger and broader activity? How many of us have seriously considered the duty devolving on us to carry the intelligence we have acquired in the innermost recesses of hovel and mansion, of cottage and palace, and to exercise that intelligence in the halls of legislation for the benefit of the people who have trusted us? And how many physicians are there, cultivated, able men, with homes in our beautiful cities or farms in our verdure-clad villages, ample for their old age, who could discharge these duties with signal ability? Will they do it? Shall we not see them in greater numbers in our state legislatures and in our national Congress? None can do it better! And may we not take a lesson from France?

THE QUESTION OF REWARDS AGAIN.

And there is something worthy of the striving in public life. Only recently the Honorable William H. Taft, the present distinguished Secretary of War, in an eloquent appeal for the higher class of recruits to the service of state and nation, said:

> Assuredly there is a career in the public service. One may not prophesy for every man commendably ambitious to enter it that he will end an ambassador, but there is abundant opportunity for useful work. A good head and good health are necessary, with the disposition to work hard. There are opportunities on every hand for men to distinguish themselves by service of eminent value. As to rewards. I do not talk of rewards. For the class of men to whom I would have the idea of public service appeal, the matter of rewards would be irrelevant. I say to you that there are rewards which are unknown to him who seeks only what he regards as the substantial ones. The best of all is the pure joy of service. To do things that are worth doing, to be in the thick of it, ah! That is to live. The poor man who chooses this way will have to live plainly, as things go nowadays. At least he won't pile up a surplus of wealth. Why should he want to? We used to be told in a homely adage that a millionaire had no advantage over a poor man in his capacity for food and drink. Wealth provides small satisfactions, but not deep ones. It can give no felicity like that which comforts the man who has identified himself with something bigger than himself, which thrills the heart of the patriot, of the public servant.

THE EXTERNAL PREPARATIONS OF THE UNITED STATES PHARMACOPEIA, VIII.*

C. S. N. HALLBERG, Ph.G., M.D.
CHICAGO.

Since presenting this subject to the Section on Pharmacology and Therapeutics four years ago,[1] the revised Pharmacopeia has appeared, and it affords me much pleasure to observe that the formulas for the external preparations therein have been revised in conformity with the principles advanced in that paper.

As observed at that time, the formulas for preparations for external use had been made up entirely from pharmaceutical considerations; that is, such substances were selected for vehicles as would afford the most stable, the smoothest and otherwise pharmaceutically the most satisfactory ointments. The revision of the U. S. P. afforded an opportunity to bring these preparations into accord with the generally accepted ideas of modern dermatologic practice, and it is firmly believed that the new Pharmacopeia in respect to the formulas for the various classes of these preparations is abreast of all other pharmacopeias.

OINTMENTS.

The following tentative classification was at that time presented for the ointments as being the most important class and as having the greatest number of preparations:

1. *Epidermatic.*—Non-penetrative, or non-absorptive. Protective, antiseptic. Vehicle: Soft paraffin, vaselin or petrolatum, U. S.
2. *Endermatic.*—Semi-penetrative or semi-absorptive. Emollient, nutritive, astringent, etc. Vehicle: Animal or vegetable fats, oils and waxes. Lard, suet, oils of almond, olive, etc.
3. *Diadermatic.*—Penetrative or absorptive. Systemic or constitutional. Vehicle: Lanolin or hydrated wool-fat.

From the following table it will be observed that this scheme has been closely adhered to in the selection of the vehicles for the official ointments, except that in many of the endermatic group the vehicle is a mixture of lanolin and petrolatum. Such a mixture has about the same penetrating power as the animal and vegetable fats and oils, but, unlike these, does not become rancid and is not acted on by ordinary chemical reagents. Thus the two mercuric oxids which are prepared with this vehicle are not reduced as when prepared with animal and vegetable fats and oils, but are preserved in full strength and without becoming rancid.

The yellow mercuric oxid ointment, reduced to 2 per cent., much used by ophthalmologists, by the official process may be so thoroughly levigated as to present almost as fine a state of division as when made by the original Pagenstecher method; that is, from the freshly precipitated mercuric oxid (in its nascent state). It has been used by C. P. Pinckard for years with great satisfaction.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

[1] The External Preparations and Their Therapy, The Journal A. M. A., April 11, 1903.

The same vehicle should be used for the mercuric nitrate ointment (citrin) to prevent reduction of the mercuric salt, but, in deference to conservative opinion that the elaidin produced by the reaction of nitric acid on the lard in the old process enhanced the stimulating property of the ointment, the old formula was retained. The use of anhydrous wool-fat, Adeps lanæ, U. S. P., permits the employment of water for the most thorough levigation of insoluble agents, such as the mercuric oxids or for the solution of water-soluble salts without reducing the consistence, besides admitting the often valuable addition, water—to the ointment.

Lanolin, Adeps lanæ hydrosus, U. S. P., may also be substituted for suet in the mercurial ointment when diadermatic or systemic effect is desired; on the other hand, petrolatum is used to dilute Unguentum hydrargyri dilutum U. S. P., since this is intended to be used only as an antiparasitic under the name of "blue ointment." Lanolin can not be used in conjunction with ordinary fats or oils as a vehicle for alkalin salts, because the latter are more or less saponified, but lanolin, being a cholesterin, is not saponified and the result is a non-homogenous mixture lacking consistence. This is why lanolin is not adapted as a vehicle for potassium iodid and similar agents where otherwise its use would seem to be indicated.

CERATES.

The cerates being intended solely for external effect, their vehicles have been selected chiefly from non-penetrating substances, petrolatum, etc. This is of advantage in several, notably in the cerate of subacetate of lead, which, made by the new formula, keeps indefinitely, while formerly the fats and oils were saponified and the cerate quickly became rancid and unfit for use.

In the cantharidal cerate, maceration of the cantharides with liquid petrolatum acts as a dissolvent on the active principle, making the cerate more effective, besides having the advantage over a volatile solvent, such as the formerly employed oil of turpentine, in keeping the cerate of a soft consistence to facilitate spreading of the plaster, or "blister."

PLASTERS.

The old-time plasters, consisting of gum resins, oleoresins or the so-called pitches, having been superseded by the more stable and convenient rubber plasters, the formula for the resin plaster was revised so as to furnish an adhesive plaster having the desirable qualities of the rubber plaster without the disadvantages. As I have formerly observed, the rubber plasters serve excellently for adhesive and protective purposes and are useful as vehicles for rubefacient or irritant effects, but are practically inert for plasters of which medicinal or penetrating effects are desired. The vehicle for the commercial rubber plasters, consisting of a mixture of rubber and orris powder, with smaller proportions of resins or gum resins, is incapable of penetrating the skin and, therefore, can not exercise any deep-seated effect, such as is required of belladonna. In this way plasters generally fell into disrepute with physicians who rarely ever prescribe them now except for adhesive purposes.

Believing that the plasters are a desirable form of medication for many therapeutic purposes, besides those purely superficial, these medicated plasters are prepared by admixture with the new and improved adhesive plaster so as to be easily spread on any ordinary cloth or fabric, such as canvas, by means of a heated spatula.

The quantity of the plaster-mass used should be suffi-

PREPARATIONS FOR EXTERNAL USE (SOLID AND SEMISOLID) GROUPED ACCORDING TO THEIR THERAPEUTIC PROPERTIES.

Properties.	Title of Preparation.	Active Agent.	Per Ct.	Vehicle in 100 Parts.
Protective	UNGUENTUM	None.	..	Benz. lard, wax.
Emollient	Aquæ rosæ	Rose water	19	Oil almond exp., waxes.
Antiseptic	Acidi borici	Boric acid	10	Petrolatum, paraffin.
Antiseptic	Iodoformi	Iodoform	10	Lard.
Antiseptic	Phenolis	Phenol	3	White petrolatum.
Astringent	Acidi tannici	Tannic acid	20	Ointment, glycerin.
Astringent Antiseptic.	Diachylon	Lead plaster	50	Olive oil.
Astringent antiseptic.	Zinci oxidi	Zinc oxid.	20	Benz. lard.
Astringent antiseptic.	Zinci stearatis	Zinc stearate	50	White petrolatum.
Anodyne	Belladonnæ	Ext. bellad. leaf	10	Benz. lard, lanolin.
Anodyne	Stramonii	Ext. stramon	10	Benz. lard, lanolin.
Alterative	Hydrargyri	Mercury	50	Benz. lard, suet.
Alterative	Hydrarg. ammoniati	Merc. ammoniat.	10	White petrolatum, lanolin.
Alterative	Hydrarg. oxidi flavi	Merc. oxid. yellow	10	Petrolatum, lanolin.
Alterative	Hydrarg. oxidi rubri	Merc. oxid. red	10	Petrolatum, lanolin.
Alterative stimulant	Hydrargyri nitratis	Mercuric nitrate	10	Lard (Elaidin).
Discutient	Iodi (KI, 4).	Iodin	4	Benz. lard, glycerin.
Discutient	Potassii iodidi	Potass. Iodide	10	Benz. lard, water.
Antiparasitic	Chrysarobini	Chrysarobin	6	Benz. lard.
Antiparasitic	Hydrarg. dilutum	Mercury	33	Petrolatum.
Antiparasitic	Picis liquidæ	Tar	50	Lard, yellow wax.
Antiparasitic	Sulphuris	Sulphur (washed)	15	Benz. lard.
Counterirritant	Veratrinæ	Veratrin	4	Benz. lard, oil almond exp.
Protective	CERATUM	None.	..	Benz. lard, wax, white petrolatum.
Antiseptic	Camphoræ	Camphor linim.	10	Benz. lard, wax, white petrolatum.
Antiseptic astringent.	Plumbi subacetatis	Liq. plumb. sub.	20	Lanolin, paraffin, petrolatum.
Discutient	Resinæ	Rosin	35	Lard, yellow wax.
Discutient	Resinæ compositum	Rosin Turpentine	22.5 11.5	Suet, yellow wax. Linseed oil. 13.5.
Vesicant	Cantharides	Canthar. pulv.	32	Liq. petrolat. 15, lard 17, yellow wax 18, rosin 18.
	EMPLASTRUM:			
Protective	Plumbi	Lead oleate	100	
Protective supportive	Adhesivum	Rubber, petrol.	2	Lead oleate.
Anodyne	Belladonnæ	Ext. bella. leaf	30	Adhesive plaster.
Anodyne	Opii	Ext. opium	6	Adhesive plaster.
Alterative	Hydrargyri	Mercury	30	Lanolin 10, lead plaster.
Discutient	Saponis	Soap pulv.	10	Lead plaster.
Rubefacient	Capsici	Oleoresin	0.25	15 sq. cm. adhesive plaster.
	SUPPOSITORIA:			
Cathartic	Glycerini	Glycerin	..	Soap (sodium stearate).
	Rectal, 2 gm.	Prescribed	..	Theobroma oil.
	Urethral, 2 gm.	Prescribed	..	Glycerinated gelatin.
	Vaginal, 10 gm.	Prescribed	..	Glycerinated gelatin.

cient completely to cover the cloth within the prescribed area, leaving a narrow margin, and should be of such thickness that the fabric may be entirely obscured when the plaster is viewed through the light. On the other hand, mercury plaster, if desired for continuous application, may be spread on gauze, like the plaster mulls of Unna (see Unguenta Extensæ, National Formulary), in order that evaporation may proceed freely through the pores of the fabric and thus maceration of the cuticle be prevented.

SUPPOSITORIES.

While since its introduction, first in the Pharmacopeia in 1870, theobroma oil leaves nothing to be desired as a vehicle for rectal suppositories, clinical experience suggests that a non-fatty vehicle is preferable for suppositories for urethral and vaginal use. Gelatin seems to be the most appropriate substance for this purpose, and in the form of gelatinum glycerinatum U. S. P., leaves nothing to be desired. This is a gelatinous mass of equal parts of gelatin and glycerin, practically anhydrous and non-hygroscopic it is perfectly stable and may be kept sterile if properly protected for any length of time.

The U. S. Pharmacopeia defines suppositories according to their shapes and weights as follows:

Rectal.—These suppositories should be cone-shaped or spindle-shaped and when made from oil of theobroma should weigh 2 gm., or 30 grains.

Urethral (Bougies).—These should be pencil-shaped, pointed at one extremity, and either *short,* 7 cm., 2 4/5 inches, in length, weighing about 2 gm., or 30 grains, or *long,* 14 cm., 5 3/5 inches, in length and weighing 4 gm., or 60 grains, when made with glycerinated gelatin. If prepared with oil of theobroma they should be about one-half these weights.

Vaginal (Globules).—These should be globular or oviform and weigh about 10 gm., or 150 grains, if made with glycerinated gelatin, and about 4 gm., or 60 grains, if made with oil of theobroma.

Rectal suppositories were defined as of 1 gm. weight, but this weight, being a reduction of one-half of former pharmacopeias (30 grains), was never adhered to. The molds of 30 grains (2 gm.) in weight continued to be in use, so that there has been practically no change.

The glycerinated gelatin is more than twice as heavy as theobroma oil, which accounts for the greater weights of the suppositories when made with glycerinated gelatin. The urethral suppositories are also of two lengths. The particular vehicle to be used for the three different kinds of suppositories is not directed in the Pharmacopeia, it being deemed preferable to leave the choice to the prescriber, although preference is indicated or rather suggested.

The only objection to the glycerinated gelatin vehicle is that the suppositories can not be made very well without the use of bisected molds, and these are expensive. The short urethral suppositories may be formed by pouring the melted mass on the cutting brasses of a pill-machine and pressing it in cylindrical lengths. Gelatin is not adapted to tannin, forming a hard, insoluble, leathery mass. While glycerinated gelatin being anhydrous is free from this objection, forming a homogeneous mixture with tannin, it is apparent that when the suppository comes in contact with the water-secretions it will remain a hard insoluble mass.

Suppositories require, as a rule, 25 per cent. gelatin to insure their proper consistence, so that the mass from which the suppositories are molded is prepared from one-half its weight of glycerinated gelatin, the other half its weight consisting of the medical agent and glycerin. Water-insoluble substances, such as iodoform, zinc oxid, bismuth compounds, etc., are levigated (triturated finely) with the glycerin and mixed with the melted glycerinated gelatin and poured into molds, thus:

℞.	Iodoformi	grs. xv	1
	Glycerini	ʒii ¼	9
	Gelatini glycerinati	ʒiiss	10

Fiant suppositoriæ urethrales, No. x.

Water-soluble substances are dissolved in the glycerin, or in a little water replacing as much glycerin, and then mixed with the previously melted glycerinated gelatin. If a firmer consistence is desired a portion of the glycerin may be substituted by as much acacia mucilage, thus:

℞.	Morphinæ sulphatis	gr. ii	1
	Zinci sulphatis	gr. iiiss	2
	Aquæ sterilatæ.		
	Mucilaginis acaciæ, āā	ʒi	5
	Gelatini glycerinati	ʒiiss	10

Fiant suppositoriæ urethrales, No. x.

The morphine sulphate and zinc sulphate are dissolved separately, each in one-half the water, mixed with the mucilage, and this mixture is incorporated with the melted glycerinated gelatin and poured into molds.

The above formulas also illustrate the use and great convenience of glycerinated gelatin for preparing the Glycero-gelatins of the National Formulary.

DISCUSSION.

Dr. W. J. Robinson, New York City, said that in Germany the preparation of dermatologic products is a specialty. They do a tremendous business. Any pharmacist can prepare these preparations.

Prof. C. S. N. Hallberg said that there is a great field in this line and pharmacists ought to take advantage of it. There is no reason why the pharmacist is not able to do the same thing that the German pharmacist does. These preparations have been further simplified in the National Formulary. The first article that attracted Professor Hallberg's attention to the subject, he said, was a paper by Dr. Thomas F. Reilly, New York, about eight years ago.

ISOAGGLUTINATION OF HUMAN CORPUSCLES

WITH RESPECT TO DEMONSTRATION OF OPSONIC INDEX AND TO TRANSFUSION OF BLOOD.*

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CHICAGO.

By isoagglutination of human corpuscles is meant clumping of the corpuscles of one person by the serum of another person. Its occurrence is demonstrated readily by incubating for one or two hours mixtures of defibrinated or citrated blood or of corpuscles and serum. It is often seen in opsonic work in which serum generally constitutes one-third of the mixtures. For purposes of demonstration, it is well to add serum, say 0.1 c.c., to 1 c.c. of a 2.5 or 5 per cent. suspension in salt solution of citrated or defibrinated blood. Clumping is here easily seen. When citrated or defibrinated bloods are mixed, agglutination may be obscured by the mass of corpuscles so as to be recognizable only under the microscope, hence dilutions are desirable.

Landsteiner and, following him, Descatello and Sturli, have shown that individuals may be separated into three groups by means of isoagglutination, namely: (1) Those whose corpuscles are not agglutinated by the sera of Groups II and III but whose sera agglutinate the corpuscles of Groups II and III; (2) those whose corpuscles are agglutinated by the sera of Group III (and Group I) and whose sera agglutinate the corpuscles of Group III; (3) those whose corpuscles are agglutinated by the sera of Group II (and Group I) and whose sera agglutinate the corpuscles of Group II (see table). Of 76 persons whose blood I have studied, 36 belonged to Group 1, 26 to Group II, and 14 to Group III. Of the 14 in Group III 6 were without any agglutinin, hence it appears that about 90 per cent. of all individuals possess isoagglutinin of one kind or another. The blood of the 5 persons represented in the table has been examined at frequent intervals during several months and constantly with the results indicated, except that the serum of one of the persons in Group III gradually lost its agglutinin.

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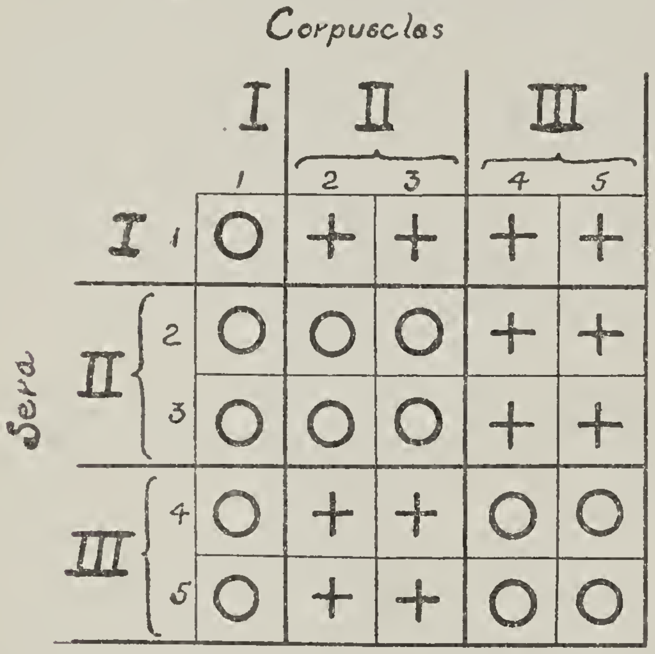
*From the Memorial Institute for Infectious Diseases.

Table Showing Isoagglutinative Grouping of Five Persons.



		Corpuscles				
		I	II		III	
		1	2	3	4	5
Sera I	1	O	+	+	+	+
II	2	O	O	O	+	+
	3	O	O	O	+	+
III	4	O	+	+	O	O
	5	O	+	+	O	O

Explanation.—0.1 c.c. of each of the 5 sera were added to 1 c.c. of a 2.5 per cent. suspension of the corpuscles of each of the 5 persons, and the results recorded after placing the mixtures at 37° C. for 2 hours. O = no agglutination; + = agglutination.

There is no striking alteration in the agglutinative grouping of persons with various diseases, more particularly pneumonia, typhoid fever, scarlet fever and advanced pulmonary tuberculosis.

That human isoagglutinins are bodies with special affinities for the corpuscles on which they act is evident because corpuscles absorb only the agglutinins by which they are agglutinated. The corpuscles of Group I do not absorb any agglutinin—are not agglutinable—and corpuscles are immune to the agglutinins in their own serum. Three main agglutinins are distinguishable, the agglutinin of Group I for the corpuscles of Group II and III; the agglutinin of Group II for the corpuscles of Group III, and the agglutinin of Group III for the corpuscles of Group II. Others no doubt occur occasionally. Thus, in Group III there not infrequently is interagglutination.

The amount of agglutinin varies considerably in sera from different persons, and corpuscles of the same group vary in their agglutinability by the same serum; furthermore, sera of Group I may contain different amounts of agglutinins for Groups II and III.

Human agglutinins are stable bodies; they resist heating to 60° C. for thirty minutes, pass through porcelain filters, and persist for months in serum kept in the icebox. They are distinct from the isohemopsonins in human serum.

From the practical point of view isoagglutination of human corpuscles is of immediate interest in connection with the determination of the opsonic index and with transfusion of blood. All who have worked with the opsonic index are familiar with the fact that occasionally their mixtures show marked clumping of the erythrocytes which naturally interferes more or less with the desired accuracy. In order to avoid this annoyance the washed blood (leucocytes) should be secured from an individual of Group I, i. e., from one whose corpuscles are not agglutinable. Hence it is well to determine the isoagglutinative grouping of the regular frequenters of a laboratory that are likely to be asked to furnish blood for this purpose.

By means of a refined technic Crile† recently transfused blood from normal to diseased human beings, and with apparent success. The occurrence of isoagglutinins in human blood suggests that under special conditions homologous transfusion might prove dangerous by leading to erythrocytic agglutination within the vessels of the subject transfused. It has not been possible to conduct animal experiments on this point because of failure to demonstrate isoagglutinins in the serum of suitable animals. It may be pointed out, however, that the possible danger here indicated can be avoided by the selection of a donor whose corpuscles are not agglutinated by the serum of the recipient and whose serum does not agglutinate the corpuscles of the latter; that is to say, donor and recipient should belong to the same group and preferably to Group I or II. The actual isoagglutinative relation of the donor and the recipient are readily determinable in a short time in the manner already outlined.

DANGER SIGNALS FROM THE SKIN.*

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Unconsciously the skin receives a good deal of attention from the general practitioner in connection with many disordered or diseased conditions of the system, and yet when the skin itself becomes diseased many physicians seem to lose sight of its relation to the general system, and regard and treat it only locally; and this happens often, much to the detriment of the patient, and too frequently with unsatisfactory results in regard to the cutaneous affection.[1]

One need only mention the exanthemata to suggest at once that phenomena on the skin may be only one evidence of disease, while the dry skin of fever and the sweating at a crisis and in tuberculosis show the important part which the skin has in the economy, and many such illustrations will occur to all.

Although we may not recognize it, nor be conscious of it, the skin eventually plays a most important part in health, especially in the direction of regulating the heat of the body. The every-day observation of the effects of a chilling of the surface, resulting in many internal diseases, emphasizes the importance of the skin as a vital organ, while the effects of extensive burns, producing profound shock and often attended with ulceration of the intestine and suppression of urine, and even frequently followed by death, show that the skin has vital relations, of the greatest importance with the rest of the body.

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† The Journal A. M. A., Nov. 3, 1906, p. 1482.

* Read before the Medical Society of the State of New York. Jan. 29, 1907.

[1] Relations of Diseases of the Skin to Internal Disorders, Rebman & Co., New York, 1906.

Further, the condition of the skin and its appendages, both in men and animals, is continually taken as an indication of the state of the general system, and, as we know, may often prove a valuable index as to how metabolism and nutrition are performed. The cachexia of anemia and malignant disease is often surely shown by the skin, as is also that of functional or organic disturbance in many organs.

The purpose of this paper is to call attention to some of the relations of the skin to the general economy, and especially to some "danger signals" occurring in connection with certain manifestations of disease on the skin, which often may not be sufficiently considered.

SYPHILIS.

Beginning with syphilis, all perhaps know that this disease, which is principally recognized through its manifestations on the skin, when insufficiently treated, may be the cause of most serious lesions in many organs, through which it may bring lamentable disaster or death. And yet my experience leads me to believe that the profession at large does not fully appreciate the fact, or at least that patients are not sufficiently warned of it to prevent these rather frequent occurrences.

Twenty-five years ago I read a paper[2] on "The Malignancy of Syphilis," giving many instances of its dire effects. Owing to a more enlightened profession and public, resulting in better and more prolonged treatment, as generally employed since that time, there are probably now not the same proportion of cases exhibiting severe and dangerous lesions of internal organs, as formerly. Still, daily observation and the records of literature show that, as a disease, syphilis still makes frightful ravages into the health and life of the community.

The limits of this paper do not permit of much elaboration of separate subjects, much less the report of illustrative cases, but the importance of syphilis, as a disease whose possible outcome under unfavorable circumstances can result most disastrously, can not be overestimated and must be briefly considered.

The danger signal from the skin, in syphilis, therefore, should never be neglected, for the knowledge given thereby may often prove to be the key to many subsequent difficulties. Both in the early and late stages of the disease there are dangers to almost every organ of the body, and the knowledge of previous syphilitic infection may often check disease processes of a most threatening character. Many cases of incipient locomotor ataxia can be prevented, many cases of chorioiditis ending in blindness, many cases of brain tumor, and various woeful results of syphilitic endarteritis, as also disease of the heart, liver and kidneys, etc., can be averted by prompt and vigorous treatment based on a recognition of a syphilitic cause.

How inexcusable, therefore, it is for a physician to treat infection with syphilis as a light matter, and not to warn thoroughly or, if necessary, even to frighten the patient into a proper appreciation of the need of treating the disease until it is thoroughly cured. Many of us who know syphilis feel that such brief, violent treatment as is often given at various mineral springs is responsible for much ultimate harm, by leading patients to believe that they have had a "cure" and to thereafter neglect all remedial measures until, perhaps, some obscure internal result of the infection has progressed beyond the power of relief.

Innocent syphilitic affection, which may occur in a thousand different ways,[3] should never be forgotten, and when the danger flag is distinctly recognized on the skin the warning should be heeded quite as much as when the patient acknowledges a sexual transgression. Indeed, the ill omen should be more strongly regarded, for all who have seen much of extragenital infection agree that those cases often prove the most serious as regards later harmful effects of the poison. This is equally true of marital and hereditary syphilis.

ECZEMA.

While eczema is so often regarded and too frequently treated as a wholly local disease of the skin, often without success, in certain cases it gives signals of danger of no uncertain character. These if heeded result to the best interests of the patient and the cure of the disease, but when, if disregarded, may result most disastrously.

Generalized eczema, or that affecting many localities, is almost always a sign of nervous or physical breakdown, and a most careful study of the patient in every particular will often reveal gross errors in life or habits, which, if unchecked, will lead to direful results. Localized neurotic eczema[4] of the hands, or about the mouth, will also often indicate a nervous strain to which the patient may otherwise succumb unless properly attended to. Eczema about the eyes is sometimes due to eyestrain or errors of accommodation which call for special attention.

But eczema is also not infrequently met with in those of full, plethoric habit, with a hard, bounding pulse, showing metabolic errors which may lead to kidney disease or even apoplexy if not controlled by proper measures. Again, many cases exhibit a weak, flabby pulse, indicating anemia or a greatly debilitated system, ready to succumb to disease, unless restored to a normal vigor by appropriate treatment.

We see, therefore, that eczema may sometimes be a blessing in disguise, if its danger signals are recognized, properly regarded, and correctly interpreted.

ACNE.

Many look on acne as only an unpleasant accident, annoying to young persons, and hardly meriting much professional attention. But acne is often a danger signal which it is not wise to ignore. It is frequently the sign of grave metabolic disturbances dependent on gross errors of diet and hygiene, and often associated with constipation and gastric disorders, which lead to serious consequences if unchecked. In many instances it is due almost wholly to anemia, and is often one of the first signs of breakdown from overstudy and confinement, or from a combination of these and society dissipation. The cold and clammy condition of the hands and feet, so constantly observed as an accompaniment to acne in young persons, is surely an indication of something wrong which should be attended to by the physician called on to relieve the eruption on the face. The neglect of the many coordinate symptoms seen in patients with acne is responsible for much of the supposed rebelliousness of the disease.

The relations of the eruption of acne to the menstrual functions[5] should certainly direct attention away from the purely local consideration of the eruption—for almost every woman affected will tell you that she realizes fully some connection between the two. Many years ago the late Dr. Peaslee of New York, in discussing my paper on acne, declared that whenever he found an excessive amount of acne on the chin he looked for and found some disorder of the sexual apparatus, an observation which I have verified time and again. All know that acne in older persons invariably indicates internal disorder, often due to gross errors in eating and drinking, and a proper appreciation of these will often lead the patient to a reform which ultimately proves of the greatest possible advantage in many ways.

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[2] Trans. Med. Soc. of the State of New York, 1882.

[3] Bulkley (L. D.): Syphilis in the Innocent. New York, 1894.

[4] Bulkley (L. D.): Neurotic eczema, Med. News, Jan. 31 and Feb. 7, 1891.

We see, therefore, that acne, instead of being only a local disfigurement, may often, by its danger signal, be of great benefit to the patient if only the physician appreciates it and acts intelligently and energetically thereon.

PSORIASIS.

This disease is sometimes erroneously called the eruption of health, because so many patients with it, to a superficial observer, appear to be healthy. But sufficiently minute and prolonged study of many cases, over periods of time, perhaps covering many relapses, will certainly show that this is not the case, and continually the appearance of the eruption will be a danger signal which it is well to heed and act on.

Time and again it will be noticed that the recurrence of the eruption has followed some great nervous strain or exhaustion. It frequently returns with the prostration attendant on nursing an infant, and, while the eruption may disappear at the onset of a febrile disease, it is seen to recur after debilitating illness. The urinary warning of psoriasis is also significant. Only recently a long-standing psoriasis led me to discover a great urinary insufficiency in a lady who otherwise appeared in perfect health. Although weighing 163 pounds she sometimes passed only from seven to eleven ounces of urine in the twenty-four hours. I later learned that she had undergone a serious operation on the urinary tract. In another recent case, a young lady, weighing 138½ pounds, who had had psoriasis eight years, at times passed enormous amounts of urine, with great frequency and urgency, day and night. At other times the amount would be scanty and of high specific gravity (1.041, no sugar) and it would have an acidity of almost four times the normal degree, with 4.3 per cent. of urea or over double the normal amount. Surely the perturbations of metabolism manifested in these patients must have serious relations to the general economy, and these illustrations could be multiplied many times from my experience.

CHRONIC URTICARIA.

While acute attacks of urticaria may often indicate ptomain poisoning which call for prompt attention, in its chronic form it frequently shows the presence of faulty metabolism and intestinal indigestion and fermentation, which, if unchecked, will certainly have other prejudicial effects on the system. The experience of every one shows that when these errors of intestinal action persist for any length of time they are liable to result in some other trouble, and the chronic urticaria may be the single warning sign which leads the patient to seek medical relief.

ERYTHEMA MULTIFORME AND BULLOUS ERUPTIONS.

Like urticaria, these are often but the outer warning of more or less serious metabolic changes of a faulty nature that are taking place in the system, with auto-intoxication. Occasionally they are observed with a hard, bounding pulse, indicating high arterial tension which calls for relief by dietary and medicinal measures in order to prevent further damage to some organ.

PRURITUS.

Severe, general or localized pruritus, like neuralgia in many instances, may be a nerve-cry or danger signal telling of a lowered nerve vitality, which, if not improved by appropriate measures, may be followed by more serious results.

XANTHOMA DIABETICORUM.

This rather rare eruption has repeatedly called serious attention to a diabetes, which perhaps had long existed, but which the patient had neglected until the skin gave the danger signal which induced him to consult a physician. Successful treatment of the eruption can only be accomplished by the proper care of the systemic condition.

BOILS AND CARBUNCLES.

These are too often regarded and treated simply as local affairs, often to the great detriment of the patient. While it is true that the presence of pus (especially in external regions) indicates the action of pus cocci, we now know, from the almost omnipresent existence of these organisms, that there must be some other cause determining their activity in particular localities. We know that micro-organisms can not be cultivated on unsuitable media. Thus the recurrence of boils and carbuncles is continually found to indicate the existence of a lowered vitality of system, sometimes of glycosuria. The danger signal should be attended to, and all of these conditions appropriately treated, if the best interests of the patient are to be served and other and later trouble avoided.

DERMATITIS MALIGNA.

Paget's disease of the breast should always excite serious attention, because of its liability, or indeed probability, of being associated with cancer of the mammary gland. In a large share of cases it is useless, if not wrong, to neglect the danger signal on the skin and by attempts, too often futile, to heal it by local treatment, allow the time to pass when a radical removal of the entire breast and glands would offer the best prospect of a cure of the cancerous condition.

ACANTHOSIS NIGRICANS, WITH MULTIPLE CAPILLARY ANGIOMATA.

The attention of the profession has again been called by Dr. Willy Meyer[6] to the importance of this condition, when existing on the abdomen, as a sign of cancer of some abdominal organ. This is but another instance of the skin exhibiting a danger signal.

LUPUS VULGARIS.

While in the majority of instances lupus remains a local manifestation of tuberculosis of the skin, it is not at all uncommon for it to be associated with tubercular infection of other organs, especially the lungs, which danger signal should never be neglected in severe or protracted cases. The limits of this paper prevent the full consideration which might be given to these and many more manifestations on the skin which have constitutional relations, and which can well be regarded as exhibiting danger signals. I may only briefly mention a few more which have occurred to me; doubtless many more illustrations could be secured with more careful attention. In many of these now mentioned the connection is, of course, well known and commonly recognized.

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[5] Bulkley (L. D.): The Influence of the Menstrual Function on Certain Diseases of the Skin, Rebman & Co., New York, 1906.

[6] Trans. Amer. Surg. Assn., 1896.

OTHER SKIN LESIONS AS DANGER SIGNALS.

Purpura rheumatica and erythema nodosum are constantly recognized as dependent on a rheumatic condition, and proper, active anti-rheumatic treatment indicated by this warning may save the patient from more serious trouble.

Petechial and erythematous rashes are not infrequent accompaniments of malignant endocarditis and may occur in connection with septicemia and pyemia. Purpuric lesions are well known to be an important symptom in epidemic cerebrospinal meningitis. Rose spots, especially on the abdomen, have long been recognized as a special sign of value in typhoid fever. Pigmentary alterations in the skin form one of the important diagnostic marks in Addison's, Graves' and Hodgkin's diseases, while myxedema is largely recognized by its manifestations in the skin and subcutaneous tissue.

Sweating and flushing of the skin are frequent accompaniments of the menopause, and may often direct the patient to seek medical relief which may avert other trouble. Dermatitis medicamentosa represents eruptions of varied character which occur on the skin wholly from the internal administration of certain drugs to those who have some peculiar idiosyncrasy. In these cases, if the danger signal is heeded and the drug withdrawn the eruption commonly ceases without further harm.

In this brief and rather hurried sketch of some of what I have designated "danger signals from the skin," I have attempted to show that the skin is not to be regarded as merely an outer covering of the body, but that it is a most important organ, having vital relations with many parts of the economy. It frequently exhibits conditions on its surface which it is well to study patiently, interpret accurately, and heed carefully in order to effect a cure of its diseased condition and also to advance the best interests of the patient.

He, therefore, but poorly serves his patient who hastily regards only the skin lesions (or too often only part of them) and gives some local application without realizing the significance and true cause of what is often a signal flag of danger which Nature offers for his aid.

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TRANSBRACHIAL ANASTOMOSIS.

A NEW METHOD OF SURGICAL TREATMENT FOR BRACHIAL PALSY.*

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The following is a preliminary report of a new method of restoring function to paralyzed nerves, by anastomosis with analogous nerve trunks on the opposite side of the body. The patient herewith presented had an anastomosis between the healthy left brachial plexus and an almost completely paralyzed right brachial plexus, fifteen months after an attack of anterior poliomyelitis. In this case the operation has been followed by no demonstrable injury to the left brachial plexus, but by a rapid and very decided gain of power in the right hand, forearm and shoulder.

The operative treatment of brachial palsy in the past has dealt chiefly with those forms of paralysis in which the lesion involves directly the nerve fibers of the brachial plexus. Thus in brachial birth palsy, and in those forms occurring later in life from traumatism of the plexus, encouraging results have been obtained by excluding, by means of a resection or anastomosis, the damaged and non-conducting areas of the nerve trunks. In these cases the lesion is directly accessible to the knife. The problem is a different one, however, when the brachial plexus is thrown largely out of function from infantile palsy. Here the lesion, situated in the anterior cornu of the cervical segment of the cord, is, for the present at least, beyond surgical access and the possibilities of surgical relief are restricted to anastomoses between functional and paralyzed muscle systems or nerve trunks.

The peculiarities of the individual case, especially the variability of the residual paralysis, prevents uniformity in the surgical treatment. Each patient must be studied as a separate and special surgical problem.

Patient.—The patient was born in November, 1901, and was a perfectly healthy boy until May, 1905, when he had the measles.

History.—In July, 1905, when he was about three and one-half years old, he awoke one morning with a loss of power and tenderness of the right arm. He was feverish, at times delirious, had epistaxis, and two days later it was noticed that there was also diminished power in the legs, although the right arm was chiefly involved. For four weeks the tenderness persisted in the arm and frequently seemed to cause the patient to awake screaming during the night. After five weeks the paralysis of the legs gradually disappeared, but progressive wasting of the right arm and shoulder was noticed. Two or three months after the onset of the palsy he entered a hospital and was treated two weeks by massage. Later, he was under osteopathic treatment for five months, but without decided benefit. On Oct. 26, 1906, fifteen months after the development of the paralysis, he entered the Samaritan Hospital. At this time there was no wasting or palsy of the legs or left arm, but the right arm and shoulder were wasted and useless. The deltoid, trapezius, rhomboid, scapular and pectoral muscles were atrophied and functionless, and as a result there was marked dropping of the right shoulder. The muscles and bones of the arms were wasted, the hand was never used, but was carried from place to place by the opposite hand. There was a slight development of some of the extensors and pronators of the forearm, and only slight power of extension of the wrist and pronation of the hand. Sensation was uninvolved. In considering the problem offered in this case, as a surgical one, we could conceive of five possible procedures as follows:

1. Muscular or tendinous transference and anastomosis: The very feeble power limited to certain extensors and pronators of the forearm caused this method of treatment at once to be rejected.

2. An anastomosis between nerves of the brachial plexus containing functionating fibers and adjacent non-functionating cords: Here again the extent of the palsy and the difficulty in isolating active fibers made the method seem of little promise.

3. An anastomosis between branches of the brachial plexus and adjacent cervical or dorsal nerves carrying motor fibers: The small size of the cervical and dorsal motor nerves, and especially the fact that they were to some degree implicated in the palsy, caused this method to be rejected as inadvisable.

4. An anastomosis between the brachial plexus and one or more of the motor cranial nerves: Of the cranial nerves, only two seemed to be available—the spinal accessory and the hypoglossal. The shoulder drop and the paralysis of the trapezius indicated an implication of the former and the hypoglossal,

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* Read before the Philadelphia County Medical Society, Feb. 15, 1907.

therefore, was chiefly considered; it was not until the patient was on the operating table that the thought of its use was finally abandoned. The relatively small size of the nerve, its distance from the brachial plexus, rendering it necessary to adopt some method of bridging if it were used, and the technical difficulties involved in isolating any considerable length of the nerve, were objections to the use of the hypoglossal.

5. Finally, the possibility of securing an anastomotic segment from the opposite brachial plexus was considered: The chief objections to a transbrachial anastomosis seemed to be the difficulty of securing sufficient lengths of nerve to form a bridge across the neck and the danger of damaging the healthy plexus. We had had some previous experience in splitting nerve trunks and using the split portion for anastomosis (in one case carrying half of the sciatic nerve through the thigh and anastomosing it to branches of the anterior crural nerve), and in this present case it was determined, by splitting segments from each brachial plexus, to attempt to secure sufficient lengths of nerve fibers for anastomosis in the median line of the neck.

Operation.—Oct. 27, 1906. The patient being under ether the right brachial plexus was exposed from a point just above the clavicle to the region where the nerve trunks emerge from between the scalenus anticus and the medius muscles. The sixth cervical nerve seemed especially wasted and atrophic. It was divided in half close to its point of emergence and by delicate dissection half of the nerve trunk was isolated from above downward. This separation was carried into the adjacent anastomosing nerve trunks. In this way two nerve cords of fair size were separated down to a point slightly above the clavicle. The left brachial plexus was then exposed, the prolongation of the sixth cervical divided nearly in half close to the clavicle, and a bundle of nerve fibers about two inches in length isolated by splitting the nerve trunk from below upward. A small transverse incision was then made above the suprasternal notch, and canals were bluntly tunnelled through between the anterior muscles of the neck and trachea, connecting the lateral with the median incisions, then the free ends of the separated nerve bundles were gently brought through into the median incision and united in an end-to-end manner by very fine chromicized catgut. Thus a bridge of nerve fibers was formed between the two brachial plexuses, having a central attachment on the left and peripheral attachments on the right side. The union was reinforced by forming a partial fascial sheath about the point of nerve union, and all three wounds carefully closed in layers without drains. Following the operation, the child developed some tenderness and pain along the chief nerve trunks of the right arm, which gradually subsided. The left arm was studied with considerable apprehension, but no disability or nerve disturbance was at any time discovered.

Postoperative History.—At the end of a week there was a slight suggestion of new power of the hand. The child was discharged from the hospital on the eleventh day, and since then has been without electricity or skilled massage. It is now (February) three and one-half months since the operation, and the child already shows an improvement far beyond expectations. The nutrition of the arm is good, the forearm has increased one-half inch in circumference and the upper arm one-quarter inch. The power of extension which was limited to the wrist, is now possessed by all the fingers. The child can partially flex the wrist and all the fingers and thumb; and abduction and adduction of all the digits has been gained. Pronation of the hand remains and there is some power of supination. The shoulder-drop has disappeared and the shoulder can be elevated, carried forward or backward at will. There is excellent power of rotation at the shoulder joint, especially inward rotation. A marked development of the scapular muscles, the trapezius and the pectorals has occurred. The paralysis and atrophy of the deltoid and upper arm muscles persist. The child is able to support the body against the extended arm and uses the hand constantly in grasping objects and in aiding the opposite hand.

Theoretically, we can conceive three methods in which the operation in this case may have restored function.

First.—The splitting of nerve trunks reduces the pressure on individual nerve fibers, permitting the escape of any abnormal exudate from within the nerve sheath. Thus in certain cases of neuritis relief from pain has been obtained and some immediate restoration of function by splitting the sheaths of the involved nerves, and in separating the nerve fibers. As the primary lesions in the present case seems clearly to have been a lesion in the cord, a relief of tension of the nerves is not a reasonable explanation of the restoration of function.

Second.—In the splitting of nerve trunks, no matter how accurately it be done, it is probable that many nerve fibers are divided. If the nerve contain functional as well as degenerated fibers there is a possibility of a readjustment of function through new anastomoses of liberated and divided nerve ends. Within certain limits it is conceivable that the more extensively the nerve fibers are divided from each other, the greater the opportunities for new and perhaps better anastomoses. This we consider to be an explanation of a part of the widespread improvement which has occurred in the present case, but it is difficult to conceive that, in a plexus so extensively paralyzed, this alone would be sufficient to give so marked restoration in power, without invoking other factors.

Third.—The formation of new nerve paths from the left into the paralyzed right brachial plexus, which have been given a wider field of action by the freeing of innumerable fibers in complex nerve trunks by the extensive splitting of nerve bundles, has probably been the chief factor in the restoration of power in the present case. This preliminary report, therefore, is offered as proving the technical possibility of transbrachial anastomosis and as suggesting the desirability of a more extended trial of the method in certain cases of brachial palsy not amenable to treatment by milder measures.

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THE STANDARDIZATION OF CARDIAC REMEDIES.*

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Within the past two or three years there has been a great revival of interest in problems connected with the use of drugs in the treatment of disease, and several factors are responsible for this change of attitude. The appearance of the new Pharmacopeia, causing as it did many discussions in regard to the admission of new remedies and the changing of the standards of some of the older preparations, could not fail to awaken a more or less widespread interest. Another important influence has been the warfare begun by the *Ladies' Home Journal* and *Collier's Weekly* against the sale and use of all forms of nostrums and quack remedies. The crusade has been taken up by several other lay papers and by a very few medical publications, most prominent among the latter being THE JOURNAL of the American Medical Association. This Association has also played an important part in other ways, viz., through the work of its Council on Pharmacy and Chemistry it has exposed the false claims of many of the much-vaunted remedies and by its articles on "The Physician and the Pharmacopeia" it has aided the practitioner in becoming better acquainted with the possibilities to be found among the "official" remedies.

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*From the Pharmacological Laboratory of the University of Michigan.

One of the first essentials, however, to a practice, satisfactory to both patient and physician, is that the remedy used shall not only possess the qualities usually ascribed to it, but also that different preparations of the same drug shall possess these qualities to a uniform degree, or in other words, shall be of uniform strength. One of the great advances made in the new Pharmacopeia over its predecessors is that it requires, in many more instances than formerly, that the drug shall be standardized so as to contain a certain fixed percentage of its active principle, thus insuring to the practicing physician as uniform preparations as it is possible to procure.

This examination by chemical means is carried out on a large number of drugs, among which may be mentioned as familiar examples nux vomica, opium and belladonna; yet there still remain many important medicines for which no standard has been fixed. This is due to the fact that in many of these cases the active principle is either unknown or can not be isolated with sufficient accuracy by any chemical method which we have at our command to-day.

Among these latter drugs none is of more importance than the large group of cardiac remedies better known, perhaps, as the "digitalis series." Others may be mentioned, as ergot and cannabis indica, but with no drug is it so essential to have a uniform action as with the series first named, on account of their wide use in medicine and the impossibility of getting other remedies to take their place.

Still to-day it is impossible to fix any chemical standard to which preparations of digitalis and its allies shall conform, on account of the difficulty connected with the isolation of the glucosides.

What makes the question a more important one from the practical standpoint is the fact that the crude drug tself varies notoriously in its content of active principle. This variation depends on the time when the eaves are gathered, and the country from which the plant is obtained, influencing as it would the climatic and soil conditions under which the plant could grow. Of greatest importance is the manner in which the drug s prepared for the market and the way it is preserved before it is used.

The U. S. Pharmacopeia directs that the leaves of the econd year's growth shall be gathered at the commencement of flowering. Experience has shown that these re best dried in a current of warm air and then hould be preserved in tin containers to protect the drug from light, air and moisture. If it is preserved n this way the leaves will probably retain their strength or a long time.

The influence of the locality in which the plant is rown is more a matter of opinion than of scientific nvestigation, which latter would be greatly complicated y the other factors mentioned above. Duffield,[1] in 868, examined the amount of digitalin contained in pecimens of the drug obtained from England, Germany nd this country, and found that the percentage was in avor of the American product, which slightly exceeded he amount found in the English leaves, and the nglish, in turn, contained more than the German. evertheless, there is a widespread opinion that the best eaves are obtained from England, and that these, as ell as those from Germany, are superior to the Ameri- an. Moreover, it must be noted that digitalin is not he most important active principle of digitalis. From hese facts it will be seen what great opportunities there are for variations in the strength of the crude drug, and, therefore, in the pharmaceutical preparations as they appear on the market, even when these are made according to pharmacopeial directions.

The necessity for some way of standardizing these preparations has been recognized by physicians and pharmacists alike, and it has led to the introduction of physiologic methods of assay which are now being used by several of the larger pharmaceutical houses which, may it be said greatly to their credit, are largely responsible for the perfection of these methods.

Nevertheless, the employment of these methods is far from being universal, and the demand for them is becoming greater and greater, as is shown by the frequent editorials which have appeared during the past few years in medical journals in this country and in Europe.

Dixon[2] says that he and Haynes demonstrated in Cambridge the variability of action of the group of cardiac tonics, and makes the statement that he believes hundreds of patients die annually from digitalis and its allies not possessing the virtues required of them.

Houghton[3] tested a number of tinctures prepared from preparations of strophanthus found on the market and found some of them were three times as strong as others.

The recent work of Reid Hunt and of Sollmann[4] on adrenalin showed also the great variations which may occur in such a remedy, even when it is "standardized," or is "1-1,000."

On account of the practical importance of the subject I have examined the strength of a number of tinctures of digitalis and of strophanthus which I have obtained on the market in different parts of the country, with the idea of ascertaining the relative strength of different preparations which are sold under the same name.

There are two methods of physiologic assay in use for the cardiac drugs. The first[5] consists in ascertaining the minimum fatal dose for frogs per gram of body weight. Frogs not varying more than 3 grams in weight are injected with varying doses of the preparation to be tested, and are then examined at the end of twelve hours and the number of dead and living noted. The dose is then further narrowed down and a new series injected; this procedure is repeated until the minimum lethal dose is ascertained.

The second method, and the one I prefer, is to ascertain the dose necessary to produce the digitalis standstill of the frog's heart. The picture of a digitalis-poisoned frog's heart is so typical and easy of recognition that it can not be mistaken. It is important that the frogs to be used should be of the same species, as some are more susceptible than others (*Rana temporaria* reacts to a smaller dose and more positively than *R. esculenta*. *Künkel*). In my assays I employed *R. virescens*, which were kept in a tank with running water so as to have them in as uniform condition as possible. When they were needed three or four frogs of about the same size were weighed and placed under separate jars.

The tinctures to be tested were all subjected to exactly the same manipulation and all the measurements for dilution and dosage made with the care used in chemical quantitative work. One or two cubic centimeters of the tincture were evaporated over a water bath to about one-half the original volume to get rid of the alcohol, and to the remainder physiologic salt solution was added in sufficient quantity to make it measure about five times (in the case of tincture of digitalis) the original amount taken, so as to permit of accurate measurement of the smaller doses. The evaporated tincture of strophanthus had to be diluted from two to five hundred times.

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[1] Am. Jour. Phar., 41, 55.

[2] Brit. Med. Jour., Nov. 24, 1906, p. 1459.

[3] Journal A. M. A., 1898, xxxi, p. 959.

[4] Journal A. M. A., Sept. 8, 1906, xlvii, p. 790.

[5] Houghton: National Dispensatory, p. 1732.

A series of three or four frogs was injected with graduated doses of diluted tincture, a record being made of the time when each injection was given. Exactly one hour from the time when the animal was injected its heart was examined. If on examination the heart was found beating, the dose administered was too small. The heart with the correct "end reaction" will usually be seen to give a feeble beat if the animal is opened just before the end of the time limit, or it may be that only the auricles will show movement. In one in which the dose is slightly too large no beat will be seen unless the heart is stimulated by mechanical means, when a slight movement may be brought out. With still larger doses no contraction can be obtained in any way. The outer limits of dosage being found on the first series of frogs, a second series was injected with the dose still further narrowed down until the exact amount is ascertained which will produce the typical digitalis standstill of the heart in one hour. In estimating the doses to be given, due allowance has to be made for differences in the size of the frogs, the ratio being determined on the basis of a 20 gm. animal, the correct amount to be given to an individual frog being found by a simple proportion. If the dose is determined in this manner, the size of the frog seems to have little influence, as I have noticed many times that if a 60 gm. frog is given three times the dose given a 20 gm. animal the cardiac effects will be about the same.

In a series of frogs the uniform gradation of effect which can be produced is very striking as a rule, but it occasionally happens that an exceptional animal is met which is either more susceptible, and so is poisoned by a smaller dose, or is more tolerant, and therefore requires a larger amount than the others in its series. Such irregular reactions complicate the assay somewhat, as they necessitate a larger number being injected to avoid error.

No	Toxic Dose.	Maker.	Origin of Plant.
1	.08 c.c.	Wholesale manufacturer.	From German leaves.
2	.11 c.c.	Laboratory...............	From English leaves.
3	.12 c.c.	Laboratory...............	From leaves obtained f'm manufacturer of tincture No. 5.
4	.13 c.c.	Retail druggist	
5	.15 c.c.	Wholesale manufacturer.	Physiologically assayed.
6	.16 c.c.	Wholesale manufacturer.	From physiologically assayed leaves.
7	.175 c.c.	Wholesale manufacturer.	Physiologically assayed.
8	.18 c.c.	Retail druggist...........	
9	.18 c.c.	Retail druggist...........	From German leaves.
10	.19 c.c.	Wholesale manufacturer.	
11	.20 c.c.	Retail druggist...........	From English leaves.
12	.21 c.c.	Retail druggist...........	
13	.26 c.c.	Wholesale manufacturer.	"German tincture."
14	.27 c.c.	Wholesale manufacturer.	
15	.28 c.c.	Wholesale manufacturer.	
16	.29 c.c.	Retail druggist...........	From English leaves.

I have assayed fourteen preparations of the tincture of digitalis obtained from retail druggists located as follows: New York City, 3; Rochester, N. Y., 2; Detroit, 3; Richmond, Ind., 3; Kalamazoo, Mich., 1; Ann Arbor, 2; and two tinctures made in the Pharmacological Laboratory at Ann Arbor. Six of the tinctures were made from the leaves by the retail druggists themselves according to the U. S. Pharmacopeia, while the remaining eight were made by the druggist either from fluid extracts obtained from wholesale manufacturers, or the tincture itself was bought from these firms. It will be entirely unnecessary to give the details of each assay, but merely to give the toxic dose which was obtained in the manner described above and being the amount necessary to bring the heart of a 20 gm. frog to systolic standstill in one hour.

The results given above show that some of the tinctures are almost four times as strong as others, or in other words, that four or five drops of one will produce the same effect as fifteen of another preparation. Which tincture the patient gets in his prescription is a question of luck; for instance, tincture No. 1 was obtained from the same pharmacy as tincture No. 16. Further comment would seem unnecessary.

Tinctures Nos. 1, 10, 14 and 15 were all made by the same wholesale manufacturer. This firm makes no physiologic assay of their cardiac tonics, although I understand that they expect, within the next year or two, to install such a department.

The maker of tincture No. 16 had been "complimented many times on the uniformity of his tincture." He was much surprised at the results of the assay, which he finally decided were probably due to the fact that: "It was possible that diluting his 1890 U. S. P. 15 per cent. tincture to make it 10 per cent. to conform to the 1905 U. S. P. he might have forgotten that he had already done so and had diluted it twice."

So far as the strength of the different tinctures is concerned, honors seem to be about evenly divided between the wholesale manufacturer and the retail pharmacist, the variations being dependent on the source o the crude drug.

Tincture No. 3 was made by one of the students in the laboratory course according to the U. S. P., Eight Revision, using leaves obtained from the manufacture of tincture No. 5, while tincture No. 2 was also mad in the laboratory from "select English leaves."

As illustrating still further the variations in strengt which come from year to year, I might add that for th past three years the medical students have been making tinctures of digitalis in the Pharmacological Laboratory of the university and have then assayed them The average toxic dose based on a 10 per cent. tinctur has been as follows: For year 1904-5, 0.20 c.c.; for yea 1905-6, 0.18 c.c.; for year 1906-7, 0.12 c.c.

INFUSION OF DIGITALIS.

In connection with the use of digitalis, it is commo to find the infusion used instead of the tincture, an it may be questioned whether the infusion is not mor largely used than the alcoholic preparation, even i spite of the fact that the latter will retain its strengt much better. Nevertheless, it is true that many clinicians believe that they get better results from the water extract, and especially is it claimed that the latter is better diuretic. Yet the important glucosides are present in both preparations and the difference may be question of dosage. The infusion of digitalis is 1. per cent., while the tincture is 10 per cent., or approximately six ane one-half times as strong. I assayed a infusion made from the same leaves as the laborator tincture (No. 3), and in view of the difference i strength the toxic dose should be 0.12 c.c. times 6.5 c 0.78 c.c. I found 0.75 c.c. to be the toxic dose, the hea which had received 0.7 c.c. giving a few spontaneou beats after it was exposed. The effect on the hear then, is in proportion to the strength of the two preparations. The dose of the tincture used is commonly c.c., and of the infusion about 30 c.c., or a ratio of 1:30, whereas the ratio of the strengths of the two preparations is 1:6.5, or in other words, when the infusion is given a dose of at least four times as large is administered as when the tincture is prescribed, and it is not strange that more marked effects are obtained from it. Sir Lauder Brunton has pointed out that with the use of digitalis in a heart case the first sign of the beneficial effect of the drug is diuresis, which should appear in from thirty-six to forty-eight hours after the drug has been administered, and if it does not appear the dose of digitalis is too small and should be increased.

STROPHANTHUS.

I also assayed five preparations of the tincture of strophanthus by the same method as given above with the following results: 1, Toxic dose, .0012 c.c.; 2, toxic dose, .0015 c.c.; 3, toxic dose, .004 c.c.; 4, toxic dose, .005 c.c.; 5, toxic dose, .005 c.c.

The dose is that sufficient to produce systolic standstill in the heart of a 20 gm. frog in one hour. All these tinctures were purchased in the open market, but they were made by wholesale manufacturers, all of whom advertise that their cardiac drugs are physiologically assayed. Tinctures Nos. 1 and 4 were made by the same firm, and yet one is four times as strong as the other. On looking further into this case I found that No. 4 was prepared according to the 1890 U. S. P., and therefore was a 5 per cent. tincture instead of 10 per cent., as in the 1905 edition, so that, allowing for this change (for the sake of comparison) the toxic dose should be 0.0025 instead of 0.005. Making the correction still leaves the first tincture twice as strong as the other, and yet they are put out by a firm whose drugs are "physiologically standardized."

The matter still stands, however, that the patient with a prescription for tincture of strophanthus, if he goes to druggist A, gets a preparation twice as strong as if he went to druggist B across the street, or four times as strong as if he went to druggist C around the corner. It is not strange that physicians meet with some results in practice which they find it hard to explain.

A further comment might be made of the fact that one of the tinctures was an 1890 U. S. P. preparation. This was purchased about March 1, 1907, and when the matter was called to the druggist's attention he remarked that "the physicians in the town were very slow about taking up the new Pharmacopeia and that none of them is using it yet." One of the clerks said that no one got a 1905 preparation unless it was specially called for. And yet this was six months after the new edition was official, and the new standard should have been used unless the 1890 strength was specified.

A striking fact is the great difference in toxicity between digitalis and strophanthus, the latter being almost sixty times as strong as the former. These results are in marked contrast to those of Haynes,[6] who says that a comparison of the two tinctures named shows strophanthus to be nine or ten times as toxic as digitalis. But it must be borne in mind that he worked with the tinctures made according to the British Pharmacopeia, where the strength of the tincture of digitalis is 12.5 per cent. and that of strophanthus 2.5 per cent. Making an allowance for these differences, we find that his figure would have to be multiplied five times to make a fair comparison. In other words, his work shows strophanthus to be about fifty times as toxic as digitalis. In my series the average toxic dose of all the tinctures of digitalis was 0.19 c.c.; of all the tinctures of strophanthus 0.0033 c.c., a ratio of 1 to 57. This ratio is only proved for the action on the frog's cardiac muscle, and it would be going too far to say that the same relation exists in man. Haynes considers that such a ratio found in the lower animals may be carried over to man; that if one tincture acts ten times as strongly as another on the frog, the same relation may be expected to hold in the higher animals. However, I am inclined to think that it would be hard to convince the clinician that while the average dose of tincture of strophanthus is 8 or 10 minims, he could be justified in giving a dose of digitalis fifty times as large, or one ounce of the tincture. Nevertheless, it is certainly true that there is a lot of evidence to show that strophanthus acts more strongly on the mammalian heart than digitalis, and this fact may explain why in certain cases of heart disease in which digitalis seems to do little good, strophanthus will often produce good results. It is equally true that digitalis will often succeed where strophanthus fails.

What has been said in regard to carrying over the ratio found in the frog to the higher animals, of course, only applies to the relative toxicity of different drugs. It is manifestly perfectly legitimate to transfer the ratio found for different preparations of the same drug, and that is where the value of the physiologic assay comes in.

CONCLUSIONS.

No one can deny the necessity of a uniform strength of the cardiac tonics on the market, but how this is to be obtained is another matter. The fact that a preparation is marked "physiologically standardized" may not mean much and "physiologically assayed" may mean less. If the tinctures are standardized those of an individual firm may be uniform, although as I have shown, that does not necessarily follow, but each firm having its own standard there can be little more uniformity than at present.

What is needed is a national standard, such as the Pharmacopeia furnishes for chemical assays. Perhaps the revisers of the next Pharmacopeia may see their way clear to insert some such method, but for the present we are left helpless so far as they are concerned. It has been very aptly suggested that the U. S. Public Health and Marine-Hospital Service might furnish a standard method of assay that would be acceptable to pharmacist and physician alike.

It has been pointed out that the adoption of such a standard would work a hardship on the retail druggists, a very large number of whom make their own tinctures, and who could not possibly carry out such tests. This objection seems to be without any great weight. At present the retail druggist can make as good a tincture as the large manufacturing house, as my results show, and clearly there is no good reason why he should not do so. But when he can buy a better preparation than he can make and a preparation that the profession prefers, few pharmacists would not avail themselves of such a standard remedy.

As the matter now stands, the physiologic assay is made by the physician at the bedside. He gives the drug for a reasonable time and gets no effect perhaps, and then has to increase the dose until the desired results are attained. No amount of standarization would ever do away with his ascertaining the physiologic dose for the individual patient, but it certainly would shorten the process and avoid the loss of much valuable time, which may mean the life or death of the patient.

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6. Bio-Chemical Journal, 1906, i, 64.

ENDEMIC TYPHOID FEVER FROM INFECTED MILK.

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Last October eleven patients with typhoid fever were admittted into the Medico-Chirurgical Hospital in less than one week. All of these patients came from an apartment house in two adjoining blocks on North Eighteenth street, Philadelphia. Seven of the eleven patients came from one apartment house from which some twenty-odd patients were taken down with the same disease in two weeks' time. The Board of Health officials made a thorough investigation regarding the sanitary conditions of the house and pronounced it perfect. Inquiries concerning the drinking water used by these patients were made and it was found that they all either used filtered or boiled water. The food and milk supply was next considered. A culture made from the milk proved the presence of the typhoid bacillus in it. Dr. Eugene Swayne, resident physician at the hospital, being interested as to the probable source of contamination of the milk, thoroughly canvassed the neighborhood threatened with an epidemic of typhoid fever. He soon learned that the same milkman supplied all of the apartment and boarding houses from which many typhoid patients were removed to a number of the different hospitals in this city. Dr. Swayne next visited the milkman's dairy, and there learned that the proprietor and one of his servants were both sick with the disease. The son was convalescing from typhoid fever and was filling the milk bottles from a tank by siphonage, starting the flow by sucking with the mouth at one end of the tube. A culture made from this end of the tube revealed many typhoid bacilli. I do not know of any other instance where infection of the typhoid bacillus was transmitted through the saliva. Of course, it undoubtedly has occurred quite frequently, but has never been reported or traced so in detail.

The initial manifestations in these patients were so vague that they did not suspect of being attacked by a serious illness. For a week or ten days they had a feeling of weariness, with some aching in the limbs, abdominal tenderness in the right iliac fossa on pressure, and a tendency to constipation. During this period they slept badly, experienced chilly sensations, the appetite was poor and at the end of a week's time were forced to remain in bed out of sheer exhaustion. The temperature now began to rise above normal and ascended in the highly characteristic manner. Each evening it was a little higher than the preceding day at the same time, until the end of the second week, when it had reached its fastigium, which was not over 103 F. in most of the cases. However, in two patients it reached 105 F. on one occasion, due probably to the indiscretion of the friends that called to see them in the afternoon. During the entire illness of these patients the temperature readily responded to the cold sponges when it reached 102.4 F. or above. Delirium of a low muttering type occurred in one patient and lasted only for three days. It may be mentioned in this connection that this same patient also had epistaxis and diarrhea.

Tympanites was present in one patient, to some extent; he also had one intestinal hemorrhage, but made a speedy recovery.

The complications present in these cases were otitis and phlebitis in one, and phlebitis in another. In both patients the phlebitis manifested itself in the common femoral vein of the left leg. The interesting features of these cases were the slightly enlarged spleen, a few rose spots and a positive Widal reaction in all of the patients before the eighth day of the disease, no other abnormal physical signs being present. The treatment of these patients was much alike. A few changes were necessary in those who had slight complications. Under the prophylactic treatment great care was exercised properly to disinfect the excreta with a 5 per cent. solution of phenol. The linen was soaked for a half-hour in a 1 to 2000 solution of mercuric chlorid before sending it to the laundry. The individual eating utensils were boiled immediately after using, and the nurse and other attendants instructed to disinfect thoroughly their hands after coming in contact with the patients. The ordinary hygienic measures were carried out in each case. A mouth-wash, consisting of eight drops of beechwood creosote in three ounces of eucalyptus water, was employed after each feeding The rooms were well ventilated, avoiding unnecessary draughts of cold air, with an even temperature not exceeding 65 F. During the active stage of the disease the diet consisted of liquid foods, such as would be entirely absorbed, leaving little or no residue. Six ounces of predigested milk every two hours was the main article of diet, alternated occasionally with so much lemon albumin, orangeade or whey. Water was given *ad libitum*. After the temperature had been normal for a week they were allowed soft food sparingly at first, and in another week's time were gradually allowed regular house diet. Medicinally they were all given as an intestinal antiseptic and antipyretic two grains, each, of quinin sulphate and phenyl salicylate (salol). In some of the severer cases they were given a half-ounce of whisky every four hours, with one-fortieth of a grain of strychnin sulphate, so that the patient received ample stimulation. The patient who had intestinal hemorrhage received fifteen minims of terebene every hour for six doses, then every three hours for three days. There were no further signs of hemorrhage and the terebene was discontinued.

The eleven patients all recovered without relapse or recrudescence.

The manner in which these patients were infected proves again that the excretions and secretions of convalescing typhoid patients are loaded with typhoid bacilli and often are the source of epidemics, more so than during the active stage of the disease, because precautions are taken no longer after the patient is up and around.

Peritoneal Absorption of Oxygen.—H. Gutierrez has been much pleased with the results of flushing the abdominal cavity with oxygen after abdominal and gynecologic operations. He describes a typical case in the *Cronica Med. Mexicana*, x, i; bilateral pyosalpinx had caused disturbances for eight months, with pelviperitonitis and cachexia. Ablation of the tumors was very difficult owing to extensive adhesions and one pus pocket ruptured. The Mikulicz tampon could not be used under the circumstances. Gauze drainage was supplemented by introducing through a drain tube from 40 to 60 liters of oxygen with free outlet. The temperature rose only one degree Centigrade the day after the operation and then returned permanently to normal, and the wound healed with remarkable rapidity and completeness, while the general condition improved to correspond. The oxygen treatment was continued daily for two weeks before the tube was removed.

THE ESTIMATION OF HEMOGLOBIN-CONTENT OF BLOOD WITH MODERN INSTRUMENTS.

T. W. HASTINGS, M.D.
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NEW YORK CITY.

The methods for hemoglobin estimation are as numerous as the principles on which the different instruments are based are varied, and, theoretically, little can be done to improve on them. Yet, after one has tested by frequent use for a period of five or six years most of the usable methods—from Hénocque's Hematoscope and Bizzozero's Cromo-Citometro to Sahli's, Haldane's, Grützner's Keilhämometer and von Fleischl-Meischer's—one must conclude that constantly corresponding readings with different instruments are rarely obtained,[1] undoubtedly on account of faulty standardization or lack of standardization in manufacture.

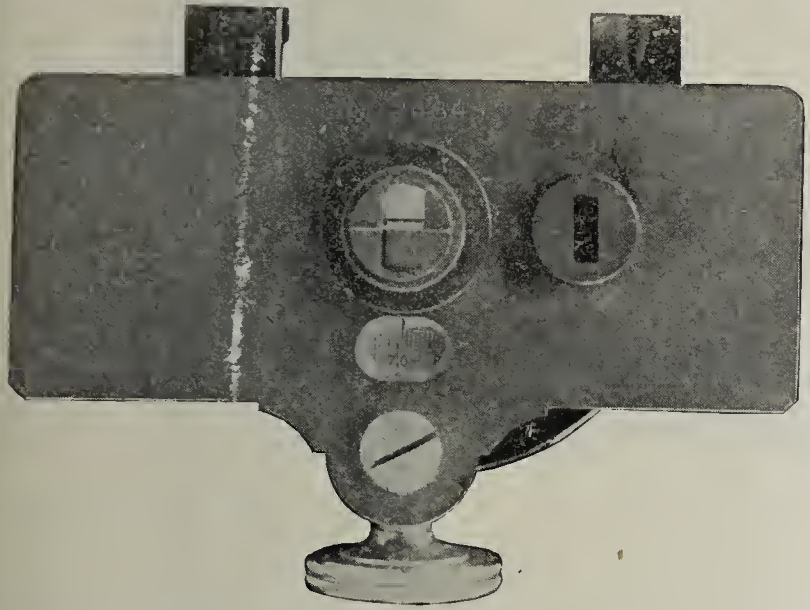

Fig. 1.—von Fleischl-Miescher's instrument; from above showing structure of cells.

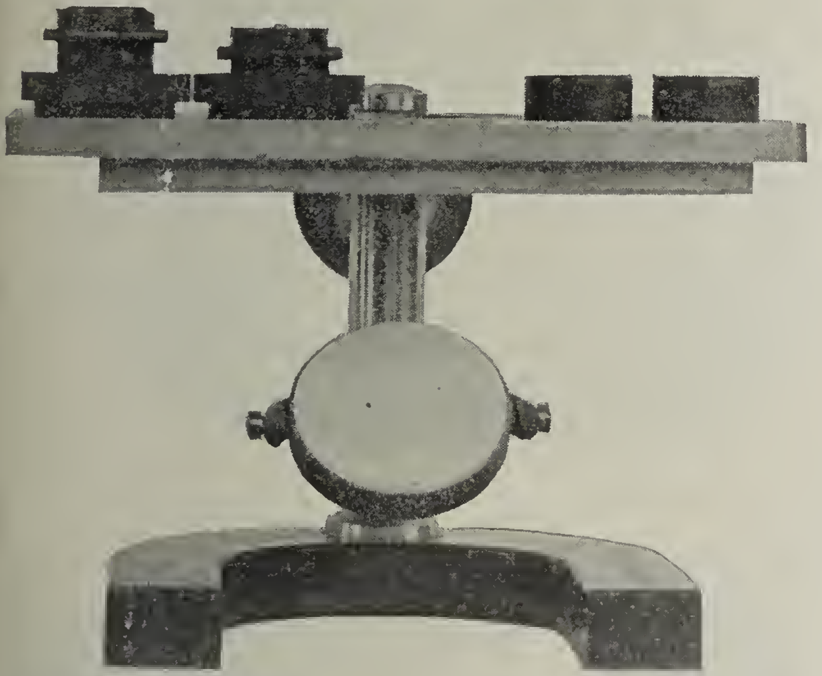

Fig. 2.—von Fleischl-Miescher's instrument; from view showing height of cells.

Judging from experience, the von Fleischl-Miescher (Figs. 1 and 2) instrument is the most reliable, as one obtains it from the retail dealers, and, likewise from experience, the principles made use of in Gower's, Haldane's (Fig. 3) and Sahli's (Fig. 4) instruments are theoretically open to at least criticism and practically are all that one could desire, provided the instruments have been carefully standardized. The advantages in Haldane's instruments are the same as in Sahli's, although the former uses CO-hemoglobin as his standard and compares with this standard a freshly-prepared solution of CO-hemoglobin of same strength as the standard, and the latter (Sahli's) makes use of acid-hematin as a standard and compares with it a freshly-prepared solution of acid-hematin. As an acid solution for Sahli's method I use invariably a 1/10 normal solution of HCl, or, for simplicity sake, a dilution of 9 drops of fresh, strong HCl in 200 c.c. of water; of this solution a sufficient amount is taken to fill the graduated tube to the mark "10."

The simplicity of instruments and technic, the fact that no matter in what condition the circulation and the blood pigment may be (excepting gas (CO) poisoning and methemoglobinemia) the color reactions will be similar to the standards, the ease with which the broken parts may be replaced, and most important of all the rapidity with which the colors may be standardized in any laboratory, recommend such instruments.

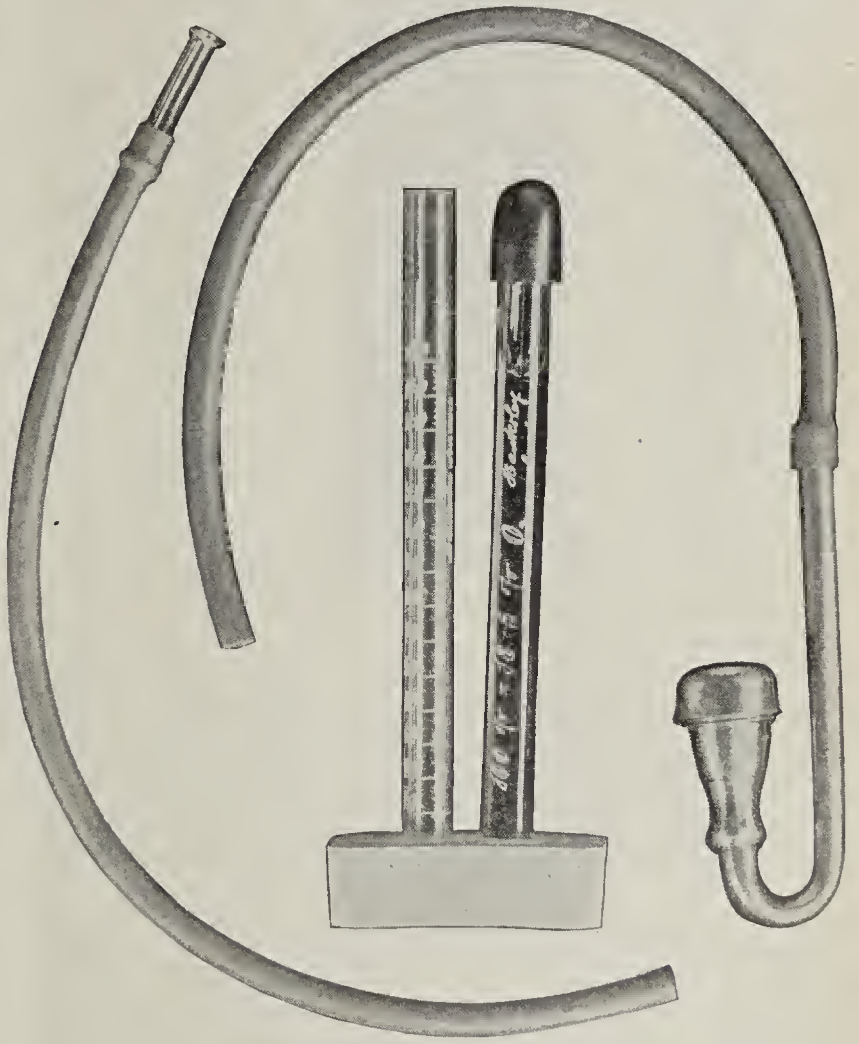

Fig. 3.—Haldane's instrument; metal gas-connecting tube to right.

The one objection to Haldane's method is the necessity of using "coal-gas," which to-day is not at hand in all our hospitals and houses; for this reason alone we prefer Sahli's instrument, which has been standardized.

Three years ago (in 1904) when I had taken up a thorough study of the hemoglobin methods, solutions of acid-hematin (1 per cent.) corresponding to Sahli's standard, and of CO-hemoglobin (1 per cent.) Haldane's standard,[2] were prepared, and from appearances

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[1] Emerson has recently emphasized this fact in the Bull. Johns Hopkins Hosp., January, 1907, 30.

[2] Sahli's standard:

Blood	1 part.
Decinormal HCl	10 parts.
Water, distilled	to 50 parts.
Glycerin	50 parts (volume.)

Haldane's standard:

Blood	1 part in sterile tube.
Distilled water, sterile	99 parts in sterile tubes.

Coal gas passed through to saturation, and the tubes sealed.

have kept their color perfectly during these three years. The Haldane tubes show a trace of heavy sediment, which does not diffuse to a cloudy solution and so does not interfere with color comparisons.

The Sahli mixture has been diluted to 0.5 per cent. solution for certain experimental purposes, yet it may be accurately read and remains clear without any trace of precipitation. It is otherwise with the instruments purchased on the market, for out of a lot of twenty instruments, after two years use, the majority showed loss of depth in color and, therefore, high readings, and some of them showed the defect soon after they were obtained. Without doubt some of these instruments are defective when put on the market and others become defective from disuse, the tubes lying horizontally for several months when not being used by the winter classes, so that a brown precipitation streaks along one side of the tube. The kind of blood used in these standard tubes is not known to me, but probably ox or sheep's blood, at any rate, not human.

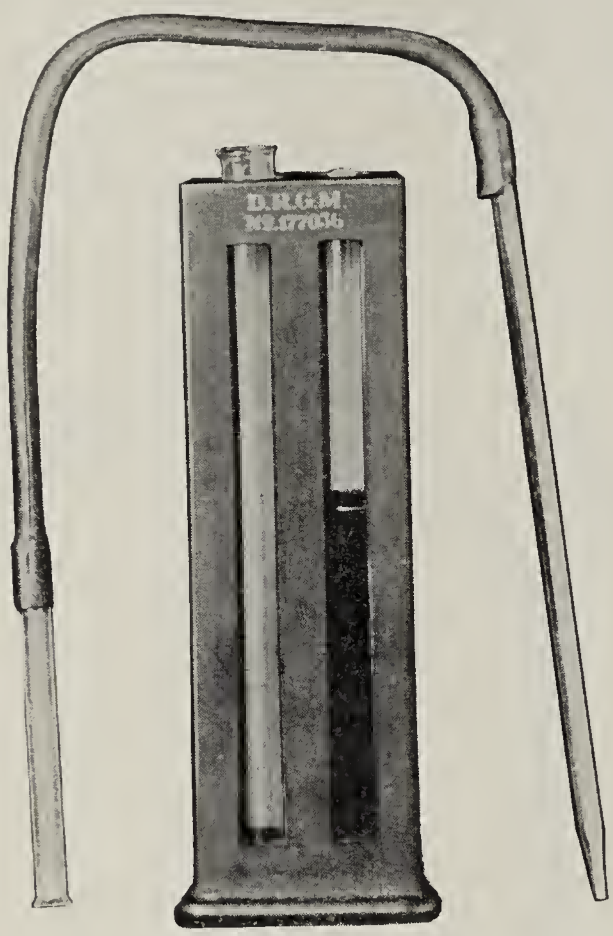

Fig. 4.—Sahli's instrument.

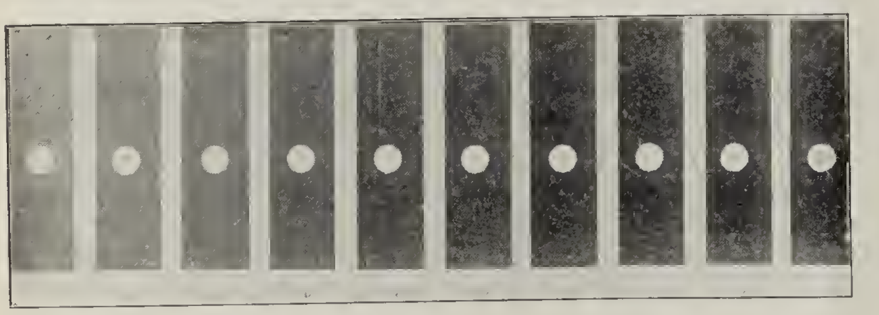

Fig. 5.—Tallquist's paper "Scala."

The standard solutions spoken of that kept their color for three years were made of ox blood and human blood, and neither of them has changed. We have recently opened the standard tubes of these Sahli's instruments and refilled them with 2 c.c. of a freshly-prepared standard solution, and in the class work this year the hemoglobin readings were accurate, after the standardization.

What we wish to call attention to especially is the method of standardization. It is Haldane's method based on the oxygen-combining power of the blood determined by the potassium-ferricyanide-ammonia method, by means of which one may easily estimate the oxygen-combining power of human blood, since only 4 c.c. of blood is required.

The ox blood referred to had an oxygen-combining power of 21:[3] the human blood used for the recent standardization combined with oxygen in the proportion of 19 to 100 c.c. of blood. Haldane's instruments are based on a blood with combining power of 18.5, this, of course, being adult male blood. The apparatus for the estimation of this oxygen-combining power is not elaborate and is easily used; one should refer to Haldane's original articles for details.

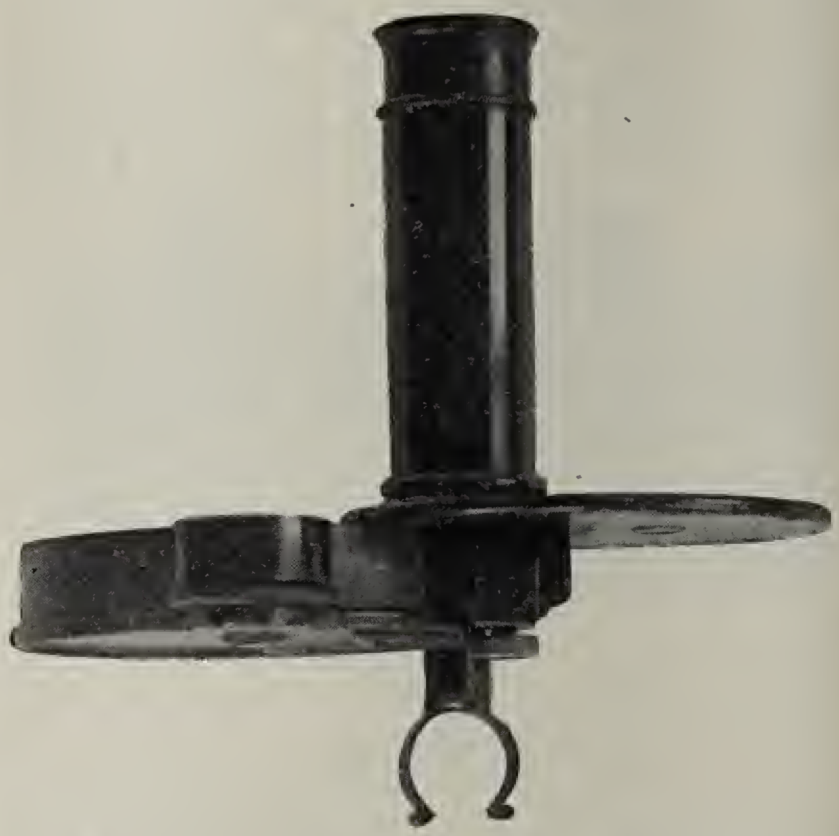

Fig. 6.—Dare's instrument; from above and in front.

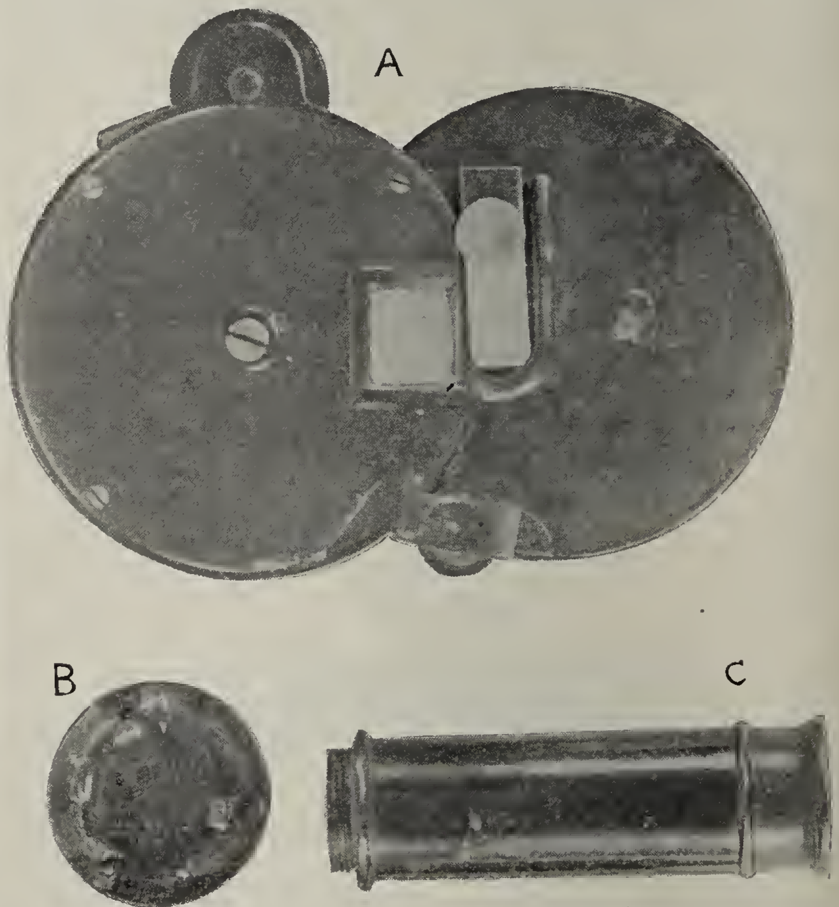

Fig. 7.—Dare's instrument; A, front view; B, candleholder; C, telescope.

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[3] Oxygen, combining power of 21 means that 100 c.c. of blood will combine with 21 c.c. of oxygen from air.

According to Haldane, the readings for a woman's and a child's blood are respectively 89 per cent. and 87 per cent. of the reading when the standard tube contains adult male blood, as is usual, and from these two factors corrections should be made if one desires to convert percentage readings into terms of oxygen-combining power or grams-hemoglobin.

From observations over the same period of time and from comparison, I do not hesitate to state that estimations of hemoglobin by means of Tallquist's scale (Fig. 5) are mere guesses, although the paper test is a great labor-saving device, since such a method will determine the presence of an anemic blood, yet the degree of anemia can never be estimated.

Dare's instrument (Figs. 6 and 7) is excellent, if one may judge from using only four different instruments, unless one is dealing with cyanotic and plethoric conditions, for here the readings are inaccurate; the one criticism or objection is its fragility.

I would state, then, from experience, that the prevalent inaccuracy of practical hemoglobinometers is in their manufacture, excepting that of the Fleischl-Meischer, and probably also Dare's, although I have used only four of the latter.

With me the most satisfactory instrument, after careful standardization, is Sahli's for reasons mentioned, and for a single reason, the frequent lack of coal gas near our patients, we prefer it to Haldane's. For standardization it is a great satisfaction to find at hand a comparatively simple method based on the estimation of a physiologic property of the blood, viz., Haldane's oxygen-capacity method, in place of a standardization based on an artificially colored mixture corresponding to a certain color-perception.

The methods based on the determination of iron content have not been mentioned, although tested comparatively, because the Hb-content and the iron content do not always run in a fixed ratio, and, secondly, because the iron methods are impossible of clinical application.

We regret that we can not recommend absolutely Sahli's instrument as obtained from the trade; we recommend Sahli's as the best method after the single instrument has been proven accurate or refilled with a standardized solution.

I am indebted to Dr. Leopold Jaches, of the department of pathology, for the photographs.

Those who desire to read further on this subject may consult the following references:

Dare: Phila. Med. Jour., 1900, vi, 557.
von Fleischl: Wien. Med Jahrb., 1885, 425; 1886, 167.
Veillon: Der Fleischl-Miescher Hämometer, Arch. f. Exper. Pathol. und Pharm., 1897, xxxix, 385.
Haldane and Lorrain-Smith: Oxygen-combining power, Jour. of Physiol., 1900, xxv, 295, 331; Hemoglobinometer, Jour. of Physiol., xxvi, 503.
Breyer and Grützner: Münch. med. Wochschr., 1905, August, 1521.
Sahli: Verhandl. Cong. f. Inner. Med., 1902, 233.
Gowers: Tr. Clin. Soc. (London), 1878, xii, 64.
Henocque: Comp. rend. Soc. Biol., 1886, October.
Tallquist: Arch. Général d. Méd., 1900, ill.

Theses Presented for a Professorship in 1574.—Calmette recently presented at a scientific congress, held at Montpellier, France, four theses lately discovered in the archives of the university there. They bear date of 1574, and were presented at a competitive examination for a position on the medical faculty. They are said to give a good picture of the knowledge of medicine at that date, especially as they bear marginal annotations of the questions and answers during the examination, in some parts giving the dialog between the examiner and the candidate.

REPORT OF A CASE OF AMAUROTIC FAMILY IDIOCY.

WITH HISTOLOGIC REPORT ON THE EYES.*

MARTIN COHEN, M.D.
AND
GEORGE SLOAN DIXON, M.D.
NEW YORK CITY.

For the sake of completeness a brief history of the case is given. At present the mother of the patient whose case is here given is pregnant six months. It is hoped that it will be possible to observe the development of this child from birth.

DR. COHEN'S REPORT.

History.—Female, aged 8 months, of Hebrew parentage, came under the observation of Dr. J. Goldstein, who diagnosed the condition as one of amaurotic family idiocy. There had been no idiocy in the family, four older children being alive and healthy. When the infant was five months old the mother noticed that it was not thriving as had the older children at the same age, that the head was not held erect, and that little notice was taken of the surroundings.

Examination.—The child was stout but flabby. The skin and mucous membranes were pale. Though the behavior was dull and lethargic, there were occasional sudden spasmodic movements of the trunk and extremities. The muscles were flaccid, and the head and back were poorly supported.

Subsequent History.—From this time on the general condition deteriorated, and the child grew progressively weaker and paler. When 17 months old there developed a bronchopneumonia, because of which the patient was admitted to the hospital. At this time the infant was in a semicomatose condition, and there were present the usual signs and symptoms of a severe bronchopneumonia. Apparently, the child was blind; the pupils were widely dilated and irresponsive to light. Ophthalmoscopic examination showed in the macular region of both fundi a pearly gray oval patch with the long diameter vertical, nearly twice the size of the disc. In the center of this area was a sharply defined oval spot of a cherry red color about one-sixth the diameter of the patch itself. Both discs had the appearance of a well-marked optic atrophy. Otherwise, there were no pathologic changes. One week after admission to the hospital the patient died. Two hours and a half later both eyes were enucleated. After one was preserved in 10 per cent. formalin solution and the other in Orth's fluid, they were presented to Dr. Dixon for pathologic study.

DR. DIXON'S REPORT.

Histologic Examination of the Eyes.—The eyes were in the Eno Laboratory the same day they were removed and were immediately measured. The vertical diameter was 21 mm., transverse 21.5 mm., anteroposterior 21 mm. The clear cornea measured 12 mm. vertically by 12.5 mm. laterally. There was nothing unusual about the external appearance of the globes.

Hardening and Staining.—The specimens were subsequently treated in the usual manner; that is, after the formalin specimen had been in the solution for two days, it was frozen and divided, one-half showing the macula being mounted in glycerin jelly for macroscopic study, the other half run through successive strengths of alcohol and finally embedded in celloidin and sectioned. The other eye was fixed in Orth's fluid, followed by Müller's fluid, in which it remained for three weeks; it was then washed, frozen and segments removed from the upper and lower portions of the globe passing through the iris angle, to insure perfect impregnation by the embedding material, which was also celloidin, and finally sectioned. The sections were stained by Hensen's and by Delafield's hematoxylin and eosin, by Van Giesen's nerve stain, by Weigert's stain for medullated nerve fibers, by Birch-Hirschfeld's modified Nissl's, and by Ehrlich-Biondi-Heidenhain.

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*Read before the Section on Ophthalmology of the Academy of Medicine, New York.

Microscopic Examination.—Nothing unusual was found in the cornea, iris, ciliary body, lens or chorioid in either eye. The retina was well preserved in Orth's fluid; it had been mechanically detached in both specimens. The first thing to attract attention was the difference in thickness between the retinæ of the two eyes; the formalin specimen appeared shrunken and thin, while the Orth's fluid specimen appeared to be more nearly in its natural condition. In the latter its thickness, 3 mm. to the nasal side of the disc, was 236.6 microns. The macula differed in thickness on the two sides of the fovea, as will be observed in the photomicrograph (Fig. 1). Its greatest elevation was 425.6 microns from the ends of the cones. The temporal side was 303.6 microns. The fovea was flat and broad, measuring 239.4 microns laterally. The margin arose abruptly instead of in the usual gradual manner. The depth of the floor of the fovea below the macular fold was 178.2 microns. True edema was not noted, though there was present the usual spacing out of the external reticular layer a short distance on each side of the macula, which has been repeatedly reported in these cases. Müller's fibers did not appear in their usual form, but as a conglomerate mass not easily distinguished. The multipolar ganglion cells were present in about their usual number outside the macula, but they gave the impression of being swollen, were round in form and measured from 16.6 microns to 23.1 microns. Giant ganglion cells were occasionally seen. Both the nuclei and the nucleoli in the vast majority of the cells were sharp and clear cut, but generally displaced to the side. A few spaces were noted which corresponded to the size and form of the ganglion cell, but there was no trace of its contents, only that appeared to be its wall remained. Nissl's stain showed the reticular network of the remaining cells, but it was usually massed about the nucleus, being more or less scanty toward the periphery of the cell. Weigert's stain showed the same dark granules in the cell protoplasm described by other observers. It also showed them in the so-called amacrine cells. Dentritic processes of the multipolars were occasionally seen. There were six layers of multipolar cells at the macula on the temporal side, and eleven on the disc side, doubtless due to a fold in the macula. There was no degeneration of the rods and cones, and no changes in the other layers of the retina not already mentioned.

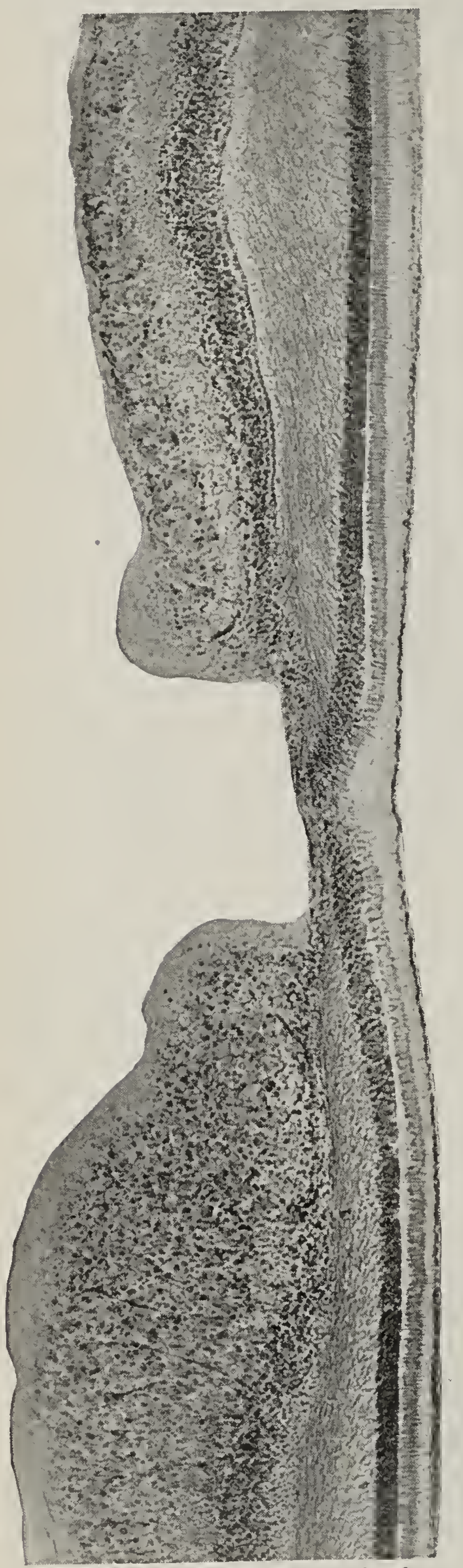

Fig. 1.—Section through fovea. Photomicrograph by Dixon.

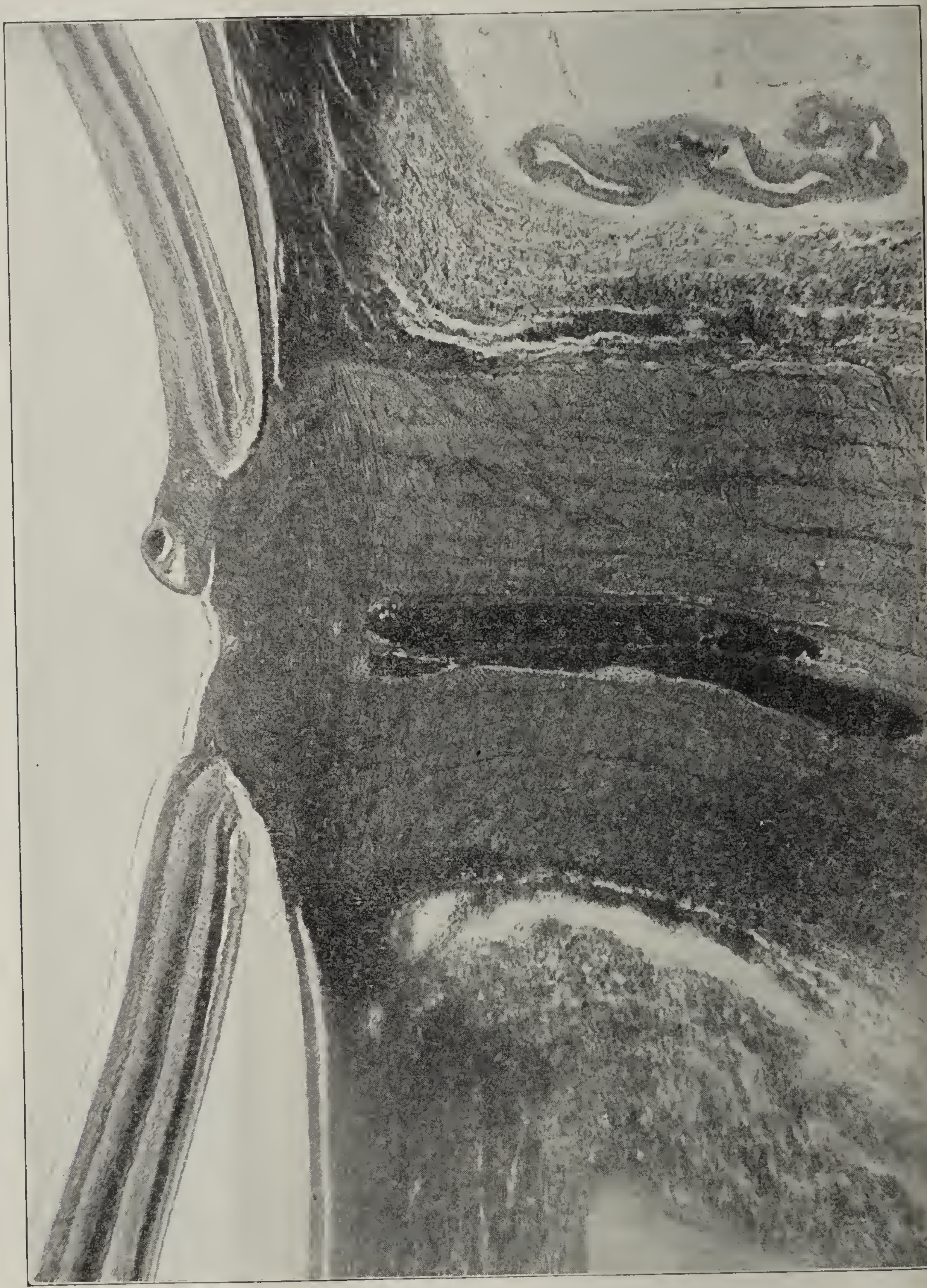

Fig. 3.—Section through optic disc. Photomicrograph by Dixon.

The optic nerve (Figs. 2 and 3) was in a condition of beginning simple atrophy. The connective tissue stroma was increased, and the bundles appeared compressed, but Weigert's stain indicated no localized degeneration. The intervaginal space was not at all well marked.

Amaurotic family idiocy was considered in three papers published[1] a few years ago. The discussion of these papers was general and exhaustive, and the consensus of opinion then was that the disease was one of degeneration of the ganglion cells of the entire nervous system, and that the changes in the retina and optic nerve were simply the ocular manifestations of a general disease.

It was unfortunately impossible to obtain an autopsy in the case just reported. It seems to me that the arrested development theory of Sachs, the degeneration theory of Kingdon and Russell, and the toxin theory of Hirsch fit together very well. There is every reason to believe that a child can be born normal and for a short time give no indication that it will not continue in this condition. We have all seen this over and over again, in fact, it is the rule. A child does not cease to develop when it is able to breathe, and the central nervous system is the most backward of all. If the central nervous system fails to develop properly the finer degenerations must follow, and it is only a step further to the development of toxins due to errors in metabolism.

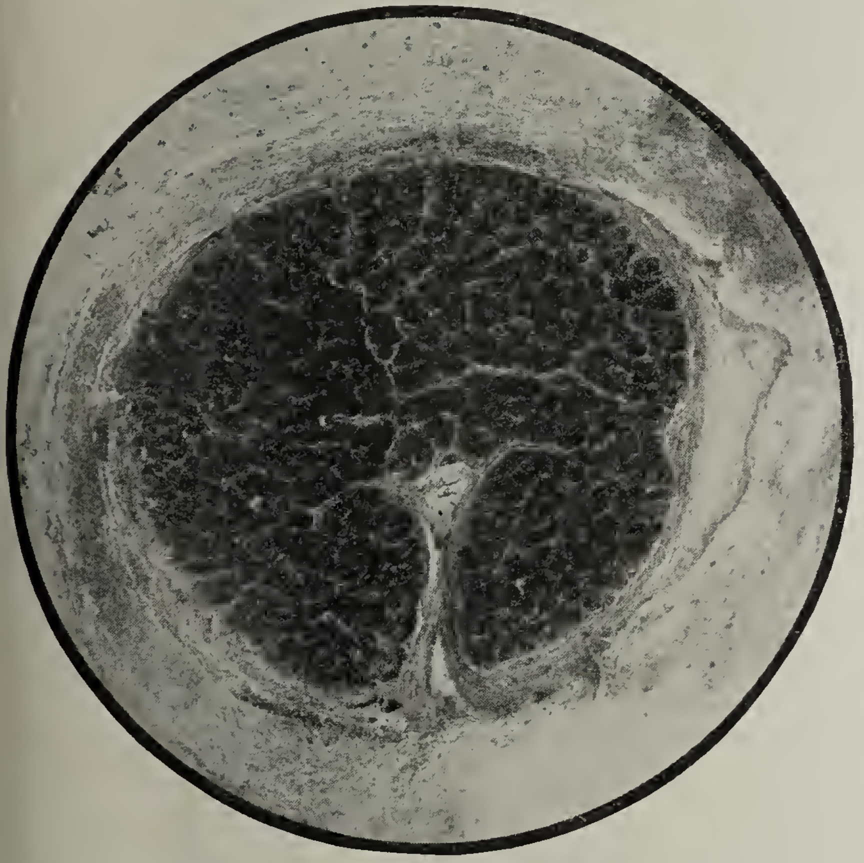

Fig. 2.—Transverse section of optic nerve at point of entrance of vessels. Photomicrograph by Dixon.

A word as to fixing and postmortem changes. I am of the opinion that the best solution for fixing the retina is Zenker's fluid, that Müller's or Orth's is next, and that formalin alone is the poorest of all. It depends altogether on the individual specimen whether or not the retina be detached by either of the fluids. As a matter of experience, formalin has appeared to be responsible for more detachments than the other fluids. I think we would encounter little trouble in this particular direction if it were possible to discard the use of alcohol. As to postmortem changes, Parsons says:[2]

> The finer postmortem changes have been studied by Birch-Hirschfeld by Nissl's method, using thionin as the stain. The results obtained by this extremely delicate method must be accepted with caution, as they are only strictly comparable when the minutest details of technic are kept constant. Postmortem changes commence in the ganglion cells two hours after death. The perinuclear space becomes visible, and the Nissl granules become blurred at the edges, the smallest breaking up. In three and a half hours the nucleus shows vacuoles and commences to shrink, larger and more numerous vacuoles appear in the periphery of the cytoplasm. In five hours the Nissl granules have broken up and formed a dusty, diffuse stain, while the other changes have progressed. In seven hours the cells have been transformed into a mere granular mass.

Practically the same is said of the bipolars. In the same volume, p. 544, he says: "The chromatin diminishes with the exposure to light, and after prolonged exposure to bright light the Nissl bodies break up, vacuoles appear and the cells shrink."

Now, if these statements are correct we can not be too careful in drawing conclusions from the apparent finer details which are brought out by delicate cytologic methods, and it requires no great stretch of the imagination to assume that much of our painstaking labor may be rendered useless by minute changes occurring soon after circulation has ceased.

In conclusion, attention is called to the fact that the eyes in this case were removed and placed in the fixing solutions two and one-half hours after death. The only changes that have been detected are the swelling of the multipolar ganglion cells, the displacement of their nuclei, the retraction of the cell reticulum, the occasional disappearance of ganglion cells, and the general disappearance of Nissl's granules; the appearance of dark granules by Weigert's stain in all the ganglion cells, the peculiar formation of the macula and fovea, the so-called "spacing out" of the external reticular layer near the macula, and beginning simple atrophy of the optic nerve.

I am indebted to Mr. E. B. Burchell for valuable assistance in the preparation of this case.

THYMIC TRACHEOSTENOSIS, TRACHEOSCOPY, THYMECTOMY, CURE.

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Laryngologist to the Pittsburg Eye and Ear Hospital, Western Pennsylvania Hospital, Montefiore Hospital.
PITTSBURG, PA.

Much of the literature of the diseases of the thymus gland is devoted to theoretical arguments as to the cause of "thymus death" (thymustod). A child dies suddenly with more or less stridor and cyanosis, and nothing pathologic but an enlarged gland is found at autopsy. The gland, however, does not seem to press on the trachea. The authors then speculate on theories as to pressure on the pneumogastric, pressure on the pulmonary artery, "hyperthymization of the blood," irritation of the large vessels and nerves by the friction of the to-and-fro movements of respiration, paralysis of the vasoconstrictors, status lymphaticus, etc. Theoretic arguments and anatomic demonstrations are brought forward to show the softness of the gland and the relative incompressibility of the trachea.

It has been my privilege, with the aid of the bronchoscope, to demonstrate beyond all doubt on the living patient the purely mechanical nature of "thymic asthma" in one instance. This, of course, does not prove that every case has this same pathologic mechanism, but it does prove the occurrence of that which many, including Friedleben, von Kundrat, d'Escherich and Paltauf, have denied, namely, that a hypertrophic thymus can compress the trachea sufficiently to obliterate its lumen. It does disprove Friedleben's dictum—*es giebt kein asthma thymicum*—though it would seem more accurate to call it thymic tracheostenosis.

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[1] Peterson (Frederick), Hirsch (William), and Holden (Ward A.): Jour. of Ment. and Nerv. Dis., 1898, xxv, 529-560.
[2] Pathology of the Eye, ii, 546.

In view of my tracheoscopic findings, it is easy to understand sudden deaths from thymic hyperplasia, for we all know how suddenly the end comes in any form of tracheal stenosis and how impossible it is to get respiration started after it has stopped when there is even slight obstruction, unless tracheotomy be immediately done. And in these thymic cases a long cannula reaching below the obstruction would have to be inserted. With a tracheal lumen diminished to a chink, the slightest engorgement, as from a cough, would be sufficient to cause temporary swelling and momentarily to shut off the passage of air. The coughing and gagging during an examination would do the same thing. Once the air is shut off the usual phenomena of asphyxia are sufficient to engorge the thymus gland and all the vessels passing through the upper thoracic opening, which prolongs the obliteration of the tracheal lumen until death supervenes. Then the recession of the blood and the sagging of the viscera, together with the usual autopsic technic, would serve to allow the trachea to assume its normal lumen. Thus the pathologist finds the gland hypertrophied, but not compressing the trachea.

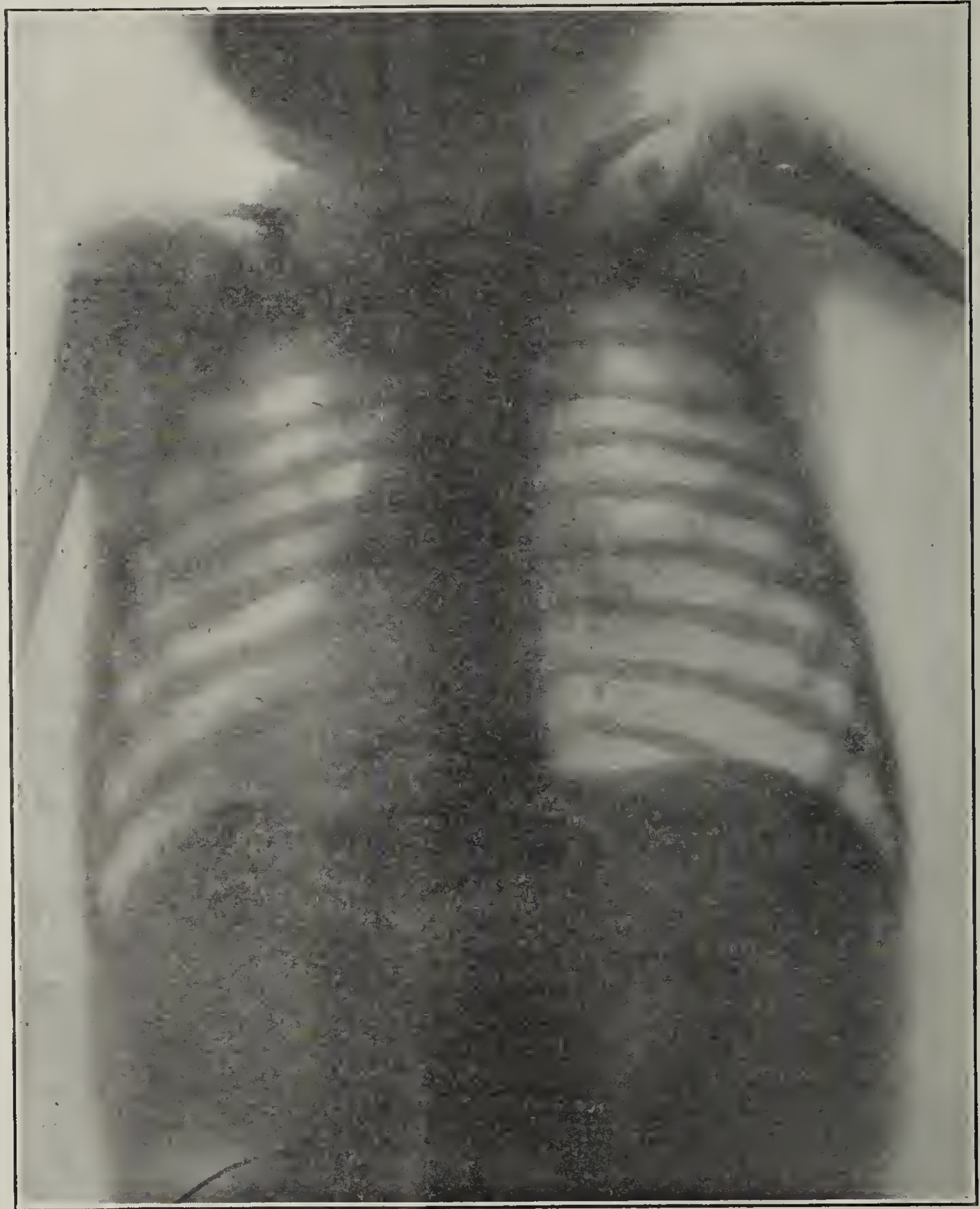

Fig. 1. Radiograph showing enlarged thymus gland.

Patient.—E. L., aged 4, was admitted to the Western Pennsylvania Hospital, in the service of Dr. Ogden M. Edwards, Aug. 30, 1906.

History. — The child is the youngest of eight; one brother died a year ago with typhoid fever, another with tuberculosis. Two others died in infancy. The boy has always been well, except for a mild febrile attack a few months ago; he was not bedfast. Six weeks before admission he went to bed apparently well, but was wakened in the night by a sudden croupy attack. Since that time the difficulty in breathing has been growing steadily worse and is now very marked and stridorous. Dr. John W. Boyce, who examined the child, reported: "Child manifested considerable expiratory dyspnea of obstructive type, made worse by sitting erect. Good color and a fair general appearance. No signs of 'lymphatic constitution.' Pulse rapid but of good quality. Tympanitic note over sternum and at sides, extending farther to right than left. Over same area increased voice conduction, tracheal breathing and a whistling tracheal râle. Over rest of lungs normal puerile breath sounds, the same on both sides. Diagnosis: Obstruction in trachea. Tubes dry; lungs normal."

Roentgen Examination.—I was called to the case and, finding the larynx free from obstruction, suspected a foreign body, and ordered a radiograph. A radiograph by Dr. R. H. Boggs showed the shadow of an enlarged thymus gland (Fig. 1).

Operation.—On September 5, assisted by Dr. J. J. Schoening, I opened the trachea under infiltration anesthesia. The rings seemed of normal resiliency, and the thymus gland was seen to extend abnormally high in the neck, reaching to the thyroid gland, and rising somewhat when the patient coughed. On passing one of my bronchoscopes (Fig. 2) I discovered a scabbard trachea with a chink of not over 2 mm. on inspiration and 1 mm. on expiration, the obstruction extending from the second to the fourth ribs. The tracheal mucosa was collapsed from before backward almost into contact. The collapsed walls opened up ahead of the tracheoscope not unlike the cervical esophagus, and, like the esophagus, the trachea tended to close instead of to open on inspiration. The mucosa looked slightly congested, but was not edematous. The passage of the bronchoscope relieved the dyspnea instantly and when it was withdrawn no air entered and asphyxia threatened, so a long tracheal cannula was inserted in the wound, giving partial relief. From measurements taken with the tracheoscope I had made a special long tracheotomy cannula extending to within 1 cm. of the bifurcation. This gave absolute relief and was worn four weeks, until the operation on the gland could be done.

Postoperative History.—The day after the tracheotomy, discharge from the tracheal wound was very profuse. Numerous moist râles of large size were heard all over both lungs, but within a few days diminished, as expectoration of purulent material became more profuse. There was no bronchitis (Boyce), the râles being produced by pus that had run down from the tracheotomy wound.

On September 8 the child developed a mild tonsillar diphtheria, for which he was transferred to an isolation cottage and placed under the care of Dr. G. W. Grier. The following day 3,000 units of antitoxin were given, and on the next day 1,500 more. By September 11 the membrane had almost entirely disappeared.

After a negative culture the child was released from quarantine on September 28, and was found by Dr. Boyce to have a mild bronchitis of the middle-sized tubes. There was some pallor and a rapid pulse. The abdomen was tympanitic and the stools were of foul odor. These intercurrent affections deferred the operation until October 2. During these four weeks the breathing was normal, except, of course, the usual stridor serraticus. September 28 a blood examination showed hemoglobin 75 per cent. (Tallquist); red cells, 6,780,000; white, 18,000; polynuclear, 73; small mononuclear, 18; large mononuclear, 3; transitional, 8/10; eosinophile, 3 8/10.

Second Operation.—Assisted by Drs. J. H. McCready, J. B. Penrose and John W. Boyce, and with chloroform skilfully administered through the tracheal cannula by Dr. I. H. Alexander, on October 2, the second operation was performed. On removing the cannula for tracheoscopic examination, absolute stenosis followed, owing to collapse of the trachea. The tracheoscope showed a mild acute tracheitis, without edema or ulceration. The cannula was then reinserted. A curved transverse incision was made just below the upper border of the sternum to avoid the tracheal wound. The skin was retracted upward, and the incision carried throughout down to the thymus gland, the sternal attachments of both sternomastoids being severed. The thymus bulged into the wound with each coughing effort. I passed my finger down into the mediastinum, breaking up numerous fine fibrous attachments to sternum, care being taken not to wound the pleura or pericardium. The gland was gradually drawn up with tissue forceps until its tip, which was seen to be drawn in with each inspiration, was turned out of the wound. Several fibrous attachments were ligated and divided, and the lower extremity of the gland was ligated and removed. These manipulations with the finger in the mediastinum were rendered possible by the tracheal cannula, which prevented compression of the trachea; it was noted at this time that the lower tracheal rings were of normal resiliency. All ligatures were attached to the upper border of the sternum and one transverse stitch was passed through the pretracheal fascia and secured to the manubrial periosteum. The sternomastoid tendons were sutured into position and silkworm drainage was passed from end to end of the wound, following which the skin was sutured. A wet bichlorid dressing covered with rubber tissue was applied, and then a bib of oiled silk was placed under the tape holder of the tracheal cannula to try to prevent the coughed-up secretions from infecting the wound. The child stood the operation fairly well, but showed some weakening and rapidity of pulse, while the finger was in the anterior mediastinum.

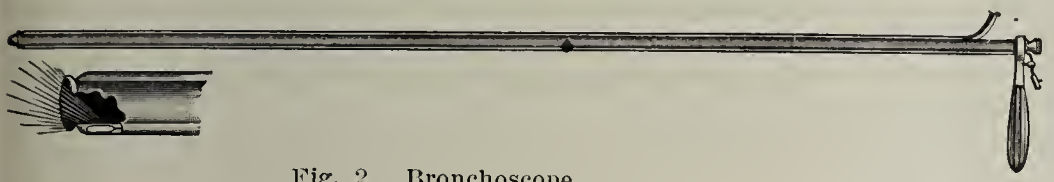
Fig. 2. Bronchoscope.

Postoperative History.—"Patient passed a fair night. Pulse very rapid (over 150), but of good volume. Breathing rapid and irregular. Rattling of tracheal pus prevented satisfactory examination of chest" (Boyce).

The attempt to prevent infection of the wound by tracheal discharge proved futile, as the two wounds were less than 1 cm. apart. The thymic wound healed kindly by granulation, leaving a depressed scar. At each dressing bubbles of clear serum were seen exuding from the mediastinum on expiration, and a probe could readily be passed downward for a distance of 3 cm., but strange as it may seem, this cavity never became infected, which was due, I think, to dressing the wound with wet bichlorid gauze every three hours. This kept the entire wound free from pus. The treacheal cannula was removed on the eighth day after operation. The boy made a slow recovery, due, in my opinion, to the intercurrent affections rather than to the operation. He never showed the slightest stridor after the thymectomy. His last blood examination, three months later, showed: Red, 6,440,000; white, 12,480; hemoglobin, 85 per cent. He was plump and well nourished (Fig. 4).

Histologic Examination.—Dr. Joseph H. Barach examined the gland microscopically and reported as follows: "Section of the specimen showed it to be made up of about equal parts of thymus gland tissues and changed fibrous tissue. Half of the space occupied by the fibrous tissue was composed of hemorrhagic areas, and the lobe as a whole was enveloped in a fibrous tissue capsule under which there was some fatty infiltration. The lymphoid half was divided into lobules separated by fibrous septa; the lobulæ each contained on an average about five corpuscles of Hassal. From this it would seem that the glandular enlargement was due, not to a marked increase in any one element, but that it was naturally large and undergoing the usual changes excepting the hemorrhage."

The upper thoracic aperture in this case was not narrower than normal, as was at first thought possible on account of the old fracture of the clavicle discovered on the radiograph. This fracture must have occurred prior to the child's learning to talk, that is, about two years before the tracheal wound.

The upper thoracic skeletal aperture in a child of this age is very small. Through it must pass the trachea, esophagus, thoracic duct, the innominate, left carotid, left subclavian, internal mammary and superior intercostal arteries, the right and left innominate and inferior thyroid veins, the pneumogastric, sympathetic, phrenic, cardiac and left recurrent nerves, and the longi colli muscles. Besides these, the apices of the lungs, covered by the pleura, crowd upward as far into the opening as they can get. All these structures leave but little room for the normal thymus gland and no space for hypertrophy. In addition, the thoracic opening in a given case may be congenitally small. It is manifestly impossible to insert the little finger through this tightly-filled aperture without compressing the trachea and asphyxiating the patient. For this work in this case I found useful the long tracheal cannulæ that I have used for many years in work on the trachea when stenosed from causes other than thymic pressure.

These cannulæ are made for me in varying lengths and sizes (Fig. 3) for emergencies in tracheo-laryngeal work, but often one especially adapted to the case has to be made, so as to reach the bifurcation without occluding the bronchial orifices. These cannulæ have saved many lives that must have been lost had the ordinary cannulæ been used.

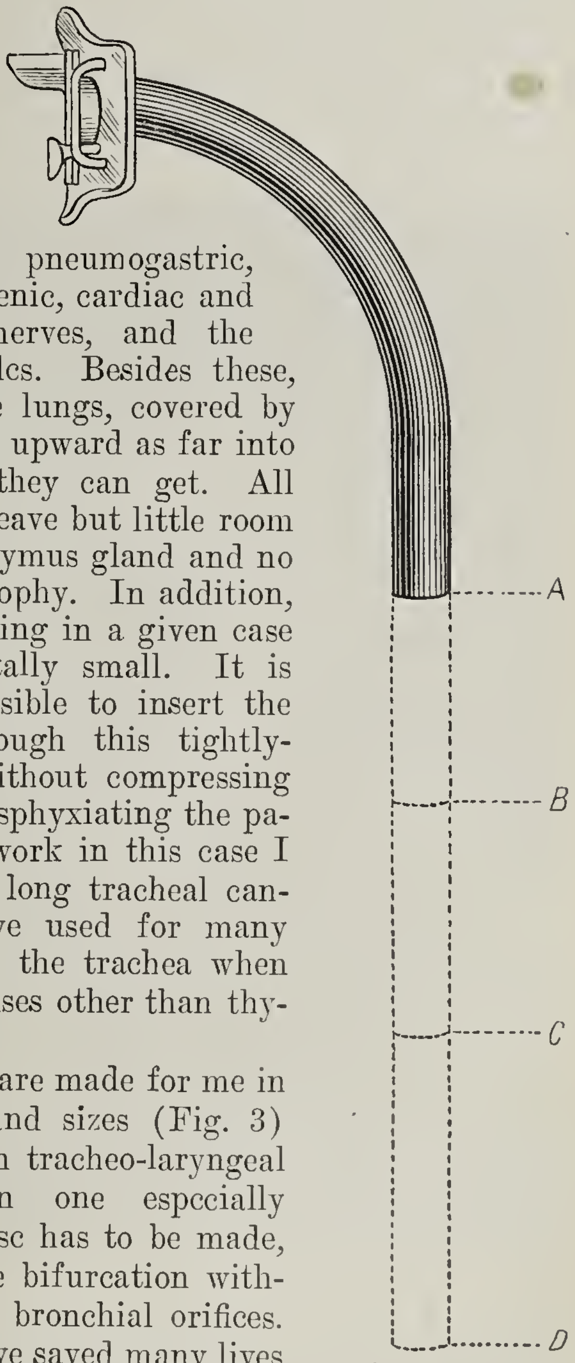

Fig. 3.—Tracheal cannulæ of various lengths.

As to whether the pressure caused by crowding the finger through the already full upper thoracic opening caused a laryngeal spasm or not, I am unable to say, but it did not cause any laryngeal paralysis, as an examination the next day showed the glottic movements to be normal.

SUMMARY.

This is the seventh case on record of the cure of "thymic asthma" by thymectomy, the first case demonstrated radiographically and the only case in which the mechanical pathology of the disease was proved by direct tracheoscopic examination of the living patient.

Thymic tracheostenosis is a more accurate term than thymic asthma and is acceptable, now that the mechanical nature of some cases has been proved. Let thymic asthma be applied to cases supposed to be associated with neuropathic, convulsive, lymphatic, rachitic, hemic or other pathology, if desired, until their exact pathologic mechanism shall have been demonstrated, as has been done beyond doubt in the tracheostenotic case herewith reported.

No patient with thymic tracheostenosis should die of asphyxia if a surgeon be at hand in time, with a very long tracheal cannula, bronchoscope or similar tube which will reach below the obstruction. All the patients who have died after tracheotomy seem from the reports to have died from the want of these long tracheal cannulæ. These cannulæ may be worn indefinitely, but a better procedure in thymic cases is to extirpate the thymus gland, partially or totally, or an exopexy may be done. The long tracheal cannulæ prevent asphyxia from tracheal compression while the finger of the surgeon is passed into the mediastinum to break up adhesions and remove the gland. This removal can not be done satisfactorily by pulling the gland upward with forceps, as the gland would be torn.

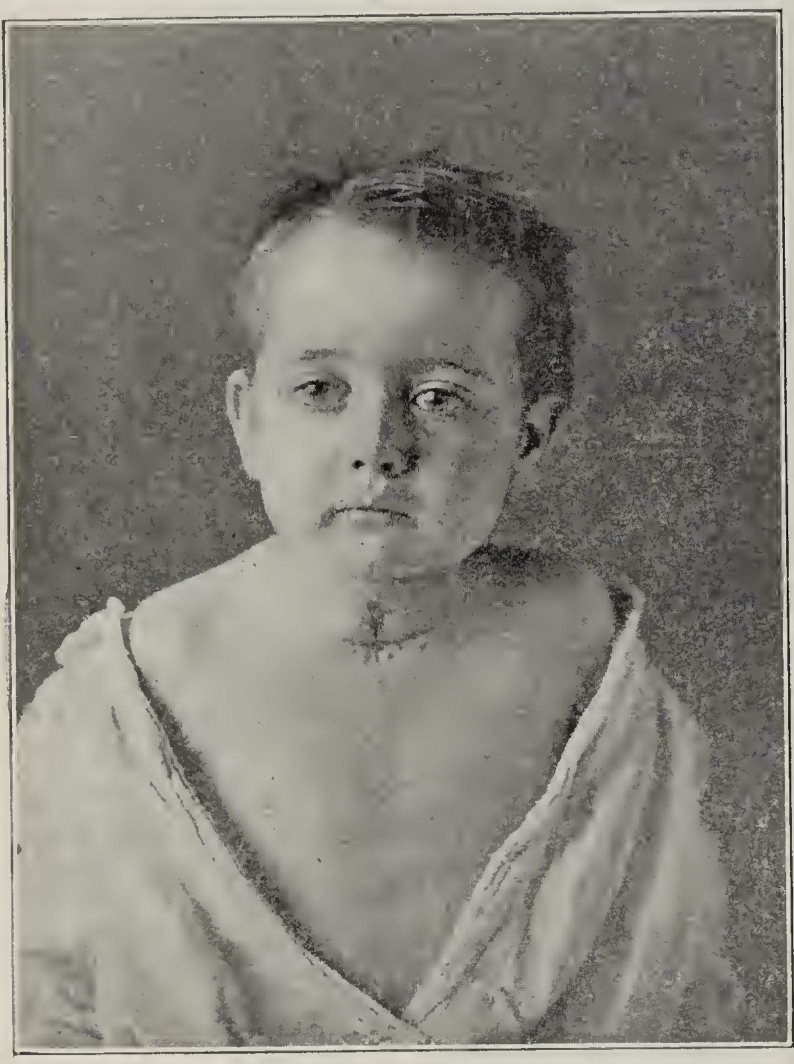

Fig. 4. Patient three months after operation.

CONCLUSIONS.

1. Friedleben's dictum, *es giebt kein asthma thymicum*, is an error. The thymus gland in this case did compress the trachea sufficiently to diminish and to obliterate momentarily its lumen. Thymic tracheostenosis seems a better term for this class of cases.

2. The dyspnea in thymic tracheostenosis is worse in the erect position, and it is expiratory, as might be expected from the increased intrathoracic expiratory pressure, and as demonstrated tracheoscopically in this case. The mechanism of this was demonstrated by the flopping out and in of the elevated gland before it was severed.

3. A radiograph is a valuable diagnostic aid.

4. An absolutely positive diagnosis can be made with the tracheoscope. Upper tracheoscopy is probably not safe in these cases. Tracheotomy should be done under infiltration anesthesia, and should be high, so as to be as far as possible away from the thymectomy wound.

5. A long tracheal cannula, reaching to within a centimeter of the bifurcation, renders the breathing free and the thymectomy safe from risk of asphyxia.

6. Thymectomy is indicated, and is best done by the insertion of the little finger from above downward behind the sternum through a transverse incision after double sternocleidomastoid tenotomy. The insertion of the finger should be of brief duration, as, though the patient with the long cannula inserted is safe from asphyxia, there seems to be serious cardiac inhibition, probably from compression of nerve trunks about the esophagus. One should be careful not to injure the pleura.

7. An almost complete thymectomy is without effect on either the blood or nutrition.

Special Articles

WATER SUPPLY AND PUBLIC HEALTH.

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(*Continued from page 1671.*)

CHAPTER IV.

THE SOLVENT ACTION OF WATER ON METALS.

Lead.—The development of chronic lead poisoning among the users of water which has passed through lead pipes is a well-known and a not very infrequent occurrence. It is also known that certain waters act more energetically on lead than others. In communities supplied with such waters, cases of chronic lead poisoning are occasionally very numerous. A celebrated case is that of towns in Lancashire and Yorkshire in England, that used water derived from peaty moorlands and delivered through lead pipes. The citizens of these towns experienced widespread and mysterious bodily derangements for some years, and it was finally discovered that throughout a considerable period lead poisoning had been prevalent among the inhabitants, although its real nature and cause had remained long unrecognized. In many other places (e. g., Somerfeld, Germany, and Lowell, Mass.), numerous cases of lead poisoning, due to the action of water on lead pipes have been reported. The cumulative action of lead on the system and the varying degree of individual susceptibility to its action conspire to render highly dangerous the use of water containing even small amounts of this substance.

It is undoubtedly true that some waters attack lead more vigorously than others, but all natural waters have some solvent action. Among waters that act with especial solvent power on lead are those containing oxygen or carbon dioxid in solution, oxygen being the more actively corrosive. The peaty acids, which sometimes give a strong reaction to waters from swampy regions, are strongly solvent for lead, and some of the most severe cases of chronic lead poisoning have been traced to waters of this character. It sometimes happens that waters coat the inside of lead pipe with a closely adhering film of mineral substance, but the degree of protection conferred by this deposit is somewhat problematical. In general, soft waters have a greater solvent action than waters containing considerable mineral matter in solution, but there are so many exceptions to this statement and the action of the various factors that determine the corrosive action is so complex that no general rule can be formulated. The only sure method of determining to what degree a given water is plumbo-solvent is by testing the question experimentally, and establishing the amount of lead actually taken up.

Zinc.—Considerable amounts of zinc derived from the zinc oating of the galvanized iron, tanks and pipes are often found n water. In some cases, especially when the water has been n contact with the metal for some time, very large amounts f zinc are found. Opinion is divided as to the deleterious ffect of the continuous ingestion of waters containing small uantities of this metal. There is evidence, however, that it nay at least cause chronic constipation. One definite outreak of rather severe gastrointestinal disturbance has been ttributed to the use of water stored in galvanized iron anks.[15] Under ordinary conditions there would not seem to e very serious danger of poisoning from this source, except hen the water has been in contact with the zinc for a long eriod, as it is in storage tanks or long service pipes.

Iron.—Corrosion of iron pipes may occur to a considerable xtent unless the metal be protected by a coating of some such ubstance as tar or asphalt. In such cases the gradual clogging f the pipe by the formation of a film of iron rust is the most erious thing that is likely to happen. The occurrence of iron n natural waters and the method of removal are elsewhere lluded to.

The action of water on copper and tin seems to be of little anitary importance, although it must be noted that pipes ade of so-called block tin often contain lead.

CHAPTER V.

THE EXAMINATION OF WATER.

Before entering on a description of the methods for determining whether a given water is desirable as a source of public r private supply, it is perhaps worth while to mention briefly ome of the features that constitute a satisfactory water supply. First and most important, is the sanitary quality of the ater. This is best although most crudely evidenced by the ractical exemption from typhoid fever of the persons using uch water; in case this criterion is not available, the extent o which the water is exposed to contaminating influences must e investigated. Finally resort can be had to analytical data.

Other features of a thoroughly desirable public supply are learness and brilliancy, that is, the water should contain ttle suspended matter and should be without marked color. t should also be free from objectionable tastes and odors, and hould not contain excessive quantities of iron which may prouce an unsightly discoloration on standing. From the onomical point of view it is important that a water should ot be too hard, that is, it should not contain very large mounts of calcium and magnesium salts, either sulphates and hlorids, which cause the so-called permanent hardness and re the encrusting constituents and the elements that lead the damage of steam boilers. Nor should it contain large uantities of the carbonates, which cause the alkalinity of ater and the so-called temporary hardness that is removed y boiling. Excessive hardness demands a consumption of ap on the part of those using the water which is most asteful.

It is not a difficult matter to determine whether a given ater possesses certain of these desirable qualities, but the etermination of the sanitary quality is often a rather arduus and difficult undertaking; whereas tests for turbidity, for lor and for hardness are applied with relative ease and intereted with facility, the purity or impurity of a water can ten be intelligently passed on only after a varied and proacted examination. It is obvious that the evidence of the nses is not to be trusted. It is possible to suspend many ousand typhoid or cholera bacteria in water in a thin-walled ass test tube without impairing in the least the quality of e water so far as can be determined by the unaided senses. he deception of the senses is well illustrated in the case of ell waters which, while usually cool, clear, without odor and easant to the taste, are very frequently associated with outeaks of disease.

Owing to the impossibility in many cases of determining e purity of a water by looking at it, smelling of it or tasting it, methods of closer and more searching examination are mmonly necessary. The sanitary examination of water may be conveniently considered under three heads: (1) Environmental, (2) Chemical, (3) Bacterial.

1. ENVIRONMENTAL EXAMINATION.

In a great many cases simple inspection of the surroundings or source of a proposed water supply is sufficient to determine its fitness. No chemical or bacterial examination is necessary to condemn the water of a shallow well in the midst of a densely populated community. The practice of discharging sewage into a lake at one point and drawing out a supply of drinking water at a point not far distant can be safely regarded as a mischievous and dangerous proceeding in the entire absence of any analytical data. The late President Drown of Lehigh University once aptly said in this connection that it does not need a chemical examination to decide whether a stream has been polluted by sewage when one can see the sewage flowing into it.

For a proper interpretation of the results of chemical and bacterial analysis, a knowledge of the source of a water is imperative. It has been supposed sometimes that an analyst might be biased in his estimate of the character of a water by his knowledge of its origin, and in accord with this notion persons submitting a sample of water for analysis sometimes think it necessary to conceal the source. The reason for this mistaken conception is that in the popular mind the analyst is believed to test for definite harmful impurities in water. This, however, is not the case; the opinion of the analyst is based on inferences drawn from the occurrence of relative abundance of various substances or elements that are not in themselves harmful, but which indicate with more or less precision the probable presence of actually harmful constituents.

The importance of a knowledge of the environment of a water in interpreting analytical results is clearly illustrated by the difference between ground and surface waters. As usually distinguished, the ground water is that water which fills the interstices of the soil and forms a continuous layer in the crust of the earth. The level of the ground water is intimately connected with the rainfall and may be a few feet or may be hundreds of feet below the surface of the earth. Since the ground water is rainwater that has percolated through the upper layers of soil, it has undergone in the process a certain kind of filtration and does not as a rule contain much color or suspended matter. Waters of wells, both deep and shallow, and many spring waters are familiar instances of ground waters.

Surface waters are those waters freely exposed to light and air, as seen in ponds, lakes, rivers and small streams. Since permanent streams are fed in large part with ground water and since surface water may sink into the ground and join the body of ground water, no sharp line of demarkation exists. The chemical and bacterial constitution of ground and surface waters, however, is often radically different. Waters exposed to light and air permit the existence of many forms of organic life which are not able to develop in underground darkness. One result is that an amount of organic matter which would be sufficient to cause instant condemnation of a ground water might pass without comment in a surface water. Without a knowledge of the source of a water and of the conditions under which it was collected and transported an analyst may fail entirely to interpret correctly the analytical data that he has secured. Since, as will appear, the value of a sanitary water examination depends solely upon the interpretation and not the absolute quantitative results, a knowledge of the source of a water is of paramount importance.

2. CHEMICAL IMPORTANCE.

Those chemical constituents in a water[16] which afford the most valuable clue to its sanitary character and history are the various organic matters and their derivatives, especially the nitrogenous compounds, and the mineral substance, sodium chlorid or common salt.

The nitrogenous compounds especially are of great importance. Analytical processes of great delicacy are employed for the determination of nitrogen in four forms: These are commonly expressed in the analytical tables in the following manner: Nitrogen as *albuminoid ammonia* or *organic nitrogen*, nitrogen as *free ammonia*, nitrogen as *nitrites* and as *nitrates*. A brief description of the methods ordinarily employed in this country in making these determinations will be given, followed by a statement of the significance attached to the results. The results are conveniently recorded in terms of parts per million (milligrams per liter):

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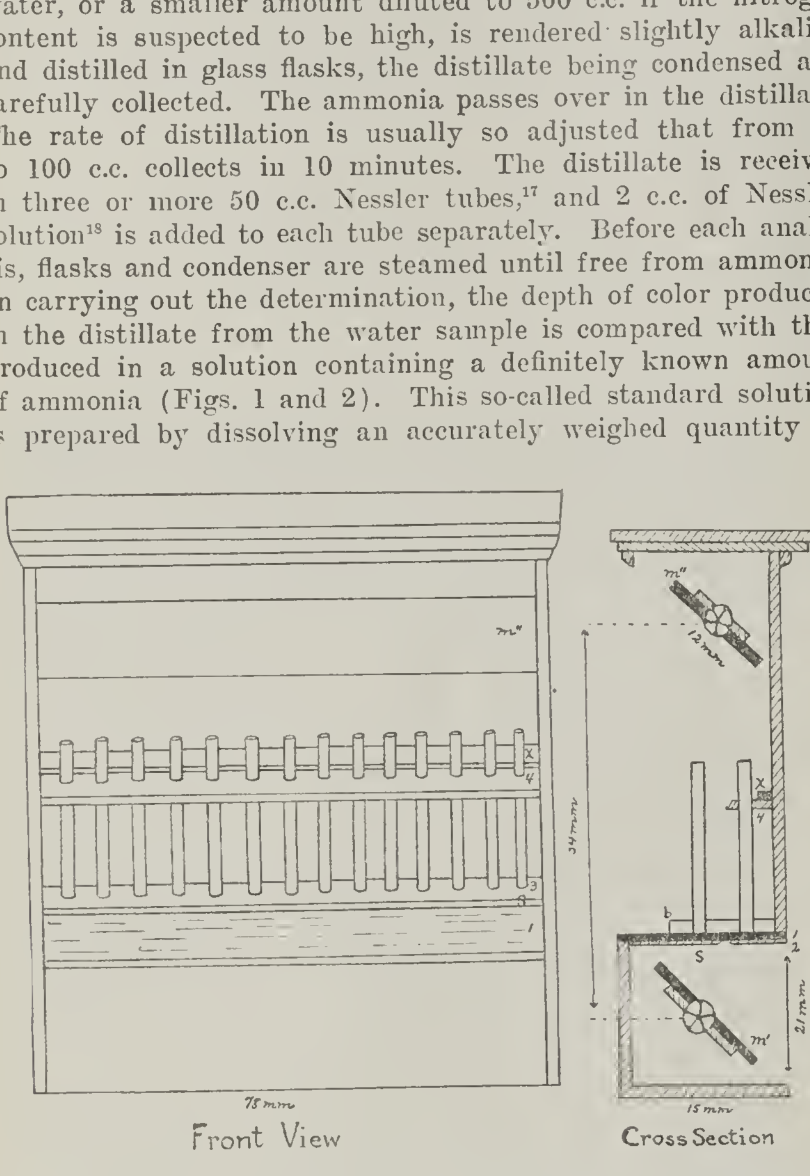
[15] Gimlette, Brit. Med. Jour., Sept. 7, 1901.

[16] The best full description of chemical methods of water analysis is contained in a Report of Committee on Standard Methods of Water Analysis to the Laboratory Section of the American Public Health Association, 1905, pp. 141. Pub. by the Journal of Infectious Diseases, Chicago, $1.

(*a*) *Nitrogen as Free Ammonia.*—Five hundred c.c. of the water, or a smaller amount diluted to 500 c.c. if the nitrogen content is suspected to be high, is rendered slightly alkaline and distilled in glass flasks, the distillate being condensed and carefully collected. The ammonia passes over in the distillate. The rate of distillation is usually so adjusted that from 50 to 100 c.c. collects in 10 minutes. The distillate is received in three or more 50 c.c. Nessler tubes,[17] and 2 c.c. of Nessler solution[18] is added to each tube separately. Before each analysis, flasks and condenser are steamed until free from ammonia. In carrying out the determination, the depth of color produced in the distillate from the water sample is compared with that produced in a solution containing a definitely known amount of ammonia (Figs. 1 and 2). This so-called standard solution is prepared by dissolving an accurately weighed quantity of pure dry ammonium chlorid (3.82 gram in 1 liter) in pure ammonia-free water. In conducting the Nesslerization care must be taken that the distillates and standards are of the same temperature. The Nessler solution is added to the samples and standards simultaneously and the readings taken within one hour.



Figs. 1 and 2.—A front view and cross section of a Nessler cabinet designed to facilitate the comparison of the sample under examination with standard tubes. The standards are placed on a glass shelf and light passed through them to the eye of the analyst by means of the adjustable mirror. For details of this useful piece of apparatus see paper by Stevens and Sackett, Jour. of Applied Microscopy, v., No. 8, 1918.

(*b*) *Nitrogen as Albuminoid Ammonia or Organic Nitrogen.*—To the residue from the last operation alkaline permanganate solution is added and the distillation continued. The distillate may be collected either in tubes or flasks, according to the quantity of ammonia present. The distillate is then Nesslerized and compared with the standards as before.

A more satisfactory method of determining the amount of nitrogen present in organic compounds consists in the determination of the total organic nitrogen by the Kjeldahl process. In this process a measured quantity of the water (250 c.c.) is diluted with a suitable quantity of nitrogen-free distilled water (250 c.c.), rendered alkaline with sodium carbonate as in the free ammonia determination, and the mixture distilled as usual for the removal of all free ammonia. To the residue in the flask is added 5 c.c. of nitrogen-free pure sulphuric acid and the mixture heated under proper precautions until the water is all expelled and the organic matters entirely destroyed. The contents of the flask are then cooled, diluted with 250 c.c. of ammonia-free water and an excess (about 50 c.c.) of strong nitrogen-free NaOH solution added. After thorough mixing, distillation, which at first should proceed very slowly, is conducted in the usual way until about 200 c.c. are collected. Nesslerization of a suitable portion of this distillate is then carried out as before.

The significance of free or albuminoid ammonia or organic nitrogen in sanitary water analysis is due to the fact that the organic substances in the bodies of plants and animals and their excreta are largely composed of nitrogenous compounds. Sewage naturally contains relatively large quantities of these nitrogenous bodies. As soon as these compounds are subjected to the action of bacteria, disintegration sets in and free ammonia, one of the earliest and most conspicuous products of decomposition, is generated. Albuminoid ammonia on the other hand, is not preformed ammonia, but arises from the action of the alkaline potassium permanganate on undisintegrated albuminous compounds characteristic of a less advanced stage of decomposition. Fresh sewage contains a relatively high proportion of undecomposed organic matters and hence of organic nitrogen or albuminoid ammonia, while stale sewage yields more free ammonia. Much discrimination must be practiced, however. The albuminoid ammonia or organic nitrogen found in a water may be derived either from peat or from the bodies of microscopic algæ or from human excreta. The free ammonia, similarly, may have originated from the decomposition of algæ or from that of urine or from the reduction of nitrates in iron water pipes, or may even be due to the presence of mineral salts. In manufacturing centers, rainwater may contain considerable free ammonia taken up from the atmosphere. It is not always easy, therefore, to discover the sanitary significance of either free or albuminoid ammonia. In general the importance of the ammonias in ground water is much greater than in surface water although the water of deep wells is often rich in free ammonia, without there being any reason to impugn the quality of the water. The attempt to establish an arbitrary limit to the amount of free ammonia or organic nitrogen that a potable water should contain is liable to result in frequent misconstruction, and wil often lead to the condemnation of perfectly wholesome waters.

(*c*) *Nitrogen as Nitrates.*—Several methods are in use for the determination of nitrates in potable water. Two only need be mentioned here, one, the phenolsulphonic acid method, the other the aluminum reduction process. The phenolsulphonic acid method consists in evaporating to dryness a measured quantity of the water (100 c.c. or less if necessary), a smal amount of sodium carbonate solution being added to prevent loss from the driving off of nitric acid. To the residue, 2 c.c. of phenolsulphonic acid (conc, H_2SO_4, 148 c.c.; dist. water, 12 c.c.; pure phenol, 24 grams) and an excess of ammonium hydrate (15 c.c.) are added. This forms a yellow substance, ammonium picrate, and the intensity of color produced is compared with tubes of standard colors prepared by treating in the same manner a standard nitrate solution made up with accurately weighed quantities of potassium nitrate. The presence o chlorids interferes somewhat with this process, but this difficulty can be surmounted by determining the amount of chlori in the water under examination and adding an appropriat quantity of a standardized sodium chlorid solution to th standard sodium nitrate solution used in the determination.

The aluminum reduction method is preceded by the remova of the free ammonia from the water by boiling. After cooling a strip of aluminum foil is introduced into the water which i then placed in a water bath at about 35 C. The reduction o nitrates and nitrites to ammonia is usually complete in about 12 hours. The contents of the reduction tube, are then transferred to a distillation flask, suitably diluted, and distilled and Nesslerized in the usual manner. Proper deduction being made for the nitrites present, the amount of nitrate that has given rise to the ammonia by the reduction process with the aluminum can be readily computed.

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[17] Nessler tubes are flat bottomed tubes of clear glass which hold something over 55 c.c. and should be so selected as to have a uniform distance (about 8½ in.) between the bottom and the 50 c.c. mark.

[18] This reagent is prepared by adding a saturated mercuric chlorid solution to potassium iodid solution (50 grams in minimum amount of cold water) until a slight but permanent precipitate appears. Potassium hydrate (400 c.c. of 50 per cent. solution) is then added and the solution diluted to one liter. The solution improves on standing, and will give a yellow-brown color with very small quantities of ammonia or ammonium salts. The formula is as follows: $2(KI, HgI_2) + NH_6 + 3KO\ H = NHg_2IH_2O + 7K + 7KI + 2H_2O$.

(*d*) *Nitrogen as Nitrites.*—The method proposed by Griess is the one most in use at present. It depends on the formation of a red color due to the azobenzolnaphthylamine sulphonic acid a substance produced by the addition of sulphanilic acid and amidonaphthalene acetate to an acidified solution of nitrite.

These solutions may be added separately or mixed. The water to be examined is acidified, the sulphanilic acid and naphthylamine hydrochlorid added, and the mixture set aside for about 30 minutes. The depth of the pink color that develops is compared with the color produced by the same procedure in accurately standardized solutions of sodium nitrite. The sodium nitrite is best prepared from silver nitrite in order to insure its purity. The nitrite test is exceedingly delicate and is able to reveal the presence of one part of nitrogen as nitrite in 1,000,000,000 parts of water. Fluids exposed to the air, especially to the air of a room in which gas is burning, often absorb much nitrous acid, and the determination may be completely vitiated by lack of adequate precautions.

The amount of nitrates and nitrites found in natural waters often sheds considerable light on the sanitary character of the water. The importance of these substances is due to the fact that the salts of nitrous and nitric acids form important links in the cycle of nitrogen on the earth's surface. Briefly stated, this cycle consists in the decomposition of organic nitrogenous compounds by the agency of bacteria with the consequent production of free ammonia which is itself then oxidized, by particular species of bacteria, to nitrites; these in turn are oxidized to nitrates. The term nitrification has been applied to this process. The fully oxidized nitrates may now serve as food for green plants, either microscopic algæ or higher forms, and the nitrogen may thus again be converted into organic nitrogen. The appearance of nitrites in a natural water often indicates, therefore, the presence of one of the earlier stages of the decomposition process and in a great many instances the presence of nitrite has been found associated with a water of a suspicious or highly deleterious quality. The completely mineralized nitrates, on the other hand, frequently have little or no sanitary significance. When present in marked excess, indeed they may show that pollution of the water has occurred in the past, but that it happened at a relatively remote period. Nitrates in large amount in a well water, together with other evidence, may indicate that the well receives at times contaminating matters, but does not necessarily give any clue as to the date at which such contamination last occurred. To summarize, the nitrogen compounds not only by their quantity furnish some information in regard to the extent of pollution, but by the state or stage of oxidation in which they are found give important testimony as to the recentness or remoteness of the pollution.

The Oxygen Consuming Capacity.—This determination is based on the ascertainment of the amount of oxygen required to oxidize the organic matter in water and is concerned chiefly with the organic carbon. The estimation is made by acidifying with sulphuric acid (10 c.c.) a measured quantity of the water (100-200 c.c.); 10 c.c. of standard potassium permanganate solution (0.4 grams per liter of distilled water) is then added and the sample allowed to remain in boiling water for a definite period, more permanganate from a burette being added if necessary to prevent complete loss of color. In all comparative work the period of heating must be precisely the same, whether 2, 10 or 30 minutes (preferably the latter.) The longer the boiling process is continued the greater the amount of oxygen consumed and the higher are the results. After removing the sample from the water bath, a measured quantity (10 c.c.) of ammonium oxalate solution (0.888 gram in 1 liter; 1 c.c. is equivalent to 0.0001 gram of oxygen) is added to destroy the color, and then standard permanganate solution is run in from the burette until a faint pink tinge again appears. From the total amount of permanganate solution used up, less that neutralized by the oxalate solution, the amount of oxygen required to oxidize the organic matters in the water can be computed. This process has only relative value, and in any given series of analyses, quantity, time and temperature must be made strictly uniform.

Chlorin.—The determination of chlorin, like volumetric determinations in general, depends on a color change. When a solution of silver nitrate is added gradually to a solution of a chlorid which has been colored yellow by the addition of a little potassium chromate, white silver chlorid will be precipitated until the last trace of chlorin has entered into combination, at which point a red coloration due to the formation of silver chromate will begin to appear. The chlorin ordinarily found in natural waters occurs in the form of common salt, the presence of which may be due to either mineral salt deposits or to the entrance of sewage. In well waters near the sea, chlorin is found in greater abundance than in similar waters inland. In some parts of the country, e. g., Massachusetts and Connecticut, the "normal" chlorin has been definitely determined, that is to say, it is known what amount of chlorin is normally present in the unpolluted well and spring waters throughout the territories examined. The significance of chlorin in sanitary water analysis rests on the fact that any excess of chlorin over and above the normal chlorin of the region is often derived from sewage, sink drainage or other sources liable to harbor dangerous elements. In those localities for which the normal chlorin has been satisfactorily ascertained, chlorin determinations, consequently, may afford very important evidence in respect to the amount of undesirable drainage that has entered a water.

On the data secured by the analytical processes above described, the sanitary chemist places his chief reliance in forming his opinion concerning the sanitary character of a water. It may be noted that all these criteria are empirical and relative, not absolute and final. The nitrites, chlorin and other substances for which the chemist tests are not found in ordinary waters in any such quantity as could conceivably produce injurious effects of any kind. The chemical constituents that are sought for in sanitary water analysis are not in themselves the dangerous elements in polluted water, but their presence and relative abundance merely supply indications more or less precise as to the sanitary quality of a water or its liability to become contaminated.

It follows from the foregoing that any attempt to maintain fixed standards of chemical purity in sanitary water analysis or to condemn in a mechanical fashion waters that contain certain constituents in apparent excess is based on a fundamental misapprehension. Beef tea or eggnog may contain amounts of albuminoid ammonia and chlorin far above the amount that would be thought admissible in a potable water, and are none the less wholesome. Interpretation of the results of chemical analysis can only be warranted by a careful study of all the data obtainable and, as has been pointed out, a correct interpretation is often impossible in the absence of information concerning the source and surroundings of the water sample. So important, in fact, has this environmental examination become that in recent years investigators often lay little stress upon either chemical or bacterial examination in cases in which data can not be obtained regarding the collection, transportation and sources of a given sample. The chemical examination, in particular, is considered to-day as a substantial aid in supporting a judgment as to the character of a water rather than as the sole basis on which an opinion can be formulated.

(*To be Continued.*)

Inhalation of Oxygen in Vomiting of Pregnancy.—The *Journal de Méd. de Paris* for Sept. 30, cites Mayor to the effect that he has witnessed remarkable benefit from inhalation of oxygen in the uncontrollable vomiting of pregnancy. Improvement was evident after the first inhalation of from 5 to 10 liters, and after a few more applications normal conditions were restored.

CONCENTRATION OF EFFORT IN MEDICAL SOCIETIES.

A. L. BENEDICT, A.M., M.D.

BUFFALO, N. Y.

In spite of the utmost conservatism in joining organizations, I find that, beside belonging to the county, district, state and national organizations in affiliation with or rather component parts of, the American Medical Association, I belong also to four other distinctly medical societies. This does not include honorary membership, or *de facto* alumni membership in five or six others, and membership in one or two scientific organizations bearing somewhat closely on medicine. There are also, at least five other, distinctly medical organizations, in which I ought really to have membership, if I followed the advice of my friends and my own first inclination.

From this personal experience it is obvious that any fairly active physician might easily and without pushing himself in the least, hold membership in twenty-five or thirty medical organizations, while it is altogether probable that one with the instincts of a "joiner" could increase the list well toward a hundred.

It seems pertinent to question whether such diffusion of energy is economic. It needs no argument to establish the fact that specialization of interest is necessary in medical as in other organizations. On the other hand, such specialization is, to a large degree, compatible with unity, subject to the establishment of sections, more or less completely separated from the main body.

In my home city, which is doubtless typical of most cities of the first and second magnitude, the most active medical work is done by a local academy of medicine, open to all physicians in good standing who have had two years' practice. Practically, even this restriction amounts to little as, from the beginning of practice, physicians are not only welcome but are urged to attend meetings and, in the face of some individual opposition, even undergraduates are frequently present and have, on a few occasions, presented papers. While known as the Buffalo Academy of Medicine, membership is enjoyed by many out-of-town members.

Since the fusion of the state society and the association, the membership of the academy is practically identical with that of the county society. Curiously enough, there formerly was a controlling element in the latter organization which was not especially interested in the scientific and literary aspects of medicine, and this early precedent has been perpetuated to some degree, in that business rather than medical science marks the meetings of the county society. There are in the city also five or six, perhaps more, semi-social clubs of physicians, nearly or quite all of which do excellent medical work.

Now, independently of the belief that every good-sized city ought to be a county, in the political sense, I would raise the question, not in any local way, but as a general principle, why the dues, organization and scientific and social momentum of all these essentially local units should not be combined? It would then be possible to have one great society, with authority to throw its influence in any desired direction. This could be exerted in securing legislation or municipal and county sanitary reforms, combining social and scientific features—the former having for some years been a recognized function of the academy—and enjoying, at a less average total per capita tax, a much larger income than have any of the separate societies. It would thus better be able to supply the urgent demand for permanent quarters, an adequate medical library, and other advantages for which cooperation is necessary.

Unquestionably convenience and common sense would dictate that such a united society should not exercise all of its functions at any one meeting. For that matter the by-laws of both the county society and the academy provide that certain business shall be transacted at specified meetings and the academy resolves itself, on four successive meetings in each month, into sections for considering various subdivisions of medical art and science.

In this state, as doubtless in others, there are several societies covering areas analogous to those of the district branches of the state society. At the risk of seeming inconsistent, I would advocate the retention of the former, rather than the latter. This view is based on three grounds: 1. As a matter of practical experience, the independent organizations seem to be more enjoyable, interesting and valuable. 2. There is no urgent need of a formal, official organization intermediate between the local and the state societies. 3. While no serious, nor indeed in my opinion any, indications of officialism menace the profession from the present workings of the huge machine of the American Medical Association, it is not a bad plan to have an independent check on any possible tendency in this direction.

A considerable number of special organizations commonly meet in connection with the American Medical Association and for the most part to their mutual advantage. Some of these organizations, as of editors, examiners, etc., and the American Academy of Medicine, obviously can not be affiliated officially with the American Medical Association. There remain, however, a considerable number of national societies, having no exclusive requirements for admission, some meeting at the same time and place as the national organization, others independently, which might well be reorganized as special sections of the American Medical Association. In the same way a local medical society, beside the commonly recognized divisions of medical art and science, might have smaller sections to carry on certain lines of study in which the majority of the members would not be interested.

This leads me, with some hesitation, to raise the question whether it is advantageous to have medical societies whose principal reason for existence is the establishment of a medical aristocracy. In using this expression, I want to be understood in the literal sense and not as a demagogue, making an "impassioned appeal to the peepul" in a Fourth of July oration. Note, therefore, that I do not imply an answer to the question. It must candidly be admitted that up to a few years ago—almost exactly to the year 1900—there was need of medical organizations to discuss more serious issues and in a more authoritative way than could be done at the meetings of the American Medical Association. This need probably always will exist for expert laboratory investigators along certain lines but, so far as the various branches of clinical medicine are concerned, it ought to be seriously and frankly considered, whether (1) better results can be obtained by exclusive standards of membership or by mingling men of quite diverse degrees of attainment in the same society; (2) whether it is feasible and advisable to allow the establishment of special sections of the American Medical Association requiring special attainments or greater or less limitation of practice; (3) whether in general medicine and surgery it is advisable and economic for approximately the same nucleus of leaders to maintain two distinct organizations, of different grades of exclusiveness, and if so (4) whether these gradations should be recognized tacitly as calling for different grades of scientific work.

As stated, I do not pretend to decide these questions for others nor even for myself in an offhand way. To avoid the suspicion of having raised a rhetorical question that requires a certain answer, I would confess that the declaration that all men are born free and equal appeals to me as the expression of an aspiration rather than as a fact. Moreover, there are times when one may humbly and sincerely thank God that he is not as other men are. But it does seem to me worth while to consider carefully whether there is sound practical wisdom in carrying on all of the multitudinous independent medical organizations that we have at present. I feel that consolidation and unity along truly democratic lines should be favored unless there are cogent reasons to the contrary. It is only in a society with liberal requirements as to membership that great minds can exert their best influence and receive the greatest credit, by virtue of the educative value of such societies to minds of less power.

A multiplicity of organizations is expensive, directly in money and in time, neither of which is superabundant with physicians. The mere matter of dues is a minor factor and yet, by itself, it would double the efficiency of the profession as a whole, so far as available funds for functional activity are concerned. I am perfectly willing to confess that the financial loss in traveling expenses, hotel bills and loss of practice, in making two or three separate trips to attend medical meetings that might be united, would be a determining argument in leading me to vote for the amalgamation of such societies whenever practicable. A purely statistical study of medical polity leads to the belief that at least 90 per cent. of the medical profession must be seriously influenced by such considerations. I do not claim to have a practice of extraordinary magnitude, and yet there have been numerous occasions when I have been obliged to miss meetings of importance because either sound business reasons or professional responsibility or even a sentiment of humanity, or all three, kept me at work at home. The indifference to these considerations implied by the readiness with which medical meetings are multiplied, is something that amazes the doctor in active private practice. It seems proper to mention this personal opinion since, if it is the experience of a specialist with comparatively little emergency practice, it must apply *a fortiori* to a surgical specialist and to the general practitioner.

But such reasons for medical concentration are of very insignificant importance as compared with the possible results of unity of effort, condensation of literature, consequent facility for keeping track of medical progress and the economy of executive effort. There is no question but that unity of the profession in the State of New York was delayed for years after it was desired by the great majority of both organizations, simply by the fact that two societies appealed to the personal vanity of would-be medical politicians. Now there must be men to conduct the affairs of all organizations and, even in medical societies, there is inevitably a class of men who crave offices for selfish and petty reasons. But, the larger and the greater the society, the less will be the influence of the medical politician, the less opportunity will there be for him to exist, the more useful will he be, whatever the fault in his motives, and the greater will be the tendency to recognize genuine executive ability and to breed true statesmanship, as well as to honor with offices, men of influence, in strictly medical and scientific ways.

Clinical Notes

A SIMPLE METHOD OF EXCISION OF THE FAUCIAL TONSIL.*

THOMAS CHEW WORTHINGTON, M.D.
Surgeon to the Baltimore Eye, Ear and Throat Charity Hospital.
BALTIMORE.

The tonsil lies lengthwise between the two palatal arches; superiorly it is buried in the "supra-tonsillar" fossa and it extends downward as far as the base of the tongue, where as lymphoid tissue it may reach much lower and be lost in the lateral pharyngeal wall. It may be closely adherent to one or both pillars, and either lie clearly in view or be embedded between the arches, and be well covered or obscured by the adherent fold from the anterior pillar, known as the plica-triangularis. That the diseased tonsil should be removed from its matrix or bed as completely as possible does not now admit of argument, and in bringing this subject before the Section this evening nothing new is claimed except the method of excision. The improvement in the operation which I shall describe consists in its simplicity, chiefly through the use of the Seiler knife (Fig. 1), double-edged, curved on the flat and devised for septal work. This, with four other instruments, the tongue depressor, the tonsillar syringe, the Myles tonsillar punch forceps and the Pynchon tonsillar forceps, enables us to make a rapid and clean excision. The operation to be described is applicable to any form of tonsil. As you well know, there are great differences in form and the difficulties of removal likewise vary greatly. To illustrate the operation I shall describe the tonsil that is the most difficult of all to remove. This variety of tonsil is buried deeply in the supra-tonsillar fossa, and is in close contact with the uvula, extending well below the base of the tongue, adherent to the posterior pillar in its entire length, and almost completely enveloped by the triangular membrane, which is so thick as to obliterate the anterior palatal arch, even on close inspection. In beginning this operation on, I will say, the left tonsil, the surgeon will use the tongue depressor with his right hand, with the left the adrenalin-cocain solution should be injected well around the gland, particularly in the supra-tonsillar fossa, and in the lower third, where the lymphoid tissue about the base of the tongue is sensitive and bleeds easily. Should the anterior pillar or membranous fold be drawn too closely over the tonsil, the injections should be made through the pillar. If this procedure is carried out properly, the operation is painless and practically bloodless.

Fig. 1.—The Seiler knife—about ½ size.

The patient then holds the tongue depressor, the operator, with the Pynchon forceps in the left hand, seizes and draws downward and forward the extreme upper part of the tonsil, at the same time severing, with the Seiler knife held in the right hand, the attachments to the fossa (Fig. 2). The tonsil is then seized at a lower point, but pulled on very lightly, while the knife is drawn firmly down its length just within the anterior pillar, completely dividing the triangular fold and disclosing the glandular tissue within (Fig. 3).

Should the posterior pillar be adherent as in the case under description, the knife is taken in the left hand, and with the forceps in the right the tonsil is pulled forward and outward, at the same time severing its adhesions with the pillar (Fig. 4). The knife is again changed to the right hand and with the forceps in the left, drawing strongly on the tonsil, with a few strokes the excision is completed. The forceps are then used to discover any remnants large enough for removal with the knife. Or the Myles tonsillar punch forceps may be used, and are particularly useful in completing the work in the fossa and in removing any superabundant lymphoid tissue left as a continuation of the tonsil down the pharyngeal wall. The time occupied in the local anesthesia for both tonsils depends on the patient and the syringe and will average about ten minutes. The time necessary for the actual operation on both tonsils should be from two to six minutes. There is usually, during the peritonsillar injection, a period of high arterial tension, due to the adrenalin preparation, quickly followed by faintness, which almost as quickly passes off.

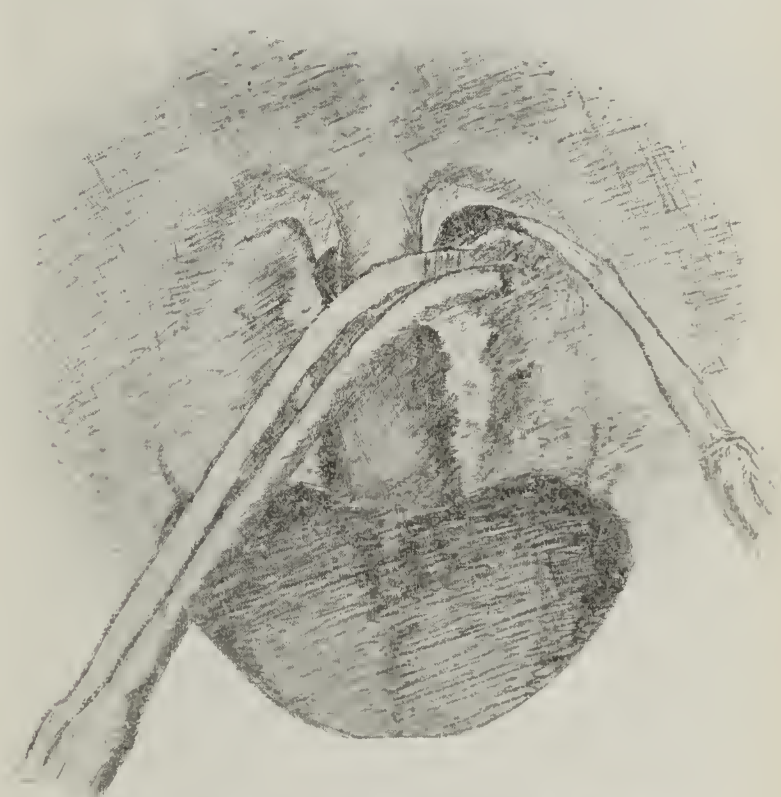
Fig. 2.—Severing the attachments to the fossa.

I have found a dental obtunding syringe, sterilizable, and with a long, specially-made needle, the most useful. The syringe should be held with the barrel between the index and middle fingers, and the broad flat head of the plunger against the palmar surface of the thumb, as used by dental surgeons. This gives complete control of the instrument.

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* Read before the Laryngological Section of the Maryland Medical and Chirurgical Faculty, March 22, 1907.

The solution which I have found most satisfactory is made up of one part of a standard suprarenal preparation to six or eight parts of the following solution: Modified spray, Seiler, 1 part; distilled water, 2 parts; cocain muriate, two-thirds of 1 per cent.

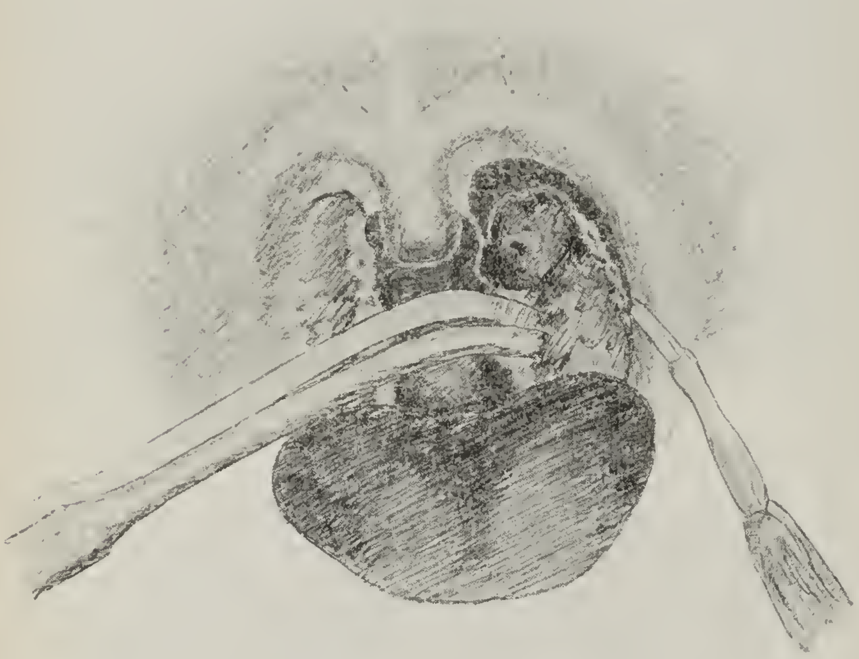


Fig. 3.—Dividing the triangular fold.

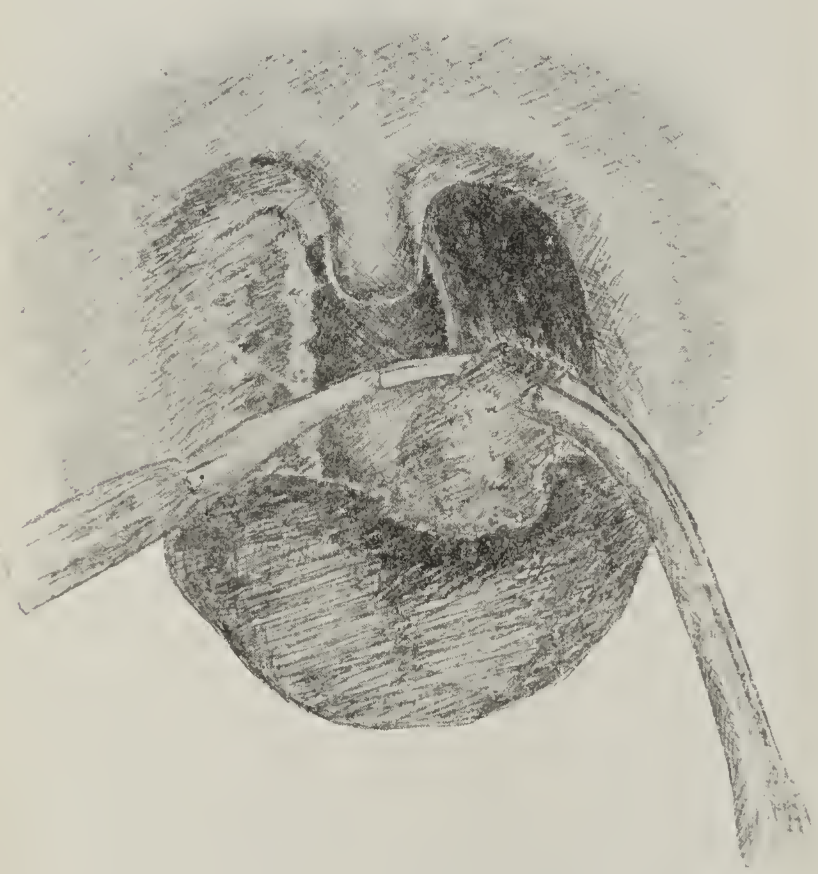


Fig. 4.—Severing attachments to posterior pillar.

The solution can be further diluted, but usually at the expense of pain and bleeding. The operation is greatly facilitated by holding the knife in the right hand for the left tonsil and in the left hand for the right tonsil. The convexity of the knife should, with rare exceptions, be kept away from the tonsil and its point closely watched to prevent wounding the posterior arch or the root of the tongue, both of which are easily injured. The reaction is about as great as in other operations on the tonsils.

I have described the operation as performed with a local anesthetic because this quite suffices to make the operation painless and because it is easier, less bloody and therefore preferable. In many cases, however, we are obliged to do the operation under general anesthesia. The anesthetic I prefer in these cases is ether. But even when done under general anesthesia it is necessary to inject the tonsillar region as described above with the adrenalin solution diluted in about the same proportion with sterile water so as to lessen the hemorrhage.

After a most complete dissection by this or other methods, some tonsillar tissue almost always appears after healing, especially in the lower third, near the base of the tongue, which, unless diseased, should not be closely resected, as its purpose is partly for support, and the greatest danger from hemorrhage is in this region. I have found the glycerite of tannic acid very useful, applied directly after operation, to be followed for several days by the frequent use of a cleansing mouth wash and gargle.

As to the after-treatment, I would add that I consider it best to keep the patient in bed for several days.

The operation as described has been performed in many cases at the Baltimore Eye, Ear and Throat Charity Hospital thus far with uniform success.

1022 Madison Avenue.

ICTERIC PRURITUS.

J. PHILLIP KANOKY, M.D.
Professor of Dermatology, University Medical College.
KANSAS CITY, MO.

Itching, even when intense in character, is too frequently a concomitant symptom of jaundice to elicit much comment. The following instance, illustrative of a certain class of patients who seek the dermatologist for relief, is exceptional enough to warrant a more than passing interest:

History.—Mr. P. was referred to me in November, 1906. He was 50 years old, married, a bookkeeper by occupation, and his general health had always been fairly good. At the age of 35 he had experienced a short series of painful attacks of indigestion, but there had been no recurrence. His complexion has been sallow and the sclera somewhat yellow even since he can remember. For the past ten years his weight has remained practically the same, 137 pounds. Appetite and digestion are good. At times the feces have been lighter in color than normal, this being marked when he first consulted me. In July, 1906, he suffered from "chills and fever," but blood examinations failed to show the presence of malarial parasites. These attacks did not respond to medication (quinin and arsenic), but continued to occur at irregular intervals. The rise of temperature was seldom over 1.5 or 2 degrees F.

Examination.—Heart action was good, 65 to 80 a minute; blood pressure was 135 mm. Hg. (Riva Rocci). A careful examination of the urine by a competent pathologist failed to reveal the presence of any abnormal condition. It was claimed at one time, prior to my seeing him, that a glycosuria was present. The only thing complained of by the patient was an intense itching over the entire body. He had suffered from it for over a year in spite of the efforts of eleven different physicians and the use, either locally or internally, of almost every imaginable remedy. So severe was the pruritus and so intense the suffering that the surfaces within reach of the hands were torn and streaked with bloody scratches and the patient was almost worn out by loss of sleep. The itching was worse at some times than others, but the exacerbations could be referred to no definite hour in the day. A diagnosis of gall-duct obstruction was made, probably due to stone. A skiagraph was taken by Dr. O. H. McCandless and the shadows of two cholelithiac masses were found about 8 cm. apart.

Treatment and Result.—A cholecystotomy was performed and a large ball-valve stone removed from the common duct, in addition to a mass of smaller stones in the gall-bladder. Unfortunately the patient lived but a few days afterward, long enough, however, to become free from the intolerable itching which had been the indirect cause of the operation.

HERNIA OF THE ADDUCTOR POLLICIS MUSCLE.

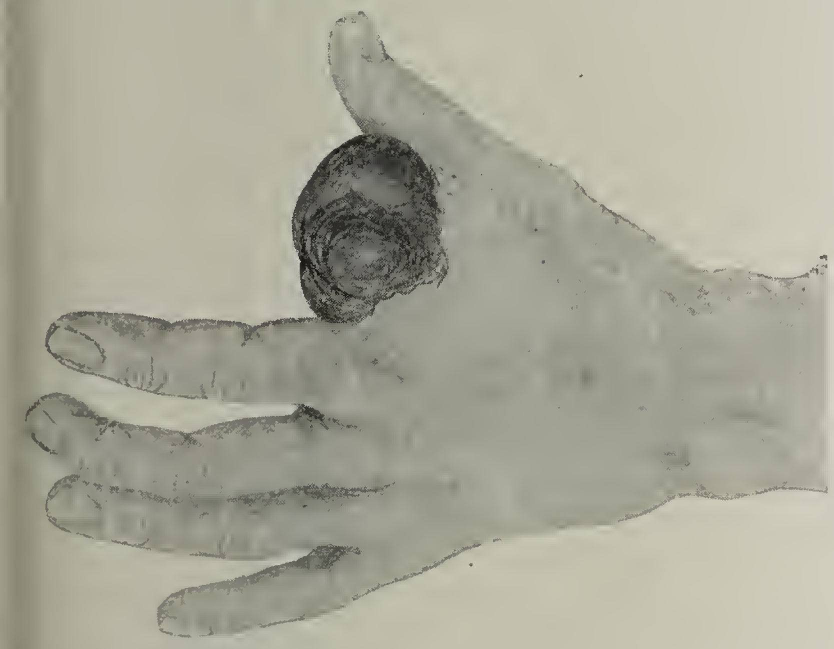
J. CLARK STEWART, M.D.
MINNEAPOLIS.

This unique and interesting case came into my City Hospital service, and is reported on account of its rarity and because of the unexpectedly good functional result:

History.—C., male, aged 19, in the employ of an ice company, had his hand caught between two blocks of ice and severely pinched. He tied it up and came at once to the ospital.

Examination.—The hand was found bruised but without injury to the skin except between the thumb and forefinger, where there was a ragged hole, completely filled by a protruding mass, which twitched both spontaneously and on irritation.

Treatment.—The patient was anesthetized and the hernial mass was found to be the adductor pollicis muscle, which was ompletely detached from its origin on the third metacarpal one, but still remained attached by its tendonous insertion. As the motor nerve was found to be dissociated from the nuscle, the latter was cut away close to its insertion and the ound sutured and drained.



Result.—The boy made a good recovery and had a very satisactory restoration of the function of his thumb.

INTRAVASCULAR PHAGOCYTOSIS IN INFLUENZA.*

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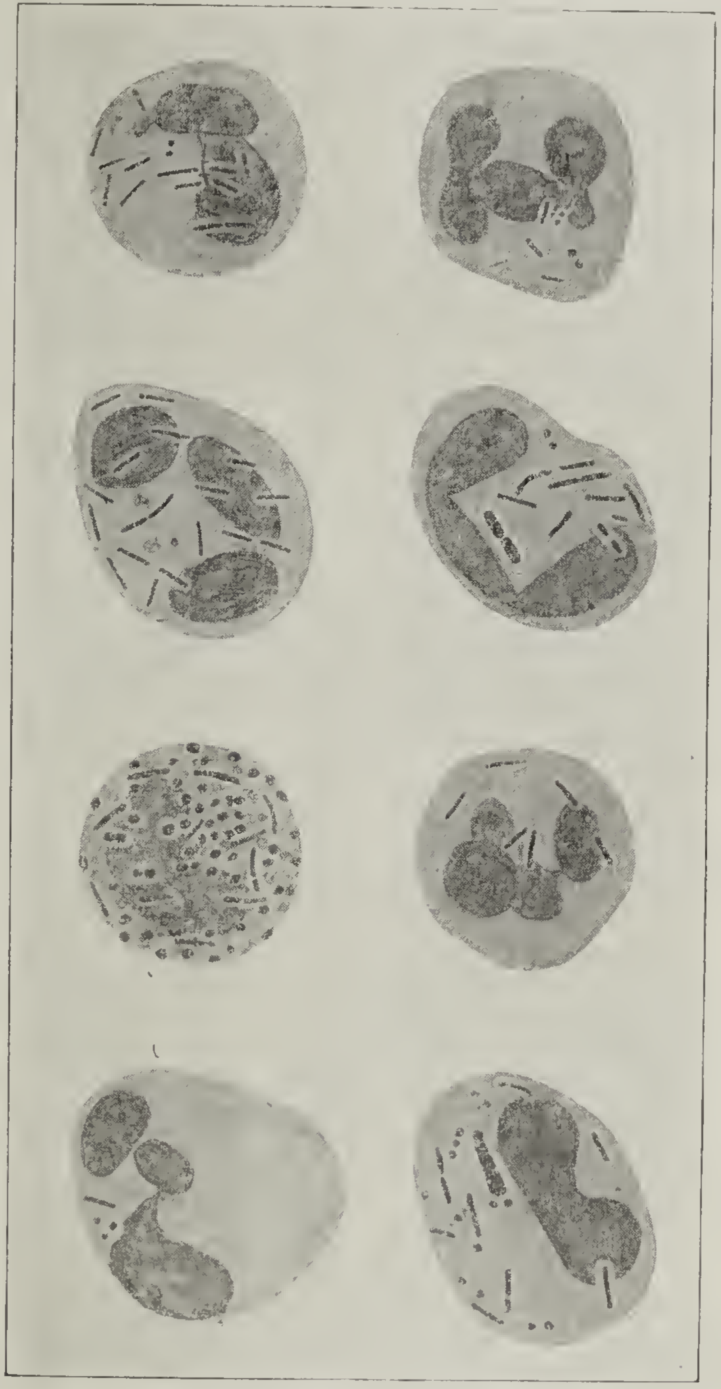
Associate Professor of Pathology, Indiana University.
AND
HAROLD O. RUH.
Assistant in Pathology, Indiana University.
BLOOMINGTON, IND.

This paper is designed simply to put on record a very triking example of phagocytosis observed in a case linically diagnosed as influenza. We regret that the ata are incomplete, but the phenomenon was not disovered in time for more complete observation.

History.—On the evening of Feb. 23, 1907, one of the workrs in the laboratory was taken ill with a slight fever, headhe, coryza, sore throat, cough, muscular pains, and mental epression. No physical or microscopic examination was made. he patient, a man, received no treatment, except a restricted diet, rest in bed, and frequent hot baths. The illness was regarded as a fairly severe case of influenza, an epidemic of which was prevalent at the time. Twenty-four hours later one of his tonsils became slightly involved, and discharged a necrotic mass, but at no time was the tonsil painful or swollen. The fever continued till the evening of February 26.

Blood Examination.—On the morning of February 27 the patient visited the laboratory; he complained of no symptoms except a slight cough and headache, and a feeling of weakness. About 20 c.c. of blood were drawn from his arm by means of a hypodermic needle and a small bleeding flask on this day. This blood was immediately defibrinated by means of glass beads, and was used in a complex experiment in phagocytosis. About forty smears of this blood were made. These were stained, twenty-four hours later, by Wright's method, when it was found that every polymorphonuclear leucocyte present was filled with cocci and small bacilli; the number varying from five or six to fifty or sixty in each leucocyte. Eight of these leucocytes are shown in Figure 1. Many of the leucocytes were vacuolated and the bacteria were apparently in various stages of intracellular digestion. The above work, of course was done under strictest aseptic conditions, and outside contamination was impossible.



Polymorphonuclear leucocytes in influenza.

February 29: When the patient's blood was examined on this day, smears stained by the same method showed the leucocytes apparently normal in every way, and free from bacteria. At this time the patient was free from symptoms, except a slight mental depression, which disappeared five or six days later.

In a case clinically diagnosed as influenza with slight tonsillar involvement, marked phagocytosis of bacilli and cocci was observed in the circulating blood twelve hours after the cessation of fever.

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* From the Pathological Laboratory of Indiana University.

TABLE A.—PHYSICIANS EXAMINED BY S

Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Connecticut.		6 Delaware.		7 D. of Columbia.		8 Florida.		9 Georgia.		10 Idaho.		11 Illinois.		12 Indiana.		13 Iowa.		14 Kansas.		15 Kentucky.		16 Louisiana.		17 Maine.		18 Maryland.	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	ALABAMA.																																				
1	Birmingham Medical College.—R.	10	0					1	0							2	0																				
2	Medical College of Alabama.—R.	24	0													2	0																				
	ARKANSAS.																																				
3	Arkansas University Medical Department.—R.					1	0									1	0																				
	CALIFORNIA.																																				
4	Cooper Medical College.—R.							31	1	1	0																										
5	University of California, Medical Dept.—R.							18	1																												
6	California Medical College.—E.							1	3																												
7	Hahnemann Medical College of the Pacific.—H.							5	0																												
8	College of Physicians and Surgeons.—R.			2	0			14	8											2	0																
9	Oakland College of Medicine and Surgery.—R.							4	0																												
10	Univ. of Southern California, Coll. of Med.—R.			3	0			20	6																												
11	College of Phys. and Surgeons, Los Angeles.—R.							4	0																												
	COLORADO.																																				
12	Denver and Gross College of Medicine—R.							0	2													1	0					0	1								
13	Denver Homeopathic College.—H.																																				
14	Colorado School of Medicine, Boulder.—R.																			2	0																
	CONNECTICUT.																																				
15	Yale University Medical School.—R.									10	0															1	0										
	DISTRICT OF COLUMBIA.																																				
16	George Washington Univ., Dept. of Med.—R.									1	0			30	16					1	0			1	0									2	0	8	1
17	Georgetown Univ., School of Medicine.—R.			1	0					1	2			11	7					1	0															1	0
18	Howard University, Medical Department.—R.	1	0					0	1					5	4	1	0	2	0									1	0							2	0
	GEORGIA.																																				
19	Atlanta College of Phys. and Surgs.—R.	4	0	1	0	2	0									3	0	50	2													2	0				
20	Georgia College of Eclectic Med. and Surg.—E.	4	0															13	0																		
22	Atlanta School of Medicine.—R.					1	0									3	0	29	2																		
21	Medical College of Georgia.—R.	0	2													3	0	12	0													2	0				
	ILLINOIS.																																				
23	American Medical Missionary College.—R.	1	0					3	0													8	0			2	0					1	0				
24	Bennett Coll. of Eclectic Med. and Surg.—E.					1	0	2	1													43	2	2	0	1	0	2	0								
25	College of Medicine and Surgery.—Ph.M.																					3	4					1	0								
26	Coll. of Physicians and Surgeons, Chicago.—R.					1	0	5	3	1	2			1	0	1	0			3	0	165	6	12	0	9	0			1	0	1	0				
27	Hahnemann Medical College and Hospital.—H.							1	0													49	5	4	0	1	1	3	1								
28	Hering Medical College.—H.	1	0					2	1													3	3			1	0										
29	Illinois Medical College.—R.	1	0					1	0													19	1	9	1	1	0										
30	Jenner Medical College.—R.																					30	5														
31	Northwestern University Medical School.—R.					1	0	8	0											2	0	106	1	4	0	2	0										
32	Rush Medical College.—R.			1	0	3	0	7	0											7	1	73	0	8	0	2	0	2	0								
33	National Medical University	1	0																			13	0														
34	American College of Medicine and Surgery.—E.					0	1	1	1													22	1	1	0												
35	Dearborn Medical College, Chicago.—R.																					80	5														
	INDIANA.																																				
36	Indiana Medical College.—R.			1	0	0	2															6	0	113	8												
37	Physio-Medical College of Indiana.—Ph.M.																							6	0												
38	Eclectic Medical College of Indiana.—E.																							5	1												
	IOWA.																																				
39	Drake University, College of Medicine.—R.			1	0			1	0																	9	0										
40	Keokuk Med. Coll., Coll. of Phys. and Surg.—R					2	0	0	1											0	1	1	2			43	18	3	0								
41	Sioux City College of Medicine.—R.			1	0																					12	4										
42	State Univ. of Iowa, Homeopathic Dept.—H.																																				
43	State Univ. of Iowa, Coll. of Medicine.—R.							2	0											1	1	1	0			58	0										
	KANSAS.																																				
44	Kansas Medical College.—R.			1	0			1	0																			17	0								
45	University of Kansas, School of Medicine.—R.							1	0																			49	0								
	KENTUCKY.																																				
46	Hospital College of Medicine.—R.	2	0	0	1	2	1	1	0															6	0			0	3	4	2	2	2	1	0		
47	Kentucky School of Medicine.—R.	2	1			1	0	1	0							1	0	1	0	0	1	1	0	5	0			1	0	7	2	1	1	0	1		
48	Louisville Medical College.—R.	2	0			3	0											1	0					7	0			2	0	2	0	1	0				
49	Louisville National Medical College.—H.																																				
50	Southwestern Homeopathic Medical College.—H.																							1	1												
51	University of Louisville, Medical Dept.—R.	1	1			2	1	0	1					0	1	2	0			0	1	1	1	5	0	1	0	2	0	9	2	2	0				
52	Kentucky University Medical Department.—R.	2	0	1	0	1	0									1	0	2	0					4	0			1	0	3	1	1	0				
	LOUISIANA.																																				
53	Flint Medical College.—R.					1	0																									9	6				
54	Tulane University, Medical Department.—R.	10	1	1	0	3	0	1	0	1	0					3	0	1	0	1	0											63	0				
	MAINE.																																				
55	Medical School of Maine, Bowdoin College.—R.									1	0																							16	0		
	MARYLAND																																				
56	Baltimore Medical College.—R.									5	4	2	1	3	0			1	0	1	0	2	0	1	0									2	2	17	8
57	Baltimore University, School of Medicine.—R.					1	0															1	0	1	0							0	1	2	1	0	3
58	College of Phys. and Surgs. of Baltimore.—R.	1	0	1	0					5	2					3	0	1	0							1	0									9	4
59	Johns Hopkins Medical School.—R.	1	0	1	0			2	0	2	0					1	0							1	0									1	0	19	0
60	Southern Homeopathic Medical College.—H.													1	2																						
61	University of Maryland, School of Med.—R.	1	0			1	0			3	0					4	0							1	0			1	0			2	0	2	0	44	9
62	Woman's Medical College of Baltimore.—R.									0	1																					1	0			5	12
63	Maryland Medical College.—R.	0	1							1	1	1	0	0	1	2	0	8	0																		
	MASSACHUSETTS.																																				
64	Boston University, School of Medicine.—H.									3	0			1	0							1	0											4	0		
65	College of Physicians and Surgeons.—R.									1	2																	1	0					7	3		
66	Harvard University Medical School.—R.	1	0	2	0			6	0	4	0											2	0	1	0	1	0					1	0	5	1		
67	Tufts College Medical School.—R.									1	2															1	0	1	0					10	0		
	MICHIGAN.																																				
68	Detroit College of Medicine.—R.			0	1			1	0											2	0	2	0														
69	Detroit Homeopathic Medical College.—H.																																				
70	Michigan College of Medicine and Surgery.—R.																					1	0														
71	Grand Rapids Medical College.—R.																																				
72	Univ. of Michigan, Dept. of Med. and Surg.—R.	1	0	2	0			2	1					0	1	1	0			1	0	1	0	2	0	1	0							2	0		
73	Univ. of Michigan, Homeopathic Dept.—H.							1	0																												
	MINNESOTA.																																				
74	Univ. of Minnesota, Coll of Med. and Surg.—R.									1	0									3	0																
75	Univ. of Minnesota, Homeopathic Dept.—H.																																				
76	Minnesota College of Phys. and Surgs.—R.																																				
	MISSISSIPPI.																																				
77	Mississippi Medical College.—R.																																				
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18	

22 Mississippi.		23 Missouri.		24 Montana.		25 Nebraska.		26 Nevada.		27 New Hampshire.		28 New Jersey.		29 New York.		30 North Carolina.		31 North Dakota.		32 Ohio.		33 Oklahoma.		34 Oregon.		35 Pennsylvania.		36 Rhode Island.		37 South Carolina.		38 South Dakota.		39 Tennessee.		40 Texas.		41 Utah.		42 Vermont.		43 Virginia.		44 Washington.		45 West Virginia.		46 Wisconsin.		47 Wyoming.		Totals.	Examined—Passed.	Examined—Failed.	Percentage of Failures.	No. of States having Representatives.	Number.
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
																																																				13	13	0	0.	3	1
3	0																																																			29	29	0	0.	3	2
																						1	0															0	1															10	9	1	10.0	4	3
														2	0									3	0																					2	0							40	39	1	2.5	5	4
														0	1																															1	0							21	19	2	9.5	3	5
																																														1	0							5	2	3	60.0	2	6
				0	1																																																	6	5	1	16.7	2	7
																																								2	0					2	1							26	22	4	15.4	5	8
																																																						4	4	0	0.	1	9
																								1	0																					2	0							32	26	6	18.7	4	10
																																																						4	4	0	0.	1	11
																						0	1	1	2							1	0					1	1					3	1					3	0	18	10	8	44.4	9	12
																								0	1																											1	0	1	100.0	1	13
																				1	0															1	0	1	0					1	0							6	6	0	0.	5	14
												1	0	4	0													4	0															1	0							24	24	0	0.	7	15
				1	0							2	0			3	1			2	0					2	1							1	0	1	0					4	0			2	0					80	61	19	23.7	15	16
												2	0	2	0	2	0					1	0	1	0	2	0	1	0															1	0							37	28	9	24.	15	17
												1	0	0	1	1	0			1	0					5	1			1	0											3	1	3	1							37	28	9	24.3	16	18
																1	1					1	0							1	0	1	0	3	0	0	1															73	69	4	5.7	12	19
																																		1	1																	19	18	1	5.3	3	20
2	0																													1	3																					39	34	5	12.8	4	21
																																																						21	19	2	9.5	5	22
				1	0	1	0													1	0	1	0	1	1	1	1							1	0									3	0			1	0			29	27	2	6.9	15	23
						1	0															1	0	1	1	9	0					0	1											1	2							72	65	7	9.7	13	24
0	1																																																					9	4	5	55.5	3	25
0	1	3	0	4	1	1	0							1	0			6	0			2	0	3	2	1	0					5	2	1	0	2	1	6	1					8	2			5	0			273	251	22	8.0	27	26
		1	1	0	1							1	0	1	2			1	0			0	1	1	0													1	0			2	0	2	1			1	0			84	71	13	15.5	18	27
														1	0			1	1					1	0																			2	1							18	12	6	33.3	8	28
				1	0					1	0			0	1			1	0	0	1	0	1			1	0							1	0	0	1							1	0			1	0			46	39	7	15.2	17	29
																										1	0									1	0															37	32	5	13.5	3	30
		1	0	0	1	1	0							2	0			2	0			3	0	2	2	8	0					1	0					1	0					7	1			3	1			166	159	7	4.2	20	31
		5	0	2	0									1	1			3	0	3	0	2	2	8	1			1	0			3	0			4	0	2	0					12	1		0	5	0			165	158	7	4.2	24	32
																		0	1																																	16	14	2	12.5	4	33
		1	0																							2	0					2	1													1	0					34	30	4	11.8	8	34
																																				1	1															37	31	6	16.2	2	35
				0	1	0	1							1	0					1	0	1	0									0	1			0	1	1	0					3	1							142	127	15	10.6	13	36
		0	1																			0	1																													8	6	2	25.0	3	37
																																																						6	5	1	16.7	1	38
																																														1	0			1	0	13	13	0	0.	5	39
		6	4			1	0											1	0			5	0									0	1											2	0							85	58	27	31.8	12	40
																		2	0																																	19	15	4	21.1	3	41
																								1	0																											1	1	0	0.	1	42
		1	0																	1	0	1	0	2	0							1	0	1	0									4	1							75	73	2	2.7	11	43
																																												0	1							20	19	1	5.0	4	44
		8	0			1	0															4	1															0	1													65	63	2	3.1	5	45
	2															0	1					3	0							1	0			4	1	0	1	1	0			0	2	1	0	2	1					48	31	17	35.4	19	46
	1	0	1																			2	1			0	2	1	2							1	1							1	0	0	7					51	28	23	45.1	22	47
	3	0	1	0	1																	1	1			1	1							2	0	6	1							0	1	2	4					48	35	13	27.1	16	48
																																																										49
																																										0	2									4	1	3	75.0	2	50
	1	2	1											1	0	0	1					6	4			2	0			1	0			4	0	2	0			2	0			1	2	1	3					67	47	20	29.8	24	51
	1									0	2	0	1	1	0	1	1			3	0	1	0			1	2							1	1			1	0			2	1			2	6					48	32	16	33.3	21	52
	7																																																			24	11	13	54.2	3	53
	4																	1	0			2	0	2	1									2	0	12	0							1	0							115	109	6	5.2	16	54
										1	0											1	0					2	0															0	1							28	27	1	3.6	7	55
						1	0			6	0	7	2	13	0	3	0			2	0					19	4	3	1							2	0					3	4			3	1					152	111	41	27.0	22	56
												0	1	0	1											1	2	2	2									0	1							2	3					38	12	26	68.4	13	57
	0			1	1							5	2	3	1	4	1			1	0					14	1	5	0					1	0							1	0	0	1	9	0					84	69	15	17.8	20	58
		1	0	1	0							1	0	12	1	2	0	1	0	1	0			1	0	9	0	2	0					1	0	1	0					4	0	1	0			2	0			77	76	1	1.3	25	59
																								0	2	1	0																									6	2	4	66.7	3	60
				0	1					0	1	0	1	2	0	5	4	1	0	1	1	1	0			6	2			3	0					1	0					4	1			5	0					109	89	20	10.1	23	61
																																														1	0					2	1	1	50.0	2	62
				1	0					0	1					0	1					1	0			2	1	0	2	0	4			0	1	2	0					0	2	0	1	4	6					69	30	39	56.5	21	63
										2	0	1	3	5	0							1	0			1	0	2	0											1	0	1	0	1	1							51	44	7	13.7	14	64
										1	0			1	1													1	2																							32	20	12	37.5	7	65
						1	0			4	1	1	0	18	0									2	0	1	0	10	0							1	0									1	0					121	118	3	2.5	21	66
		2	0							2	0			3	0											1	0	4	0															1	0							88	83	5	5.7	11	67
																		3	1					0	2																			0	1			2	0			87	81	6	6.9	9	68
																																																						8	7	1	12.5	1	69
																		1	0			1	0	1	0																	1	0									14	14	0	0.	6	70
																																		1	0	1	0															8	8	0	0.	4	71
				3	0	1	0					1	0	8	0			1	0	5	0			2	1	3	0					1	0	2	0			2	0			1	0	5	2					0	1	97	91	6	6.2	26	72
														1	0							1	0	0	1																							1	0			19	18	1	5.3	7	73
				1	0													8	0					2	0																			5	1			1	0			74	65	9	12.2	8	74
														1	0																																					2	2	0	0.	2	75
																		8	1													0	1																			45	32	13	28.7	3	76
																																																										77
2		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47							

TABLE A.—PHYSICIANS EXAMINED BY STATE BOA

Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Connecticut.		6 Delaware.		7 D. of Columbia.		8 Florida.		9 Georgia.		10 Idaho.		11 Illinois.		12 Indiana.		13 Iowa.		14 Kansas.		15 Kentucky.		16 Louisiana.		17 Maine.		18 Maryland.		19 Massachusetts.	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	MISSOURI.																																						
78	University Medical College, Kansas City.—R.																											29	2									0	1
79	Kansas City Hahnemann Medical College.—H.																											5	0										
80	Eclectic Medical University.—E.																											4	2										
81	Ensworth Central Medical College.—R.					1	0																			0	1	23	9										
82	Barnes Medical College.—R.	1	0	2	0	2	0									3	1			0	1	23	12					6	4	1	1								
83	St. Louis University, Medical Department.—R.					5	0	1	1									1	0	1	0	63	6	2	0			5	0	1	0								
84	St. Louis Coll. of Physicians and Surgeons.—R.			0	1	2	0									1	0			1	0	17	12	1	0	1	3			1	0	2	0						
85	American Medical College.—E.			1	0	1	0	0	1											1	0	1	0																
86	Homeopathic Medical College of Missouri.—H.																					1	0					1	1					1	0				
87	Washington University, Med. Department.—R.					2	0	1	0													29	0			1	0	1	0			1	0						
88	University of Missouri, Dept. of Medicine.—R.							0	1																			1	0										
	NEBRASKA.																																						
89	University of Nebraska, College of Medicine.—R.																											1	0										
90	John A. Creighton Medical College.—R.																			1	0	1	0			8	0												
91	Lincoln Medical College.—E.					0	1																					5	1										
92	Nebraska College of Medicine.—R.																																						
	NEW HAMPSHIRE.																																						
93	Dartmouth Medical College.—R.			1	0			1	0																														
	NEW YORK.																																						
94	Albany Medical College.—R.																																	1	0				
95	College of Physicians and Surgeons.—R.			1	0			1	0										0					1	0					1	0			3	0			2	
96	Cornell University Medical College.—R.																							1	0													1	
97	Eclectic Med. Coll. of City of New York.—E.																																					0	
98	Long Island College Hospital.—R.			1	0																															0	1	1	
99	New York Homeo. Med. Coll. and Hosp.—H.					1	0																							1	0							1	
100	N. Y. Med. Coll. and Hosp. for Women.—R.																																						
101	University and Bellevue Hosp. Medical Coll.—R.	1	0			1	0	5	0							1	0					1	0	1	0	1	0							1	0			1	
102	Syracuse University, College of Medicine.—R.																																						
103	University of Buffalo, Medical Department.—R.									1	0																												
	NORTH CAROLINA.																																						
104	Leonard School of Medicine.—R.					1	0											6	0																	1	1	1	
105	North Carolina Medical College.—R.																	1	0																				
106	University of North Carolina, Medical Dept.—R.																																						
	OHIO.																																						
107	Western Reserve Univ., Medical Dept.—R.																																						
108	Cleveland College of Phys. and Surgs.—R.																																						
109	Cleveland Homeopathic Medical College.—H.			1	0																							1	0										
110	Eclectic Medical Institute.—E.																					3	1	9	1			2	0	2	1							1	
111	Medical College of Ohio.—R.			1	0	1	0	3	1							2	0					1	0	2	0					5	0								
112	Pulte Medical College.—H.							1	0																														
113	Miami Medical College.—R.							1	0									1	0			2	0	1	0			1	0	3	0								
114	Ohio Medical University.—R.																					1	0	1	0							1	0						
115	Starling Medical College.—R.							0	1																														
116	Toledo Medical College.—R.																					4	0	1	0														
	OKLAHOMA.																																						
117	Epworth University College of Medicine.—R.																																						
	OREGON.																																						
118	University of Oregon, Medical Department.—R.																			1	0																		
119	Willamette University, Medical Department.—R.																			1	0																		
	PENNSYLVANIA.																																						
120	Temple College of Medicine.—R.											1	0																										
121	Univ. of Pennsylvania, Dept. of Medicine.—R.	1	0					5	0	1	0	3	0	1	0	2	0	1	0			3	0	1	0					2	0	1	0	1	0	2	0	6	
122	Hahnemann Medical College and Hospital.—H.	1	0					2	0	1	0			5	0																							2	
123	Jefferson Medical College, Philadelphia.—R.							3	1	4	1	2	0	1	0	2	0	2	0	0	1	3	0	1	0	2	0							4	0	2	4	2	
124	Woman's Medical College of Pennsylvania.—R.	1	0					1	0					1	0													1	0					1	0			7	
125	Medico-Chirurgical College of Philadelphia.—R.							1	1			2	0			2	0							1	0					1	0			2	0			1	
126	Western Pennsylvania Medical College.—R.																			1	0																		
	SOUTH CAROLINA.																																						
127	Med. Coll. of the State of South Carolina.—R.			0	1											1	0																						
	TENNESSEE.																																						
128	Tennessee Medical College.—R.																	1	0																				
129	Knoxville Medical College.—R.																																						
130	University of Nashville, Medical Dept.—R.	13	0			2	0									1	0	2	0									1	0	1	1	4	0						
131	Vanderbilt University, Medical Department.—R.	2	0	1	0	3	0									1	0	4	0	1	0									2	0	4	0						
132	Univ. of Tennessee, Medical Department.—R.	3	1			1	0	0	1									1	0											2	3								
133	Meharry Medical College.—R.	7	3			2	6									4	4	11	0			1	0			1	1	4	1	2	0	3	1						
134	Memphis Hospital Medical College.—R.	4	0			3	1											1	0													22	0						
135	University of the South, Medical Dept.—R.	4	0	1	0					1	2					1	1	3	0													1	0			0	1	1	
136	Chattanooga Medical College.—R.	11	2															6	1																				
137	University of West Tennessee, Med. Dept.—R.					0	1																																
138	College of Physicians and Surgeons.—R.																																						
	TEXAS.																																						
139	Fort Worth University, Medical Dept.—R.															1	0																						
140	University of Texas, Dept. of Medicine.—R.					1	0																									1	0						
141	Baylor University, College of Medicine.—R.																															2	1						
142	Physio-Medical College of Texas.—R.																																						
143	Gate City Medical College, Texarkana.—R.																																						
144	Southwestern University Med. Coll., Dallas.—R.																																						
145	College of Physicians and Surgeons, Dallas.—R.					1	0																									1	1						
	VERMONT.																																						
146	University of Vermont, Medical Dept.—R.							1	0											1	0													2	0			7	
	VIRGINIA.																																						
147	Medical College of Virginia.—R.			2	0											1	0																						
148	University College of Medicine.—R.																																						
149	University of Virginia, Dept. of Medicine.—R.	3	0			1	0	1	0					2	1	1	0													1	0					1	0	1	
	WISCONSIN.																																						
150	Milwaukee Medical College.—R.															1	0			1	0																		
151	Wisconsin College of Phys. and Surgs.—R.																							1	0														
152	Canadian Colleges			1	0			3	1	2	0					2	0			2	0	4	0	1	0	3	1	0	1			1	0	9	0			7	
153	Foreign			1	0	2	0	5	2	16	5					3	1					3	0	1	0	2	0									1	0	2	
154	Miscellaneous Medical Colleges	3	1	1	0	7	0	6	7					0	1	2	0	1	0	2	4	2	2	2	0			2	1			0	1	1	0			1	
155	Undergraduates	12	9			78	59																															31	
	Totals by States	160		39		225		234		112		12		97		73		169		54		817		240		195		207		65		147		88		156		3	
	Totals—Examined—Passed	138		35		152		190		84		11		63		66		164		42		748		228		166		180		52		133		80		112		2	
	Totals—Examined—Failed	22		4		73		44		28		1		34		7		5		12		69		12		29		27		13		14		8		44		1	
	Percentage of Failures	13.7		10.3		32.4		19.9		25.0		8.3		35.0		9.6		2.9		22.2		8.4		5.0		14.9		13.0		20.0		9.5		9.1		28.2		30.	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		1	

NG THE CALENDAR YEAR 1906.—Continued.

23 Missouri.		24 Montana.		25 Nebraska.		26 Nevada.		27 New Hampshire.		28 New Jersey.		29 New York.		30 North Carolina.		31 North Dakota.		32 Ohio.		33 Oklahoma.		34 Oregon.		35 Pennsylvania.		36 Rhode Island.		37 South Carolina.		38 South Dakota.		39 Tennessee.		40 Texas.		41 Utah.		42 Vermont.		43 Virginia.		44 Washington.		45 West Virginia.		46 Wisconsin.		47 Wyoming.		Totals.	Examined—Passed.	Examined—Failed.	Percentage of Failures.	No. of States having Representatives.	Number.
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
15	2																			6	1															1	0			1	0									59	53	6	10.2	7	78
				0	1															1	0																													8	6	2	25.0	4	79
2	7																																			1	0															16	7	9	56.2	3	80
5	14			1	3															2	0	0	1															1	0													61	33	28	45.9	8	81
21	30	0	1	1	1															3	2	0	2	1	0					0	1			1	0	1	0					5	1	1	3					136	74	62	45.5	21	82
57	39	2	2	1	1							1	0			0	1			5	2	0	1											0	2	3	2			2	0	3	1					1	0	213	155	58	27.2	21	83
9	26																							1	1									1	1											1	0			82	38	44	53.6	13	84
6	3			1	0																																													15	11	4	26.7	7	85
0	1																																																	5	3	2	40.0	4	86
37	5															2	0			4	0	0	1											1	0					1	0	3	0							89	83	6	6.7	13	87
7	0											1	0							1	0																													12	11	1	8.3	6	88
				7	7											1	0													1	0											1	0							20	12	8	40.0	6	89
		0	3	27	10																									3	0					1	0											1	0	55	42	13	23.6	8	90
				7	0																	0	1							2	1											0	1							19	14	5	26.3	6	91
																																																							92
								8	2			[illegible]	[illegible]																									1	0											25	21	4	19.0	3	93
												[illegible]								1	0																	1	0							1	0			42	40	2	4.8	7	94
												[illegible]		[illegible]	[illegible]			2	0			3	0	7	0	6	0													1	0	2	1	1	0					193	185	8	4.1	20	95
										1	0	58												1	0	1	0															1	0	1	0					63	62	1	1.6	9	96
												13	[illegible]											1	0																					1	0			17	15	2	11.8	4	97
										4	0	58	2					1	0					2	0							1	0																	73	69	4	5.5	9	98
												28	1					0	1					1	0																									37	35	2	5.4	9	99
												8	0																													1	0									9	9	0	0.	1	100
		0	1	1	0					1	0	42	3					1	0					6	0	1	0			1	0	3	0	1	0	2	0			1	0	1	0					1	0	84	79	5	5.9	24	101
												24	1																																					25	24	1	4.0	1	102
1	0											38	2	1	0			1	0	1	0			2	0																	1	1							49	46	8	6.1	8	103
														3	4									3	3			2	1			1	0	0	1					12	12			1	0					56	32	24	42.9	12	104
														21	6					1	0							1	0											1	0									32	26	6	18.7	6	105
														8	3													1	0											1	0									13	10	3	23.1	3	106
																1	0	20	0															1	1									0						24	22	2	8.3	4	107
		0	2									1	0					19	0	1	0			1	0																	1	1							26	23	3	11.5	6	108
												1	1					11	0					0	1																									16	14	2	12.5	5	109
0	1			1	0							3	0					8	1	1	1	1	1	4	0																			1						46	36	10	21.7	14	110
		1	1							1	0	1	0					28	0	1	0			1	0															1	0			3						54	52	2	3.7	15	111
												0	1																															1						4	2	2	50.0	3	112
																		19	1													0	1																	31	29	2	6.5	9	113
												1	2			1	0	43	2					1	1																			2						56	51	5	8.9	8	114
																		25	4					2	2									1	0							1	0	1	0					37	30	7	18.9	6	115
																		5	2			0	1																											13	10	3	23.1	4	116
																																																							117
																						13	8																			6	0							28	20	8	28.6	3	118
																						3	15																			0	2							21	4	17	81.0	3	119
																								12	0																									13	13	0	0.	2	120
2	0	1	0							9	0	14	1	1	0			2	0	1	0	1	0	73	3															4	0	4	0	3	0			2	0	152	148	4	2.6	28	121
										3	1	3	0					2	0					43	0																									63	62	1	1.6	9	122
1	0	0	1					1	0	15	2	7	0	12	0			3	0	1	0	2	0	117	12	1	0	2	0	1	1			1	0	3	0	1	0	1	0	2	0	4	0			1	0	236	210	26	11.0	36	123
										5	0	5	0	2	0									16	1									1	0							1	0							43	42	1	2.3	12	124
								1	0	12	0	2	0											78	8											2	0											1	0	115	106	9	7.0	13	125
																		0	1					50	11																	1	0							64	52	12	18.7	4	126
										1	0			0	1													12	1											1	0									18	15	8	16.7	6	127
														0	5																	13	4							0	1									24	14	10	41.7	4	128
														1	1													0	1																					3	1	2	66.7	2	129
0	1													0	1					2	1							6	0	1	0	12	8	0	1					1	0	1	0							74	56	18	24.3	17	130
3	0											0	1	1	0					2	0							1	0			5	1	4	2							1	1							41	36	5	12.2	17	131
														0	1													0	1			8	4	5	1					1	1									37	22	15	40.5	11	132
2	7													1	1					2	1							2	1			6	7	4	4					1	1	0	1	1	0					111	60	51	45.9	20	133
0	2											0	1							3	0											19	1	4	3															105	81	24	22.8	10	134
0	2													1	1									1	5	0	1	1	0			0	2							1	1	1	0	3	2					42	22	20	47.7	18	135
														2	2					1	1							0	1			15	6	0	1							0	1	1	0					54	37	17	31.5	10	136
																																0	1																	2	0	2	100.	2	137
																																																							138
																				2	0													12	0															15	15	0	0.	3	139
																				1	0													17	0															20	20	0	0.	4	140
																																		8	0															11	10	1	9.1	2	141
																				2	0																													2	2	0	0.	1	142
																																0	2	2	0															4	2	2	50.0	2	143
																																		5	1															6	5	1	16.7	1	144
																				1	0													0	4															8	3	5	62.5	4	145
		0	2					4	0	1	0	4	0									0	3	1	0					0	1							29	0			2	0							59	52	7	11.9	13	146
												2	0	2	1			1	0									3	0											32	2			7	1					56	51	5	8.9	9	147
		1	0									1	0	5	0																									16	1	1	0	6	3					34	30	4	11.8	6	148
										1	0	4	0	2	0							1	0	1	0							1	0	1	0					15	0	2	0	6	0					47	46	1	2.1	19	149
																1	1																									1	0			11	0			17	15	2	11.8	6	150
1	1																																													13	1			17	15	2	11.8	3	151
1	0	1	2	2	1	1	0	0	10	2	0	14	1	0	1	11	1	4	0	2	0	2	2	2	1	3	12			1	0					0	1			1	0	7	2			3	0			153	105	48	31.4	34	152
4	2	1	1			1	0			1	0	34	18			2	2	3	2			2	0	2	5	3	3			1	0	1	0	0	2	1	0					3	1					0	1	147	101	46	31.3	28	153
		0	1					1	0			6	2	0	2	0	1	1	0	1	2	1	1	0	1							0	1	1	0					1	3	6	6	3	0			1	1	94	53	41	41.9	31	154
50	41																			2	4	0	2			1	5					38	54	48	20									1	28					703	342	361	51.3	11	155
442		49		83		2		51		93		685		128		70		238		123		121		592		84		52		37		246		212		44		35		158		182		156		54		15		8035	....	....	.....	......	...
249		24		58		2		34		80		629		87		60		222		95		65		519		54		39		26		150		159		37		35		123		137		84		52		12		....	6368	....	.....	......	...
193		25		25		0		17		13		56		41		10		16		28		56		73		30		13		11		96		53		7		0		35		45		72		2		3		....	....	1667	.....	......	...
43.7		51.0		30.1		0.		33.3		14.0		8.2		32.0		14.3		6.7		22.7		46.3		12.3		35.7		25.0		29.7		39.0		25.0		15.9		0		22.1		24.7		46.1		3.7		20.0		....	....	....	20.7	......	...
23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47							

TABLE B.—GRADUATES OF 1901 TO 1906 INCL

Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Connecticut.		6 Delaware.		7 D. of Columbia.		8 Florida.		9 Georgia.		10 Idaho.		11 Illinois.		12 Indiana.		13 Iowa.		14 Kansas.		15 Kentucky.		16 Louisiana.		17 Maine.		18 Maryland.	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	ALABAMA.																																				
1	Birmingham Medical College.—R.	10	0					1	0							2	0																				
2	Medical College of Alabama.—R.	24	0													2	0																				
	ARKANSAS.																																				
3	Arkansas University Medical Department.—R.					5	0									1	0																				
	CALIFORNIA.																																				
4	Cooper Medical College.—R.							31	1																												
5	University of California, Medical Dept.—R.							18	1																												
6	California Medical College.—E.							1	3																												
7	Hahnemann Medical College of the Pacific.—H.							5	0																												
8	College of Physicians and Surgeons.—R.			2	0			14	3											2	0																
9	Oakland College of Medicine and Surgery.—R.							4	0																												
10	Univ. of Southern California, Coll. of Med.—R.			2	0			20	6																												
11	College of Phys. and Surgeons, Los Angeles.—R.							4	0																												
	COLORADO.																																				
12	Denver and Gross College of Medicine—R.							0	1													1	0					0	1								
13	Denver Homeopathic College.—H.																																				
14	Colorado School of Medicine, Boulder.—R.																			2	0																
	CONNECTICUT.																																				
15	Yale University Medical School.—R.									10	0															1	0										
	DISTRICT OF COLUMBIA.																																				
16	George Washington Univ., Dept. of Med.—R.									1	0			30	16					1	0			1	0									2	0	8	1
17	Georgetown Univ., School of Medicine.—R.			1	0					1	2			11	7					1	0															1	0
18	Howard University, Medical Department.—R.	1	0											5	4	1	0	2	0									1	0							2	0
	GEORGIA.																																				
19	Atlanta College of Phys. and Surgs.—R.	4	0	1	0	2	0									2	0	49	2													2	0				
20	Georgia College of Eclectic Med. and Surg.—E.	4	0															13	0																		
21	Medical College of Georgia.—R.	0	1													2	0	29	2																		
22	Atlanta School of Medicine.—R.															3	0	12	0													2	0				
	ILLINOIS.																																				
23	American Medical Missionary College.—R.	1	0					1	0													8	0			1	0					1	0				
24	Bennett Coll. of Eclectic Med. and Surg.—E.							1	1													43	2	2	0	1	0	2	0								
25	College of Medicine and Surgery.—Ph.M.																					3	4					1	0								
26	Coll. of Physicians and Surgeons, Chicago.—R.					1	0	3	1	1	2			1	0	1	0			3	0	165	6	12	0	8	0			1	0						
27	Hahnemann Medical College and Hospital.—H.							1	0													49	5	2	0	0	1	2	0								
28	Hering Medical College.—H.							1	1													3	3			1	0										
29	Illinois Medical College.—R.	1	0																			19	1	9	1	1	0										
30	Jenner Medical College.—R.																					30	5														
31	Northwestern University Medical School.—R.							7	0											2	0	105	1	4	0	1	0										
32	Rush Medical College.—R.							4	0											4	0	70	0	7	0	2	0	2	0								
33	National Medical University.																					13	0														
34	American College of Medicine and Surgery.—E.					0	1	1	1													22	1	1	0												
35	Dearborn Medical College, Chicago.—R.																					30	5														
	INDIANA.																																				
36	Indiana Medical College.—R.			1	0																	5	0	112	8												
37	Physio-Medical College of Indiana.—Ph.M.																							6	0												
38	Eclectic Medical College of Indiana.—E.																							5	1												
	IOWA.																																				
39	Drake University, College of Medicine.—R.			1	0			1	0																	9	0										
40	Keokuk Med. Coll., Coll. of Phys. and Surg.—R																			0	1	0	2			43	18	1	0								
41	Sioux City College of Medicine.—R.																									12	4										
42	State Univ. of Iowa, Homeopathic Dept.—H.																																				
43	State Univ. of Iowa, Coll. of Medicine.—R.							1	0													1	0			58	0										
	KANSAS.																																				
44	Kansas Medical College.—R.																											17	0								
45	University of Kansas, School of Medicine.—R.																											49	0								
	KENTUCKY.																																				
46	Hospital College of Medicine.—R.	2	0			1	0																	6	0					4	2	2	1				
47	Kentucky School of Medicine.—R.	2	1					1	0													1	0	4	0					7	1	1	0	0	1		
48	Louisville Medical College.—R.	2	0			1	0											1	0					7	0			1	0	2	0	1	0				
49	Louisville National Medical College.—H.																																				
50	Southwestern Homeopathic Medical College.—H.																							1	1												
51	University of Louisville, Medical Dept.—R.	1	1			1	0	0	1							1	0					0	1	5	0	1	0	2	0	9	2	2	0				
52	Kentucky University Medical Department.—R.	2	0	1	0	1	0									1	0	2	0					4	0			1	0	3	1	1	0				
	LOUISIANA.																																				
53	Flint Medical College.—R.					1	0																									9	6				
54	Tulane University, Medical Department.—R.	9	1	1	0	2	0			1	0					2	0	1	0	1	0											63	0				
	MAINE.																																				
55	Medical School of Maine, Bowdoin College.—R.																																	16	0		
	MARYLAND																																				
56	Baltimore Medical College.—R.									5	4	2	1	3	0							2	0	1	0									2	2	17	
57	Baltimore University, School of Medicine.—R.					1	0															1	0									0	1	1	1	0	
58	College of Phys. and Surgs. of Baltimore.—R.	1	0							5	2					2	0	1	0							1	0									9	
59	Johns Hopkins Medical School.—R.	1	0	1	0			2	0	2	0													1	0									1	0	18	
60	Southern Homeopathic Medical College.—H.													1	2																						
61	University of Maryland, School of Med.—R.	1	0			1	0			3	0					1	0							1	0			1	0			1	0	2	0	44	
62	Woman's Medical College of Baltimore.—R.																																				
63	Maryland Medical College.—R.	0	1							1	0	1	0	0	1	2	0	8	0													1	0			5	1
	MASSACHUSETTS.																																				
64	Boston University, School of Medicine.—H.									3	0											1	0											2	0		
65	College of Physicians and Surgeons.—R.									1	2																	1	0					6	2		
66	Harvard University Medical School.—R.							2	0	1	0											2	0											5	1		
67	Tufts College Medical School.—R.									1	2															1	0							10	0		
	MICHIGAN.																																				
68	Detroit College of Medicine.—R.																			1	0	2	0														
69	Detroit Homeopathic Medical College.—H.																																				
70	Michigan College of Medicine and Surgery.—R.																																				
71	Grand Rapids Medical College.—R.																																				
72	Univ. of Michigan, Dept. of Med. and Surg.—R.	1	0	1	0			1	0							1	0			1	0	1	0	2	0	1	0							1	0		
73	Univ. of Michigan, Homeopathic Dept.—H.							1	0																												
	MINNESOTA.																																				
74	Univ. of Minnesota, Coll of Med. and Surg.—R.									1	0									3	0																
75	Univ. of Minnesota, Homeopathic Dept.—H.																																				
76	Minnesota College of Phys. and Surgs.—R.																																				
	MISSISSIPPI.																																				
77	Mississippi Medical College.—R.																																				
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18	

INED BY STATE BOARDS DURING 1906.

23 Missouri.		24 Montana.		25 Nebraska.		26 Nevada.		27 New Hampshire.		28 New Jersey.		29 New York.		30 North Carolina.		31 North Dakota.		32 Ohio.		33 Oklahoma.		34 Oregon.		35 Pennsylvania.		36 Rhode Island.		37 South Carolina.		38 South Dakota.		39 Tennessee.		40 Texas.		41 Utah.		42 Vermont.		43 Virginia.		44 Washington.		45 West Virginia.		46 Wisconsin.		47 Wyoming.		Totals.	Examined—Passed.	Examined—Failed.	Percentage of Failures.	No. of States having Representatives.	Number.
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
																																																		13	13	0	0.	2	1
																																																		28	28	0	0.	3	2
																				1	0													0	1															8	7	1	12.5	4	3
																						2	0																											34	33	1	5.9	2	4
												0	1																													1	0							21	19	2	9.5	3	5
																																																		4	1	3	75.0	1	6
																																																		5	5	0	0.	1	7
																																				2	0					2	1							26	22	4	15.4	5	8
																																																		4	4	0	0.	1	9
																																										1	0							29	23	6	23.3	3	10
																																																		4	4	0	0.	1	11
																				0	1	1	1							1	0					1	0					2	0					3	0	13	9	4	30.8	9	12
																						0	1																											1	0	1	100.0	1	13
																																		1	0	1	0													4	4	0	0.	3	14
												3	0													3	0															1	0							21	21	0	0.	6	15
		1	0											2	1			2	0					2	1							1	0							4	0			2	0					76	57	19	25.0	13	16
										2	0	2	0	2	0					1	0	1	0	2	0	1	0																							36	27	9	25.0	13	17
										1	0	0	1	1	0			1	0					5	1			1	0											3	1	2	0							34	27	7	20.6	15	18
																												1	0	1	0			0	1															65	62	3	4.6	9	19
																																1	1																	19	18	1	5.3	3	20
																												1	3																					37	32	5	13.5	3	21
																																																		20	19	1	5.0	5	22
		1	0	1	0													1	0	1	0	1	0	1	1																	2	0			1	0			23	22	1	4.4	14	23
				1	0															1	0	1	1	9	0					0	1											0	1							67	61	6	8.9	11	24
																																																		9	4	5	55.5	3	25
3	0	4	1	1	0											5	0			2	0	2	2	1	0					5	2	1	0	2	1	5	0					7	1			5	0			259	242	17	6.6	24	26
1	0	0	1																																	1	0			2	0	1	0			1	0			69	62	7	10.1	13	27
												1	0			1	1																									1	1							14	8	6	42.8	6	28
								1	0							1	0	0	1	0	1			1	0							1	0	0	1							1	0			1	0			43	37	6	14.0	14	29
																																		1	0															36	31	5	13.9	2	30
1	0	0	1	1	0							2	0			2	0			3	0	2	1	3	0					1	0					4	0					7	0			3	0			157	154	3	1.9	18	31
4	0	1	0									1	1			2	0	3	0			6	1			1	0			3	0			4	0	2	0					9	0			5	0			135	132	3	2.2	20	32
																0	1																																	15	13	2	13.3	3	33
1	0																							2	0					2	1													1	0					34	30	4	11.8	8	34
																																		1	1															37	31	6	16.2	5	35
		0	1	0	1							1	0					1	0	1	0									0	1			0	1	1	0					2	0							136	124	12	8.8	12	36
																																																		6	6	0	0.	1	37
																																																		6	5	1	16.7	1	38
																																												1	0					12	12	0	0.	4	39
0	4			1	0															3	0																					1	0							74	49	25	33.8	8	40
																1	0																																	17	13	4	23.5	2	41
																																																								42
																		1	0											1	0	1	0									1	0							64	64	0	0.	7	43
																																																		17	17	0	0.	1	44
8	0			1	0															4	1															0	1													64	62	2	3.1	5	45
														0	1					2	0							1	0			4	1	0	1					0	2	1	0	2	1					37	26	11	29.7	14	46
																								0	2	1	2							1	0									0	7					37	20	17	45.9	14	47
		0	1																	1	0			1	1							2	0	6	1							0	1	2	4					43	32	11	25.6	15	48
																																																								49
																																								0	2									4	1	3	75.0	2	50
1	0																			4	0			2	0			1	0			3	0	1	0			2	0			1	0	1	3					46	38	8	17.4	19	51
								0	2	0	1	1	0	1	1			3	0	1	0			1	2							1	1			1	0			2	1			2	6					47	31	16	34.0	21	52
																																																		24	11	13	54.2	3	53
																				2	0	2	0									2	0	12	0							1	0							108	104	4	3.7	14	54
								1	0																																									21	21	0	0.	3	55
				1	0			6	0	6	2	12	0	3	0			2	0					19	3	3	1							2	0					2	3			2	1					144	105	39	27.0	20	56
										0	1													1	2	2	2									0	1							2	3					35	10	25	71.4	11	57
		1	0							5	2	3	0	4	1			1	0					14	1	5	0													1	0			9	0					77	65	12	15.6	16	58
1	0	1	0							1	0	12	1	2	0	1	0	1	0			1	0	9	0	2	0					1	0	1	0					4	0	1	0			2	0			75	74	1	1.3	24	59
																																																		3	1	2	66.7	1	60
		0	1					0	1			1	0	5	4			1	1	1	0			5	2			3	0					1	0					4	1			5	0					101	82	19	18.8	21	61
																																												1	0					1	1	0	0.	1	62
		1	0					0	1					0	1					1	0			2	1	0	2	0	4					2	0					0	2	0	1	4	6					67	30	37	55.2	20	63
								1	0	0	3	1	0							1	0			1	0	2	0											1	0											39	33	6	15.4	11	64
												1	1													1	2																							30	18	12	40.0	6	65
2	0			1	0			4	1	1	0	15	0									2	0	1	0	10	0							1	0									1	0					104	101	3	2.9	15	66
								2	0			1	0											1	0	4	0															1	0							85	80	5	5.9	10	67
																3	1																													2	0			81	79	2	2.5	5	68
																																																		7	7	0	0.	1	69
																1	0					1	0																	1	0									12	12	0	0.	4	70
																																1	0	1	0															6	6	0	0.	3	71
		3	0	1	0							4	0					5	0			1	0	2	0					1	0	1	0			2	0			1	0	4	1							78	77	1	1.3	22	72
												1	0							1	0																									1	0			18	18	0	0.	6	73
		1	0													8	0					1	0																			3	1			1	0			70	61	9	12.8	9	74
												1	0																																					2	2	0	0.	2	75
																7	1													0	1																			43	30	13	30.2	3	76
																																																								77
23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47							

TABLE B.—GRADUATES OF 1901 TO 1906 INCLU

Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Connecticut.		6 Delaware.		7 D. of Columbia.		8 Florida.		9 Georgia.		10 Idaho.		11 Illinois.		12 Indiana.		13 Iowa.		14 Kansas.		15 Kentucky.		16 Louisiana.		17 Maine.		18 Maryland.	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	MISSOURI.																																				
78	University Medical College, Kansas City.—R.																											28	2								
79	Kansas City Hahnemann Medical College.—H.																											5	0								
80	Eclectic Medical University.—E.																											4	2								
81	Ensworth Central Medical College.—R.																									0	1	23	9								
82	Barnes Medical College.—R.	1	0	2	0											2	0					23	12					6	4	1	1						
83	St. Louis University, Medical Department.—R.					4	0	1	0													61	6	2	0			5	0	1	0						
84	St. Louis Coll. of Physicians and Surgeons.—R.			0	1	2	0									1	0			1	0	17	12			1	3			1	0	1	0				
85	American Medical College.—E.					1	0	0	1											1	0	1	0														
86	Homeopathic Medical College of Missouri.—H.																					1	0					0	1								
87	Washington University, Med. Department.—R.					1	0	1	0													29	0			1	0	1	0			1	0				
88	University of Missouri, Dept. of Medicine.—R.																											1	0								
	NEBRASKA.																																				
89	University of Nebraska, College of Medicine.—R.																											1	0								
90	John A. Creighton Medical College.—R.																			1	0	1	0			8	0										
91	Lincoln Medical College.—E.																											5	1								
92	Nebraska College of Medicine.—R.																																				
	NEW HAMPSHIRE.																																				
93	Dartmouth Medical College.—R.									1	0																										
	NEW YORK.																																				
94	Albany Medical College.—R.									1	0																							1	0		
95	College of Physicians and Surgeons.—R.			1	0			1	0	6	2																			1	0			2	0		
96	Cornell University Medical College.—R.									2	0													1	0												
97	Eclectic Med. Coll. of City of New York.—E.																																				
98	Long Island College Hospital.—R.			1	0					1	0																									0	1
99	New York Homeo. Med. Coll. and Hosp.—H.									1	0																			1	0						
100	N. Y. Med. Coll. and Hosp. for Women.—R.																																				
101	University and Bellevue Hosp. Medical Coll.—R.									8	0																							1	0		
102	Syracuse University, College of Medicine.—R.																																				
103	University of Buffalo, Medical Department.—R.																																				
	NORTH CAROLINA.																																				
104	Leonard School of Medicine.—R.					1	0											6	0																	1	1
105	North Carolina Medical College.—R.																	1	0																		
106	University of North Carolina, Medical Dept.—R.																																				
	OHIO.																																				
107	Western Reserve Univ., Medical Dept.—R.																																				
108	Cleveland College of Phys. and Surgs.—R.																																				
109	Cleveland Homeopathic Medical College.—H.			1	0																							1	0								
110	Eclectic Medical Institute.—E.																					8	0	8	1			2	0	2	1						
111	Medical College of Ohio.—R.			1	0			1	0													1	0	2	0					5	0						
112	Pulte Medical College.—H.																																				
113	Miami Medical College.—R.							1	0									1	0			1	0	1	0			1	0	3	0						
114	Ohio Medical University.—R.																							1	0												
115	Starling Medical College.—R.																																				
116	Toledo Medical College.—R.																					4	0	1	0												
	OKLAHOMA.																																				
117	Epworth University College of Medicine.—R.																																				
	OREGON.																																				
118	University of Oregon, Medical Department.—R.																			1	0																
119	Willamette University, Medical Department.—R.																			1	0																
	PENNSYLVANIA.																																				
120	Temple College of Medicine.—R.											1	0																								
121	Univ. of Pennsylvania, Dept. of Medicine.—R.	1	0					2	0	1	0		0			2	0	1	0			2	0							2	0			1	0	1	0
122	Hahnemann Medical College and Hospital.H.							1	0	1	0			4	0																						
123	Jefferson Medical College, Philadelphia.—R.							1	0	3	1	2	0	1	0			2	0			8	0	1	0	2	0							8	0	2	4
124	Woman's Medical College of Pennsylvania.—R.	1	0					1	0					1	0													1	0					1	0		
125	Medico-Chirurgical College of Philadelphia.—R.							1	1			2	0			2	0							1	0					1	0			2	0		
126	Western Pennsylvania Medical College.—R.																																				
	SOUTH CAROLINA.																																				
127	Med. Coll. of the State of South Carolina —R.															1	0																				
	TENNESSEE.																																				
128	Tennessee Medical College.—R.																	1	0																		
129	Knoxville Medical College.—R.																																				
130	University of Nashville, Medical Dept.—R.	12	0			1	0											2	0									1	0	1	1	4	0				
131	Vanderbilt University, Medical Department.—R.	2	0			1	0											8	0	1	0									2	0	4	0				
132	University of Tennessee, Medical Dept.—R.	3	1															1	0											2	3						
133	Meharry Medical College.—R.	6	3			2										4	4	11	0							1	1	4	1	2	0	3	0				
134	Memphis Hospital Medical College.—R.	4	0															1	0													19	0				
135	University of the South, Medical Dept.—R.	4	0	1	0					1	2					1	1	8	0													1	0			0	1
136	Chattanooga Medical College.—R.	11	2															5	1																		
137	University of West Tennessee, Med. Dept.—R.					0	1																														
138	College of Physicians and Surgeons.—R.																																				
	TEXAS.																																				
139	Fort Worth University, Medical Dept.—R.															1	0																				
140	University of Texas, Dept. of Medicine.—R.					1	0																														
141	Baylor University, College of Medicine.—R.																															2	1				
142	Physio-Medical College of Texas.—R.																																				
143	Gate City Medical College, Texarkana.—R.																																				
144	Southwestern University Med. Coll., Dallas.—R.																																				
145	College of Physicians and Surgeons, Dallas.—R.					1	0																									1	1				
	VERMONT.																																				
146	University of Vermont, Medical Dept.—R.							1	0																									2	0		
	VIRGINIA.																																				
147	Medical College of Virginia.—R.			2	0											1	0																				
148	University College of Medicine.—R.																																				
149	University of Virginia, Dept. of Medicine.—R.	2	0			1	0							2	1	1	0													1	0					1	0
	WISCONSIN.																																				
150	Milwaukee Medical College.—R.															1	0			1	0																
151	Wisconsin College of Phys. and Surgs.—R.																							1	0												
152	Canadian Colleges							2	0	2	0					2	0					4	0	1	0	8	1							9	0		
153	Foreign							3	1	7	1					1	0					1	0	1	0	2	0									1	0
154	Miscellaneous Medical Colleges					4	0	1	0									1	0			2	0	2	0							0	1				
	Totals by States	125		22		45		167		87		12		90		49		162		29		797		228		189		191		64		133		78		15	
	Totals—Examined—Passed	114		21		37		144		67		11		59		44		157		28		731		216		160		170		52		122		70		11	
	Totals—Examined—Failed	11		1		8		23		20		1		31		5		5		1		66		12		29		21		12		11		8		4	
	Percentage of Failures	8.8		4.5		19.6		13.7		23.0		8.3		34.4		10.2		3.1		3.4		8.3		5.3		1.5		11.0		18.7		8.3		10.2		28.	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18	

MINED BY STATE BOARDS DURING 1906.—CONTINUED.

2	23 Missouri.		24 Montana.		25 Nebraska.		26 Nevada.		27 New Hampshire.		28 New Jersey.		29 New York.		30 North Carolina.		31 North Dakota.		32 Ohio.		33 Oklahoma.		34 Oregon.		35 Pennsylvania.		36 Rhode Island.		37 South Carolina.		38 South Dakota.		39 Tennessee.		40 Texas.		41 Utah.		42 Vermont.		43 Virginia.		44 Washington.		45 West Virginia.		46 Wisconsin.		47 Wyoming.		Totals.	Examined—Passed.	Examined—Failed.	Percentage of Failures.	No. of States having Representatives.	Number.
F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
	15	2																			4	0															1	0													52	48	4	7.7	4	78
					0	1															1	0																													7	6	1	14.3	3	79
	2	7																																	1	0															16	7	9	56.2	8	80
	5	14			1	3															2	0	0	1													1	0													60	32	28	46.7	7	81
1	21	29			1	1															2	2	0	1							0	1			1	0							5	1	1	3					125	68	57	45.6	16	82
	57	39	2	1	0	1											0	1			3	2	0	1											0	2	8	2					1	0					1	0	196	141	55	28.0	16	83
	8	25																							1	1									1	0											1	0			77	35	42	54.5	12	84
	6	3			1	0																																													14	10	4	28.6	6	85
	0	1																																																	3	1	2	66.7	3	86
	37	5															2	0			4	0													1	0					1	0									84	79	5	6.0	11	87
	7	0											1	0							1	0																													11	11	0	0.	5	88
					7	7											1	0													1	0											1	0							20	12	8	40.0	6	89
			0	1	27	10																									8	0					1	0											1	0	53	42	11	20.8	8	90
					7	0																	0	1							2	1																			17	14	3	17.7	4	91
																																																								92
									8	2			1	1																									1	0											20	17	3	15.0	6	93
													31	1																									1	0											37	36	1	2.7	5	94
									1	0			141	5	2	0			1	0			2	0	6	0	5	0															2	0							180	173	7	3.9	15	95
											1	0	53	1											1	0	1	0															1	0	1	0					63	62	1	1.6	9	96
													13	0											1	0																									16	14	2	12.5	8	97
											4	0	58	1											2	0																									69	67	2	2.9	6	98
													28	1					0	1					1	0																									35	33	2	5.7	7	99
													8	0																																					8	8	0	0.	1	100
													39	3											5	0							2	0			2	0											1	0	56	53	3	5.4	7	101
													24	1																																					25	24	1	4.0	1	102
													38	2	1	0			1	0	1	0			2	0																	1	1							47	44	3	6.4	6	103
															3	4									8	3			2	1			1	0	0	1					12	12									55	31	24	43.6	11	104
															21	6					1	0							1	0											1	0									32	26	6	18.7	6	105
															8	3													1	0											1	0									13	10	3	23.1	3	106
																			20	0																															20	20	0	0.	1	107
													1	0					19	0	1	0			1	0																	1	1							24	23	1	4.2	5	108
													1	0					11	0					0	1																									15	14	1	6.7	5	109
	0	1											8	0					8	1			1	1	4	0																			1	2					40	33	7	17.5	11	110
			1	0							1	0	1	0					27	0					1	0																				0					44	44	0	0.	11	111
																																													1	1					2	1	1	50.0	1	112
																			19	0																															27	27	0	0.	7	113
													1	2			1	0	43	2					1	0																			2	0					53	49	4	7.5	6	114
																			25	4					2	1																			1	0					33	28	5	15.2	8	115
																			5	1																															11	10	1	9.1	8	116
																																																								117
																							13	8																			6	0							28	20	8	28.6	3	118
																							3	15																			0	2							21	4	17	81.0	3	119
																									12	0																									13	13	0	0.	2	120
	1	0									3	0	10	0	1	0			2	0	1	0	1	0	71	3															3	0	2	0	3	0			1	0	129	126	3	2.3	24	121
											3	0	8	0					2	0					43	0																									59	59	0	0.	8	122
									1	0	15	2	5	0	12	0			3	0	1	0	2	0	116	12	1	0	1	0	1	1			1	0	3	0	1	0	1	0	2	0	4	0					218	197	21	9.6	31	123
											5	0	2	0	1	0									16	1									1	0															37	36	1	2.7	11	124
									1	0	12	0	1	0											77	7											2	0											1	0	112	104	8	7.1	13	125
																			0	1					49	11																									61	49	12	19.7	2	126
											1	0			0	1													12	1											1	0									17	15	2	11.8	5	127
															0	4																	13	4							0	1									23	14	9	39.1	4	128
															1	1													0	1																					3	1	2	66.7	2	129
	0	1																			2	1							6	0	1	0	11	8							1	0	1	0							68	52	16	23.5	14	130
	2	0																			2	0							1	0			5	0	4	1							1	0							29	28	1	3.4	12	131
															0	1													0	1			7	4	5	1					1	1									33	19	14	42.4	9	132
	2	7													1	1					2	0							2	1			6	7	4	4					1	1	0	1	1	0					107	58	49	45.7	19	133
	0	2																			1	0											19	1	4	3															93	72	21	22.6	8	134
	0	1													0	1									1	6	0	1					0	2							1	1	1	0	3	2					38	19	19	50.0	17	135
															1	1					1	0							0	1			14	5	0	1							0	1	1	0					48	34	14	29.2	10	136
																																	0	1																	2	0	2	100.0	2	137
																																																								138
																					1	0													12	0															14	14	0	0.	3	139
																					1	0													17	0															19	19	0	0.	3	140
																																			8	0															11	10	1	9.1	2	141
																					2	0																													2	2	0	0.	1	142
																																	0	2	2	0															4	2	2	50.0	2	143
																																			5	1															6	5	1	16.7	1	144
																					1	0													0	4															8	3	5	62.5	4	145
									4	0			2	0									0	3	1	0													29	0			2	0							51	48	3	5.9	9	146
													1	0	2	1			1	0									3	0											32	2			7	1					55	50	5	9.1	9	147
			1	0									1	0	5	0																									16	1	1	0	5	1					31	29	2	6.5	6	148
											1	0	8	0	2	0							1	0	1	0							1	0	1	0					11	0	1	0	4	0					37	36	1	2.7	18	149
																	1	1																									1	0			11	0			17	15	2	11.8	6	150
																																															13	1			15	14	1	6.7	2	151
			1	1	2	1	1	0	0	10	2	0	13	1			9	1	2	0	1	0	2	2	2	1	3	12									0	1			1	0	4	1			3	0			128	86	42	32.8	27	152
	1	0									1	0	12	6			2	2	2	2			1	0	0	2	1	0			1	0			0	1	1	0					1	0							58	42	16	27.6	21	153
													1	0									0	1									0	1	1	0					0	3	2	2							24	14	10	41.7	13	154
	327		28		80		1		47		81		589		114		57		227		75		91		570		68		50		33		137		133		89		35		142		108		114		51		8		6520					
	186		19		55		1		30		70		559		81		48		213		67		50		505		46		37		24		99		106		84		35		108		90		73		50		8			5452				
	141		9		25		0		17		11		30		33		9		14		8		41		65		22		13		9		38		27		5		0		34		18		41		1		0				1068			
	43.1		32.1		31.2		0.		36.2		13.5		50.9		28.9		15.7		6.2		10.6		45.0		11.4		32.3		26.0		27.3		27.7		20.3		12.6		0.		24.6		16.7		35.9		2.0		0.					16.4		
	23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47							

TABLE C.—GRADUATES OF 1900 AND PREVI

Number.	NAME OF COLLEGE.	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18	
		Alabama.		Arizona.		Arkansas.		California.		Connecticut.		Delaware.		D. of Columbia.		Florida.		Georgia.		Idaho.		Illinois.		Indiana.		Iowa.		Kansas.		Kentucky.		Louisiana.		Maine.		Maryland.	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	ALABAMA.																																				
1	Birmingham Medical College.—R.																																				
2	Medical College of Alabama.—R.																																				
	ARKANSAS.																																				
3	Arkansas University Medical Department.—R.					2	0																														
	CALIFORNIA.																																				
4	Cooper Medical College.—R.									1	0																										
5	University of California, Medical Department.—R.																																				
6	California Medical College.—E.																																				
7	Hahnemann Medical College of the Pacific.—H.																																				
8	College of Physicians and Surgeons.—R.																																				
9	Oakland College of Medicine and Surgery.—R.																																				
10	Univ. of Southern California, Coll. of Medicine.—R.			1	0																																
11	College of Physicians and Surgeons, Los Angeles.—R.																																				
	COLORADO.																																				
12	Denver and Gross College of Medicine.—R.							0	1																												
13	Denver Homeopathic College.—H.																																				
14	Colorado School of Medicine, Boulder.—R.																																				
	CONNECTICUT.																																				
15	Yale University Medical School.—R.																																				
	DISTRICT OF COLUMBIA.																																				
16	George Washington University, Dept. of Med.—R.																																				
17	Georgetown University, School of Medicine.—R.																																				
18	Howard University, Medical Department.—R.							0	1																												
	GEORGIA.																																				
19	Atlanta College of Physicians and Surgeons.—R.															1	0	1	0																		
20	Georgia College of Eclectic Medicine and Surgery.E.																																				
21	Medical College of Georgia.—R.					1	0									1	0																				
22	Atlanta School of Medicine.—R.	0	1																																		
	ILLINOIS.																																				
23	American Medical Missionary College.—R.							2	0																	1	0										
24	Bennett Coll. of Eclectic Medicine and Surgery.—E.					1	0	1	0																												
25	College of Medicine and Surgery.—Ph.M.																																				
26	College of Physicians and Surgeons, Chicago.—R.							2	2																	1	0					1	0				
27	Hahnemann Medical College and Hospital.—H.																							2	0	1	0	1	1								
28	Hering Medical College.—H.	1	0					1	0																												
29	Illinois Medical College.—R.							1	0																												
30	Jenner Medical College.—R.																																				
31	Northwestern University Medical School.—R.					1	0	1	0													1	0			1	0										
32	Rush Medical College.—R.			1	0	3	0	3	0											3	1	3	0	1	0												
33	National Medical University	1	0																																		
34	American College of Medicine and Surgery.—E.																																				
35	Dearborn Medical College, Chicago.—R.																																				
	INDIANA.																																				
36	Indiana Medical College.—R.					0	2															1	0	1	0												
37	Physio-Medical College of Indiana.—Ph.M.																																				
38	Eclectic Medical College of Indiana.—E.																																				
	IOWA.																																				
39	Drake University, College of Medicine.—R.																																				
40	Keokuk Med. College, Coll. of Phys. and Surg.—R.					2	0	0	1													1	0					2	0								
41	Sioux City College of Medicine.—R.																																				
42	State University of Iowa, Homeopathic Dept.—H.																																				
43	State University of Iowa, Coll. of Medicine.—R.							1	0											1	1																
	KANSAS.																																				
44	Kansas Medical College.—R.			1	0			1	0																												
45	University of Kansas, School of Medicine.—R.							1	0																												
	KENTUCKY.																																				
46	Hospital College of Medicine.—R.			0	1	1	1	1	0																			0	3					1	0		
47	Kentucky School of Medicine.—R.					1	0									1	0	1	0	0	1			1	0			1	0	0	1	0	1				
48	Louisville Medical College.—R.					2	0																					1	0								
49	Louisville National Medical College.—H.																																				
50	Southwestern Homeopathic Medical College.—H.																																				
51	University of Louisville, Medical Department.—R.					1	1							0	1	1	0			0	1	1	0														
52	Kentucky University Medical Department.—R.					1	0																														
	LOUISIANA.																																				
53	Flint Medical College.—R.																																				
54	Tulane University, Medical Department.—R.	1	0			1	0	1	0							1	0																				
	MAINE.																																				
55	Medical School of Maine, Bowdoin College.—R.									1	0																										
	MARYLAND.																																				
56	Baltimore Medical College.—R.																	1	0	1	0																
57	Baltimore University, School of Medicine.—R.																							1	0									1	0		
58	College of Physicians and Surgs. of Baltimore.—R.			1	0											1	0																				
59	Johns Hopkins Medical School.—R.															1	0																			1	
60	Southern Homeopathic Medical College.—H.																																				
61	University of Maryland, School of Medicine.—R.															3	0															1	0				
62	Woman's Medical College of Baltimore.—R.																																				
63	Maryland Medical College.—R.									0	1																										
	MASSACHUSETTS.																																				
64	Boston University, School of Medicine.—H.													1	0																			2	0		
65	College of Physicians and Surgeons.—R.																																	1	0		
66	Harvard University Medical School.—R.	1	0	2	0			4	0	3	0													1	0	1	0					1	0				
67	Tufts College Medical School.—R.																											1	0								
	MICHIGAN.																																				
68	Detroit College of Medicine.—R.			0	1			1	0											1	0																
69	Detroit Homeopathic Medical College.—H.																																				
70	Michigan College of Medicine and Surgery.—R.																					1	0														
71	Grand Rapids Medical College.—R.																																				
72	University of Michigan, Dept. of Med. and Surg.—R.			1	0			1	1					0	1																			1	0		
73	University of Michigan, Homeopathic Dept.—H.																																				
	MINNESOTA.																																				
74	Univ. of Minnesota Coll. of Med. and Surg.—R.																																				
75	Univ. of Minnesota, Homeopathic Dept.—H.																																				
76	Minnesota College of Physicians and Surgeons.—R.																																				
	MISSISSIPPI.																																				
77	Mississippi Medical College.—R.																																				
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17			

22 Mississippi.		23 Missouri.		24 Montana.		25 Nebraska.		26 Nevada.		27 New Hampshire.		28 New Jersey.		29 New York.		30 North Carolina.		31 North Dakota.		32 Ohio.		33 Oklahoma.		34 Oregon.		35 Pennsylvania.		36 Rhode Island.		37 South Carolina.		38 South Dakota.		39 Tennessee.		40 Texas.		41 Utah.		42 Vermont.		43 Virginia.		44 Washington.		45 West Virginia.		46 Wisconsin.		47 Wyoming.		Totals. Examined—	Passed. Examined—	Failed.	Percentage of Failures.	No. of States having Representatives.	Number.
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F		F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
																																																									1
1	0																																																			1	1	0	0.	1	2
																																																				2	2	0	0.	1	3
														2	0									1	0																			2	0							6	6	0	0.	4	4
																																																									5
																																												1	0							1	1	0	0.	1	6
				0	1																																															1	0	1	100.0	1	7
																																																									8
																																																									9
																								1	0																			1	0							3	3	0	0.	3	10
																																																									11
																								0	1													0	1					1	1							5	1	4	80.0	4	12
																																																									13
																				1	0																							1	0							2	2	0	0.	2	14
												1	0	1	0													1	0																							3	3	0	0.	3	15
												2	0			1	0																			1	0															4	4	0	0.	3	16
																																												1	0							1	1	0	0.	1	17
																																												1	1							3	1	2	66.7	2	18
																1	1																	3	0																	7	6	1	14.3	4	19
																																																									20
																																																				2	2	0	0.	2	21
																																																				1	0	1	100.0	1	22
																								0	1									1	0									1	0							6	5	1	16.7	5	23
																																												1	1							5	4	1	20.0	4	24
																																																									25
	1													1	0			1	0					1	0													1	1					1	1							14	9	5	35.7	9	26
		0	1									1	0	1	2			1	0			0	1	1	0																			1	1							15	9	6	40.0	10	27
																								1	0																			1	0							4	4	0	0.	4	28
				1	0									0	1																																					3	2	1	33.3	3	29
																										1	0																									1	1	0	0.	1	30
																								0	1																			0	1			0	1			9	5	4	44.4	8	31
		1	0	1	0													1	0			2	2	2	0																			[illegible]	1	1	0					30	26	4	13.3	14	32
																																																				1	1	0	0.	1	33
																																																									34
																																																									35
																																												1	1							6	3	3	50.0	4	36
		0	1																			0	1																													2	0	2	100.0	2	37
																																																									38
																																																		1	0	1	1	0	0.	1	39
																		1	0			2	0									0	1											1	0							11	9	2	18.1	8	40
																		1	0																																	1	1	0	0.	1	41
																								1	0																											1	1	0	0.	1	42
		1	0																			1	0	2	0																											7	6	1	14.3	5	43
																																												0	1							3	2	1	33.3	3	44
																																												3	0							4	4	0	0.	2	45
																						1	0															1	0													10	5	5	50.0	7	46
		0	1																			2	1													0	1							1	0							14	8	6	42.8	12	47
		0	1																			0	1																													5	3	2	40.0	4	48
																																																									49
																																																									50
	1	1	1											1	0	0	1					2	4											1	0	1	0							0	2							21	9	12	57.1	13	51
																																																				1	1	0	0.	1	52
																																																									53
	1																	1	0					0	1																											7	5	2	28.6	7	54
																						1	0					2	0															0	1							7	6	1	14.3	5	55
												1	0	1	0											0	1															1	1			1	0					8	6	2	25.0	7	56
														0	1																																					3	2	1	33.3	3	57
	0			0	1									0	1																			1	0									0	1							7	4	3	42.8	7	58
																																																				2	2	0	0.	2	59
																								0	2	1	0																									3	1	2	66.7	2	60
												0	1	1	0			1	0							1	0																									8	7	1	12.5	6	61
																																																									62
																																		0	1																	2	0	2	100.0	2	63
										1	0	1	0	4	0																											1	0	1	1							12	11	1	8.3	7	64
										1	0																																									2	2	0	0.	2	65
														3	0																																					17	17	0	0.	9	66
														2	0																																					3	3	0	0.	2	67
																								0	2																			0	1							6	2	4	66.7	5	68
																																																				1	0	1	100.0	1	69
																						1	0																													2	2	0	0.	2	70
																																																									71
												1	0	4	0			1	0					1	1	1	0							1	0									1	1					0	1	21	16	5	23.8	15	72
																								0	1																											1	0	1	100.0	1	73
																								1	0																			2	0							4	4	0	0.	3	74
																																																									75
																		1	0																																	2	2	0	0.	2	76
																																																									77
22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47							

TABLE C.—GRADUATES OF 1900 AND PREVIO

Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Connecticut.		6 Delaware.		7 D. of Columbia.		8 Florida.		9 Georgia.		10 Idaho.		11 Illinois.		12 Indiana.		13 Iowa.		14 Kansas.		15 Kentucky.		16 Louisiana.		17 Maine.		18 Maryland.		19 Massachusetts.
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P
	MISSOURI.																																					
78	University Medical College, Kansas City.—R.																			1	0							1	0									0
79	Kansas City Hahnemann Medical College.—H.																			0	1																	
80	Eclectic Medical University.—E.																																					
81	Ensworth Central Medical College.—R.					1	0																															
82	Barnes Medical College.—R.					2	0									1	1			0	1																	
83	St. Louis University, Medical Department.—R.					1	0	0	1									1	0	1	[illegible]	2	[illegible]															
84	St. Louis College of Physicians and Surgeons.—R.																							1	[illegible]							1	0					
85	American Medical College.—E.			1	0																																	
86	Homeopathic Medical College of Missouri.—H.																											1	0					1	0			
87	Washington University, Medical Department.—R.					1	0																															
88	University of Missouri, Dept. of Medicine.—R.							0	1																													
	NEBRASKA.																																					
89	University of Nebraska, College of Medicine.—R.																																					
90	John A. Creighton Medical College.—R.																																					
91	Lincoln Medical College.—E.					0	1																															
92	Nebraska College of Medicine.—R.																																					
	NEW HAMPSHIRE.																																					
93	Dartmouth Medical College.—R.			1	0			1	0																													1
	NEW YORK.																																					
94	Albany Medical College.—R.																																					0
95	College of Physicians and Surgeons.—R.																	1	0					1	0									1	0			1
96	Cornell University Medical College.—R.																																					
97	Eclectic Med. Coll. of City of New York.—E.																																					
98	Long Island College Hospital.—R.									0	1																											
99	New York Homeopathic Med. Coll. and Hosp.—H.					1	0							1	0																							
100	New York Med. Coll. and Hosp. for Women.—R.																																					
101	University and Bellevue Hospital Medical Coll.—R.	1	0			1	0	5	0	1	1					1	0					1	0	1	0	1	0											1
102	Syracuse University, College of Medicine.—R.																																					
103	University of Buffalo, Medical Department.—R.									1	0																											
	NORTH CAROLINA.																																					
104	Leonard School of Medicine.—R.																																					
105	North Carolina Medical College.—R.																																					
106	University of North Carolina, Medical Dept.—R.																																					
	OHIO.																																					
107	Western Reserve Univ., Medical Dept.—R.																																					
108	Cleveland College of Physicians and Surgeons.—R.																																					
109	Cleveland Homeopathic Medical College.—H.																																					
110	Eclectic Medical Institute.—E.																					0	1															
111	Medical College of Ohio.—R.					1	0	2	1							2	0																					
112	Pulte Medical College.—H.							1	0																													
113	Miami Medical College.—R.																					1	[illegible]															
114	Ohio Medical University.—R.																					1	0									1	0					
115	Starling Medical College.—R.							0	1																													
116	Toledo Medical College.—R.																																					
	OKLAHOMA.																																					
117	Epworth University, College of Medicine.—R.																																					
	OREGON.																																					
118	University of Oregon, Medical Department.—R.																																					
119	Willamette University, Medical Department.—R.																																					
	PENNSYLVANIA.																																					
120	Temple College of Medicine.—R.																																					
121	University of Pennsylvania, Dept. of Medicine.—R.							3	0					1	0							1	0	1	0							1	0			1	0	1
122	Hahnemann Medical College and Hospital.—H.	1	0					1	0					1	0																							
123	Jefferson Medical College, Philadelphia.—R.							2	1	1	0					2	0			0	1													1	0			
124	Woman's Medical College of Pennsylvania.—R.																																					1
125	Medico-Chirurgical College of Philadelphia.—R.																																					
126	Western Pennsylvania Medical College.—R.																			1	0																	
	SOUTH CAROLINA.																																					
127	Medical College of the State of South Carolina.—R.			0	1																																	
	TENNESSEE.																																					
128	Tennessee Medical College.—R.																																					
129	Knoxville Medical College.—R.																																					
130	University of Nashville, Medical Department.—R.	1	0			1	0									1	0																					
131	Vanderbilt University, Medical Department.—R.			1	0	2	0									1	0	1	0																			
132	University of Tennessee, Medical Department.—R.					1	0	0	1																													
133	Meharry Medical College.—R.	1	0																			1	0															
134	Memphis Hospital Medical College.—R.					3	0																									3	0					
135	University of the South, Medical Department.—R.																																					
136	Chattanooga Medical College.—R.																	1	0																			
137	University of West Tennessee, Medical Dept.—R.																																					
138	College of Physicians and Surgeons.—R.																																					
	TEXAS.																																					
139	Fort Worth University, Medical Department.—R.																																					
140	University of Texas, Department of Medicine.—R.																															1	0					
141	Baylor University, College of Medicine.—R.																																					
142	Physio-Medical College of Texas.—R.																																					
1	Gate City Medical College, Texarkana.—R.																																					
144	Southwestern University Med. Coll., Dallas.—R.																																					
145	College of Physicians and Surgeons, Dallas.—R.																																					
	VERMONT.																																					
146	University of Vermont, Medical Department.—R.																			1	0																	
	VIRGINIA.																																					
147	Medical College of Virginia.—R.																																					
148	University College of Medicine.—R.																																					
149	University of Virginia, Department of Medicine.—R.	1	0					1	0																													
	WISCONSIN.																																					
150	Milwaukee Medical College.—R.																																					
151	Wisconsin College of Physicians and Surgeons.—R.																																					
142	Canadian Colleges			1	0			1	1											2	0							0	1			1	0					
153	Foreign			1	0	1	0	2	1	9	1					2	1					1	0															
154	Miscellaneous Medical Colleges	3	1	1	0	3	0	5	7	1	0			0	1	2	0			2	4	0	2					2	1					1	0			
	Totals by States	14		16		41		67		22		....		7		24		7		25		20		12		6		16		1		12		10		2		
	Totals—Examined—Passed	12		13		36		46		18		....		4		22		7		14		17		12		6		10		6		11		10		2		
	Totals—Examined—Failed	2		3		5		21		4		....		3		2		0		11		8		0		0		6		1		1		0		0		
	Percentage of Failures	14.3		18.7		12.2		31.3		18.2		....		42.8		8.3		0.		44.0		15.0		0.		0.		37.5		100.0		8.8		0.		0.		
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		

22	23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47							
Mississippi.	Missouri.		Montana.		Nebraska.		Nevada.		New Hampshire.		New Jersey.		New York.		North Carolina.		North Dakota.		Ohio.		Oklahoma.		Oregon.		Pennsylvania.		Rhode Island.		South Carolina.		South Dakota.		Tennessee.		Texas.		Utah.		Vermont.		Virginia.		Washington.		West Virginia.		Wisconsin.		Wyoming.		Totals.	Examined—Passed.	Examined—Failed.	Percentage of Failures.	No. of States having Representatives.	Number.
F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
																					2	1																			1										7	5	2	28.6	5	78
																																																			1	0	1	100.0	1	79
																																																								80
																																																			1	1	0	0.	1	81
	0	1	0	1																	1	0	0	1	1	0											1	0													11	6	5	45.4	9	82
0			0	1	1	0							1	0							2	0																			2	0	2	1							17	14	8	17.7	12	83
	1	1																																	0	1															5	3	2	40.0	4	84
																																																			1	1	0	0.	1	85
																																																			2	2	0	0.	2	86
																							0	1																			3	0							5	4	1	20.0	3	87
																																																			1	0	1	100.0	1	88
																																																								89
			0	2																																															2	0	2	100.0	1	90
																																											0	1							2	0	2	100.0	2	91
																																																								92
													1	1																																					5	4	1	20.0	4	93
													2	0							1	0																									1	0			5	4	1	20.0	4	94
			1	0					1	0									1	0			1	0	1	0	1	0													1	0	0	1	1	0					18	12	1	7.7	13	95
																																																								96
																																															1	0			1	1	0	0.	1	97
													0	1					1	0													1	0																	4	2	2	50.0	4	98
																																																			2	2	0	0.	2	99
																																									1	0									1	1	0	0.	1	100
			0	1	1	0					1	0	8	0					1	0					1	0	1	0			1	0	1	0	1	0					1	0	1	0							28	26	2	7.1	21	101
																																																								102
	1	0																																																	2	2	0	0.	2	103
																																													1	0					1	1	0	0.	1	104
																																																								105
																																																								106
																	1	0																	1	1									0	1					4	2	2	50.0	3	107
			0	2																																															2	0	2	100.0	1	108
													0	1																																					1	0	1	100.0	1	109
					1	0															1	1																													6	3	3	50.0	5	110
			0	1															1	0	1	0																			1	0									10	8	2	20.0	7	111
													0	1																																					2	1	1	50.0	2	112
																			0	1													0	1																	4	2	2	50.0	4	113
																									0	1																									3	2	1	33.3	3	114
																									0	1									1	0							1	0							4	2	2	50.0	4	115
																			0	1			0	1																											2	0	2	100.0	2	116
																																																								117
																																																								118
																																																								119
																																																								120
	1	0	1	0							1	0	4	1											2	0															1	0	2	0					1	0	23	22	1	4.4	15	121
											0	1																																							4	3	1	25.0	4	122
	1	0	0	1									2	0											1	0			1	0																			1	0	18	13	5	27.8	11	123
													8	0	1	0																											1	0							6	6	0	0.	4	124
													1	0											1	1																									3	2	1	33.3	2	125
																									1	0																	1	0							8	8	0	0.	3	126
																																																			1	0	1	100.0	1	127
															0	1																																			1	0	1	100.0	1	128
																																																								129
															0	1																	1	0	0	1															6	4	2	33.3	6	130
	1	0											0	1	1	0																	0	1	0	1							0	1							12	8	4	33.3	11	131
																																	1	0																	4	3	1	25.0	4	132
																					0	1																													3	2	1	33.3	3	133
													0	1							2	0																													11	9	2	18.1	5	134
			1													1	0													1	0																					4	3	1	25.0	4	135
															1	1					0	1											1	1																	6	3	3	50.0	4	136
																																																								137
																																																								138
																					1	0																													1	1	0	0.	1	139
																																																			1	1	0	0.	1	140
																																																								141
																																																								142
																																																								143
																																																								144
																																																								145
			0	2							1	0	2	0																	0	1																			8	4	4	50.0	6	146
													1	0																																					1	1	0	0.	1	147
																																													1	2					3	1	2	66.7	1	148
													1	0																											4	0	1	0	2	0					10	10	0	0.	6	149
																																																								150
	1	1																																																	2	1	1	50.0	1	151
0	1	0	0	1									1	0	0	1	1	0	2	0	1	0									1	0											3	1							24	18	6	25.0	17	152
	1	0	1	1			1	0					22	12					1	0			1	0	2	3	2	3					1	0	0	1							2	1					0	1	81	56	25	30.7	20	153
0			0	1									5	2	0	2			1	0	1	2	1	0	0	1															1	0	4	2	3	0			1	1	67	39	28	41.8	25	154
13	20		21		8		1		8		12		96		14		11		11		41		28		22		10		2		4		17		11		5		0		16		71		13		3		7		793					
9	11		5		8		1		8		10		70		6		11		9		25		15		14		7		2		2		13		5		3		0		15		47		10		2		4			568				
4	9		16		0		0		0		2		26		8		0		2		16		13		8		3		0		2		4		6		2		0		1		24		3		1		3				225			
.8	45.0		76.2		0.		0.		0.		16.7		27.1		57.1		0.		18.1		39.1		46.4		36.4		30.0		0.		50.0		23.5		54.5		40.0		0.		6.3		33.8		23.1		33.3		42.8					27.1		
2	23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47							

TABLE D.—PHYSICIANS EXAMINED BY

	COLLEGE.	1903		1904		1905		1906		Total Examined.	Passed.	Failed.	Percentage of Failures.	Number.
		P	F	P	F	P	F	P	F					
	ALABAMA.													
1	Birmingham Medical College.—R.	1	0	4	0	...	...	13	0	18	18	0	0.	1
2	Medical College of Alabama.—R.	6	2	36	5	41	5	29	0	124	112	12	9.7	2
	ARKANSAS.													
3	Arkansas University Medical Department.—R.	3	0	2	1	2	1	9	1	19	16	3	15.8	3
	CALIFORNIA.													
4	Cooper Medical College.—R.	40	8	44	5	40	9	39	1	186	163	23	12.4	4
5	University of California Medical Department.—R.	4	0	34	2	20	2	19	2	83	77	6	7.2	5
6	California Medical College.—E.	0	3	3	5	3	5	2	3	24	8	16	66.7	6
7	Hahnemann Medical College of the Pacific.—H.	9	3	7	1	10	5	5	1	41	31	10	24.4	7
8	College of Physicians and Surgeons, San Francisco.—R.	20	9	18	12	17	14	22	4	116	77	39	33.6	8
9	Oakland College of Medicine and Surgery.—R.	...	...	...	...	...	...	4	0	4	4	0	0..	9
10	University of Southern California College of Medicine—R.	21	0	26	6	16	13	26	6	114	89	25	21.9	10
11	College of Physicians and Surgeons, Los Angeles.—R.	...	...	...	...	2	0	4	0	6	6	0	0.	11
	COLORADO.													
12	Denver and Gross College of Medicine.—R.	10	0	16	1	16	4	10	8	65	52	13	20.0	12
13	Denver Homeopathic College.—H.	...	...	...	...	2	0	0	1	3	2	1	33.3	13
14	Colorado School of Medicine.—R.	5	0	7	0	10	0	6	0	28	28	0	0.	14
	CONNECTICUT.													
15	Yale University Department of Medicine.—R.	43	2	38	2	29	0	24	0	138	134	4	2.9	15
	DISTRICT OF COLUMBIA.													
16	George Washington University, Department of Medicine.—R.	12	2	67	3	55	12	61	19	231	195	36	15.6	16
17	Georgetown University, School of Medicine.—R.	18	0	37	4	26	8	28	9	130	109	21	16.2	17
18	Howard University, Medical Department.—R.	19	8	22	15	27	11	28	9	139	96	43	30.9	18
	GEORGIA.													
19	Atlanta College of Physicians and Surgeons.—R.	42	14	36	5	11	5	69	4	186	158	28	15.1	19
20	Georgia College of Eclectic Medicine and Surgery.—E.	1	3	11	3	1	4	18	1	48	37	11	22.9	20
21	Medical College of Georgia.—R.	6	3	30	0	2	1	34	5	81	72	9	11.1	21
22	Atlanta School of Medicine.—R.	...	...	...	...	...	...	19	2	21	19	2	9.5	22
	ILLINOIS.													
23	American Medical Missionary College.—R.	13	1	13	1	16	3	27	2	76	69	7	9.2	23
24	Bennett College of Eclectic Medicine and Surgery.—E.	14	6	16	1	30	8	65	7	147	125	22	15.0	24
25	College of Medicine and Surgery.—Ph.M.	20	9	12	7	7	5	4	5	69	43	26	37.7	25
26	College of Physicians and Surgeons, Chicago.—R.	229	18	227	17	259	21	251	22	1,044	966	78	7.5	26
27	Hahnemann Medical College and Hospital.—H.	64	7	53	2	59	12	71	13	281	247	34	12.1	27
28	Hering Medical College.—H.	14	0	17	1	16	4	12	6	70	59	11	15.7	28
29	Illinois Medical College.—R.	28	12	51	14	41	17	39	7	209	159	50	23.9	29
30	Jenner Medical College.—R.	11	2	18	2	15	6	32	5	91	76	15	16.5	30
31	Northwestern University Medical School.—R.	121	5	159	2	174	9	159	7	636	613	23	3.6	31
32	Rush Medical College.—R.	258	16	245	15	207	21	158	7	927	868	59	6.4	32
33	National Medical University	7	4	21	9	22	1	14	2	80	64	16	20.0	33
34	American College of Medicine and Surgery.—E.	0	1	22	2	43	7	30	4	109	95	14	12.8	34
35	Dearborn Medical College, Chicago.—R.	...	...	18	0	28	1	31	6	84	77	7	8.3	35
	INDIANA.													
36	Indiana Med. College, the School of Med. of Purdue Univ.—R.	6	3	31	6	113	28	127	15	329	277	52	15.8	36
37	Physio-Medical College of Indiana.—Ph.M.	2	0	4	1	5	7	6	2	27	17	10	37.0	37
38	Eclectic Medical College of Indiana.—E.	0	1	2	0	5	1	5	1	15	12	3	20.0	38
	IOWA.													
39	Drake University College of Medicine.—R.	11	4	14	1	14	4	13	0	61	52	9	14.8	39
40	Keokuk Medical College, College of Phys. and Surg.—R.	42	14	49	13	55	26	58	27	284	204	80	28.2	40
41	Sioux City College of Medicine.—R.	15	2	16	3	15	0	15	4	70	61	9	12.9	41
42	State University of Iowa, Homeopathic Medical Dept.—H.	13	0	9	1	3	0	1	0	27	26	1	3.7	42
43	State University of Iowa College of Medicine.—R.	93	5	57	8	77	5	73	2	320	300	20	6.2	43
	KANSAS.													
44	Kansas Medical Coll., Medical Dept. of Washburn Coll.—R.	2	2	7	3	17	1	19	1	52	45	7	13.5	44
45	University of Kansas School of Medicine.—R.	...	...	...	...	...	...	63	2	65	63	2	3.0	45
	KENTUCKY.													
46	Hospital College of Medicine.—R.	23	5	20	16	21	22	31	17	155	98	60	38.7	46
47	Kentucky School of Medicine.—R.	32	19	35	15	33	24	28	23	209	128	81	38.7	47
48	Louisville Medical College.—R.	30	9	35	12	19	16	35	13	169	119	50	29.6	48
49	Louisville National Medical College.—H.	...	...	1	0	1	0	...	...	2	2	0	0.	49
50	Southwestern Homeopathic Medical College.—H.	1	0	...	...	1	2	1	3	8	3	5	62.5	50
51	University of Louisville Medical Department.—R.	17	10	28	17	27	16	47	20	182	119	63	34.6	51
52	Kentucky University, Medical Department.—R.	13	1	24	8	18	17	32	16	129	87	42	32.6	52
	LOUISIANA.													
53	Flint Medical College of New Orleans University.—R.	2	5	8	10	2	10	11	13	61	23	38	62.3	53
54	Tulane University of Louisiana, Medical Department.—R.	79	0	82	7	80	9	109	6	372	350	22	5.9	54
	MAINE.													
55	Medical School of Maine, Bowdoin College.—R.	24	4	27	5	24	0	27	1	112	102	10	8.9	55
	MARYLAND.													
56	Baltimore Medical College.—R.	110	25	92	29	89	35	111	41	532	402	130	24.4	56
57	Baltimore University School of Medicine.—R.	19	24	20	45	17	39	12	26	202	68	134	66.3	57
58	College of Physicians and Surgeons of Baltimore.—R.	56	18	93	33	79	16	69	15	379	297	82	21.6	58
59	Johns Hopkins Medical School.—R.	52	1	58	1	61	0	76	1	250	247	3	1.2	59
60	Southern Homeopathic Medical College.—H.	2	1	14	2	14	2	2	4	41	32	9	22.0	60
61	University of Maryland, School of Medicine.—R.	89	13	109	32	83	31	89	20	466	370	96	20.6	61
62	Woman's Medical College of Baltimore.—R.	2	0	1	0	6	0	1	1	11	10	1	9.1	62
63	Maryland Medical College.—R.	31	25	55	36	52	62	30	39	330	168	162	49.1	63
	MASSACHUSETTS.													
64	Boston University School of Medicine.—H.	39	7	36	1	15	2	44	7	151	134	17	11.3	64
65	College of Physicians and Surgeons.—R.	11	7	22	10	18	13	20	12	113	71	42	37.2	65
66	Harvard University Medical School.—R.	132	1	155	1	110	3	118	3	523	515	8	1.5	66
67	Tufts College Medical School.—R.	48	7	59	10	67	7	83	5	286	257	29	10.1	67
	MICHIGAN.													
68	Detroit College of Medicine.—R.	20	3	28	3	19	4	81	6	164	148	16	9.8	68
69	Detroit Homeopathic Medical College.—H.	1	0	2	1	1	0	7	1	13	11	2	15.4	69
70	Michigan College of Medicine and Surgery.—R.	1	0	7	4	1	1	14	0	28	23	5	17.9	70
71	Grand Rapids Medical College.—R.	3	0	...	...	0	1	8	0	12	11	1	8.3	71
72	University of Michigan, Department of Med. and Surg.—R.	65	3	98	11	113	16	91	6	403	367	36	8.9	72
73	University of Michigan, Homeopathic Medical College.—H.	...	...	3	1	13	0	18	1	36	34	2	5.6	73
	MINNESOTA.													
74	University of Minnesota College of Medicine and Surgery.—R.	106	7	104	2	108	13	65	9	414	383	31	7.5	74
75	University of Minnesota, Homeopathic Department.—H.	1	0	3	1	2	0	2	0	9	8	1	11.1	75
76	Minnesota College of Physicians and Surgeons.—R.	36	8	23	16	22	14	32	13	164	113	51	31.1	76
	MISSISSIPPI.													
77	Mississippi Medical College.—R.	...	...	...	...	...	...	...	...	....	....	...	....	77

	COLLEGE.	1903		1904		1905		1906		Total Examined.	Passed.	Failed.	Percentage of Failures.	Number.
		P	F	P	F	P	F	P	F					
	MISSOURI.													
78	University Medical College of Kansas City.—R.	8	11	16	15	10	2	53	6	121	87	34	28.1	78
79	Kansas City Hahnemann Medical College.—H.	2	2	3	0	50	7	6	2	72	61	11	15.3	79
80	Eclectic Medical University.—E.	0	1	2	1	2	1	7	9	23	11	12	30.4	80
81	Ensworth Central Medical College.—R.	1	2	18	9	18	14	33	28	118	65	53	44.9	81
82	Barnes Medical College.—R.	24	21	45	20	42	21	74	62	309	185	124	40.1	82
83	St. Louis University, Medical Department.—R.	18	3	45	8	72	12	155	58	371	290	81	21.8	83
84	St. Louis College of Physicians and Surgeons.—R.	15	6	36	9	34	8	38	44	190	123	67	35.3	84
85	American Medical College.—E.	2	2	1	4	5	3	11	4	32	19	13	40.6	85
86	Homeopathic Medical College of Missouri.—H.	4	1	1	4	5	0	3	2	20	13	7	35.0	86
87	Washington University Medical Department.—R.	10	3	38	8	52	8	83	6	208	183	25	12.0	87
88	University of Missouri Department of Medicine.—R.	8	1	2	0	6	0	11	1	29	27	2	6.9	88
	NEBRASKA.													
89	University of Nebraska, College of Medicine—R.	11	8	36	5	33	9	12	8	122	92	30	24.6	89
90	John A. Creighton Medical College.—R.	10	1	39	1	34	5	42	13	145	125	20	13.8	90
91	Lincoln Medical College.—E.	2	1	21	6	16	5	14	5	70	53	17	24.3	91
92	Nebraska College of Medicine.—R.	...	...	...	...	...	...	...	...	....	....	...	....	92
	NEW HAMPSHIRE.													
93	Dartmouth Medical College.—R.	25	5	12	2	17	1	21	4	87	75	12	13.8	93
	NEW YORK.													
94	Albany Medical College.—R.	35	3	46	5	54	0	40	2	185	175	10	5.4	94
95	College of Physicians and Surgeons.—R.	167	8	229	9	210	9	185	8	825	791	34	4.1	95
96	Cornell University Medical College.—R.	56	1	67	2	79	0	62	1	268	264	5	1.5	96
97	Eclectic Medical College of City of New York.—E.	15	1	11	0	13	3	15	2	60	54	6	10.0	97
98	Long Island College Hospital.—R.	48	5	50	1	79	10	69	4	266	246	20	7.5	98
99	New York Homeopathic Medical College and Hospital.—H.	26	5	31	1	24	2	35	2	126	116	10	7.9	99
100	New York Medical College and Hospital for Women.—R.	11	0	9	0	10	2	9	2	43	39	4	9.3	100
101	University and Bellevue Hospital Medical College.—R.	94	14	87	12	67	9	79	5	367	327	40	10.9	101
102	Syracuse University College of Medicine.—R.	30	0	36	0	32	0	24	1	123	122	1	0.8	102
103	University of Buffalo, Medical Department.—R.	45	4	46	4	56	1	46	3	205	193	12	5.9	103
	NORTH CAROLINA.													
104	Leonard School of Medicine.—R.	19	11	12	22	21	25	32	24	166	84	82	49.4	104
105	North Carolina Medical College.—R.	12	1	19	1	22	8	26	6	95	79	16	16.8	105
106	University of North Carolina Medical Department.—R.	4	0	4	0	8	1	10	3	30	26	4	13.3	106
	OHIO.													
107	Western Reserve University Medical College.—R.	8	0	32	2	26	3	22	2	95	88	7	7.4	107
108	Cleveland College of Physicians and Surgeons.—R.	3	1	16	1	17	1	23	3	65	59	6	9.2	108
109	Cleveland Homeopathic Medical College.—H.	14	4	18	10	31	3	14	2	96	77	19	19.8	109
110	Eclectic Medical Institute.—E.	11	8	20	13	39	12	36	10	149	106	43	28.8	110
111	Medical College of Ohio.—R.	24	3	49	1	38	7	52	2	176	163	13	7.4	111
112	Pulte Medical College.—H.	2	2	5	3	9	6	2	2	31	18	13	41.9	112
113	Miami Medical College.—R.	10	3	27	6	25	1	29	2	103	91	12	11.6	113
114	Ohio Medical University.—R.	27	4	49	12	46	9	51	5	203	173	30	14.8	114
115	Starling Medical College.—R.	13	6	36	10	36	7	30	7	145	115	30	20.7	115
116	Toledo Medical College.—R.	0	1	3	3	6	1	10	3	27	19	8	29.6	116
	OKLAHOMA.													
117	Epworth University College of Medicine.—R.	...	...	...	...	...	...	...	...	....	....	...	....	117
	OREGON.													
118	University of Oregon, Medical Department.—R.	1	0	19	0	17	19	20	8	84	57	27	32.1	118
119	Willamette University Medical Department.—R.	1	0	9	1	6	6	4	17	44	20	24	54.5	119
	PENNSYLVANIA.													
120	Temple College of Philadelphia, Department of Medicine.—R.	...	...	1	0	2	0	13	0	16	16	0	0.	120
121	University of Pennsylvania, Department of Medicine.—R.	136	3	123	8	164	8	148	4	594	571	23	3.9	121
122	Hahnemann Medical College and Hospital.—H.	22	0	81	3	51	2	62	1	222	216	6	2.7	122
123	Jefferson Medical College, Philadelphia.—R.	148	14	189	26	208	11	210	26	832	755	77	9.2	123
124	Woman's Medical College of Pennsylvania.—R.	32	1	49	5	49	2	42	1	181	172	9	5.0	124
125	Medico-Chirurgical College of Philadelphia.—R.	81	5	81	21	109	24	106	9	436	377	59	13.5	125
126	Western Pennsylvania Medical College.—R.	72	16	59	13	76	12	52	12	312	259	53	17.0	126
	SOUTH CAROLINA.													
127	Medical College of the State of South Carolina.—R.	21	1	24	2	26	7	15	3	99	86	13	13.1	127
	TENNESSEE.													
128	Tennessee Medical College.—R.	13	6	4	6	17	5	14	10	75	48	27	36.0	128
129	Knoxville Medical College.—R.	...	...	0	3	1	6	1	2	13	2	11	84.6	129
130	University of Nashville Medical Department.—R.	18	3	38	7	48	11	56	18	199	160	39	19.6	130
131	Vanderbilt University Medical Department.—R.	29	7	48	3	30	7	36	5	165	143	22	13.3	131
132	University of Tennessee Medical Department.—R.	24	1	25	18	22	16	22	15	143	93	50	35.0	132
133	Meharry Medical College.—R.	12	7	32	14	27	25	60	51	228	131	97	42.5	133
134	Memphis Hospital Medical College.—R.	54	11	102	59	55	31	81	24	417	292	125	30.0	134
135	University of the South, Medical Department.—R.	25	15	34	36	32	27	22	20	211	113	98	46.4	135
136	Chattanooga Medical College.—R.	10	4	29	15	21	23	37	17	156	97	59	31.4	136
137	University of West Tenessee Medical Department.—R.	...	...	2	1	0	2	0	2	7	2	5	71.4	137
138	College of Physicians and Surgeons.—R.	...	...	...	...	...	...	...	...	....	....	...	....	138
	TEXAS.													
139	Fort Worth University Medical Department.—R.	4	1	4	0	3	0	15	0	27	26	1	3.7	139
140	University of Texas, Department of Medicine.—R.	24	1	22	0	12	0	20	0	79	78	1	1.3	140
141	Baylor University College of Medicine.—R.	6	3	1	1	4	3	10	1	29	21	8	27.6	141
142	Physio-Medical College of Texas.—R.	...	...	...	...	...	...	2	0	2	2	0	0.	142
143	Gate City Medical College, Texarkana.—R.	...	...	...	...	2	3	2	2	9	4	5	55.5	143
144	Southwestern University Medical College, Dallas.—R.	...	...	...	...	1	1	5	1	8	6	2	25.0	144
145	College of Physicians and Surgeons, Dallas.—R.	...	...	...	...	1	0	3	5	9	4	5	55.5	145
	VERMONT.													
146	University of Vermont Medical Department.—R.	53	11	72	15	75	12	52	7	297	252	45	15.2	146
	VIRGINIA.													
147	Medical College of Virginia.—R.	38	8	53	4	40	12	51	5	211	182	29	13.7	147
148	University College of Medicine.—R.	46	4	35	5	52	5	30	4	181	163	18	9.9	148
149	University of Virginia Department of Medicine.—R.	42	3	30	2	58	5	46	1	187	176	11	5.9	149
	WISCONSIN.													
150	Milwaukee Medical College.—R.	5	0	5	2	19	2	15		50	44	6	12.0	150
151	Wisconsin College of Physicians and Surgeons.—R.	2	1	8	2	14	3	15		42	34	8	19.0	151
152	Canadian Colleges	107	8	99	12	112	26	105	48	517	423	94	18.2	152
153	Foreign	98	35	109	59	106	40	101	46	594	414	180	30.3	153
154	Miscellaneous Medical Colleges and Undergraduates	...	...	242	264	202	244	395	402	1,749	839	910	52.1	154
	Totals	4,900		6,908		7,150		8,037		26,995	......	......	......	....
	Totals—Examined—Passed	4,206		5,583		5,673		6,368		......	21,830	......	......	....
	Totals—Examined—Failed	694		1,325		1,477		1,669		......	......	5,165	......	....
	Percentage of Failures	14.2		19.2		20.7		20.8		......	......	......	19.1	...

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EXPERIMENTAL THERAPEUTIC STUDIES OF TRYPANOSOMIASIS.

At a recent meeting of the Berlin Medical Society Ehrlich[1] discussed the results of his experimental therapeutic studies of trypanosome infections. He has tried the effects of innumerable chemical substances on these infections in animals in the hope that sooner or later some substance or substances would be found which would have a specific curative effect on human trypanosomiasis. In this study, which is yet in its beginning, observations of great interest have been made, especially on Ehrlich's well known ideas about the relations between chemical constitution and biologic action.

It may be recalled that Ehrlich found that, in the case of mice infected with nagana trypanosomes, a certain anilin dye is curative if injected within twenty-four hours after the infection. This substance has been called trypan red. It has no effect on animals infected with *Trypanosoma brucei*. In this connection it may be recalled that a form of arsenic acid (atoxyl) has been used in sleeping sickness, and in some instances it seems with remarkable results. Ehrlich has found further that a certain combination of fuchsin also is effective in experimental infections even when taken internally.

When trypan red does not actually cure infection in mice, twenty to thirty days may pass after the injection before parasites again appear in the blood, and during this time infection with new parasites does not hasten the death of animals, evidently because a form of immunity has been established. Furthermore, feeding fuchsin drives nagana trypanosomes out of the blood temporarily, but only for one or two times. Eventually the fuchsin becomes ineffective either because the mouse organism interferes or because the parasites become immune to the remedy. To settle this question parasites were taken from a treated mouse and injected into a new mouse, which was then treated with fuchsin, but without any effect, thus showing plainly that the parasites no longer were influenced by the fuchsin.

A similar immunity is obtainable with respect to other substances also, and this immunity may be inherited through many generations. The immunity is limited to the particular substance used, that is to say, a strain of trypanosomes which is immune to fuchsin is not immune to trypan red or atoxyl. In trypanosomes—so reasons Ehrlich—there are consequently different protoplasmic groups with which the various substances may unite and thereby exercise special actions of profound significance. As a further illustration of this point it may be cited that paramecia live in strong solutions of trypan red, but that in very weak ones they lose their power to multiply; hence there must be a special affinity between the dye and parts of the protoplasm that directly or indirectly serve proliferation. The instances of failures in the treatment of sleeping sickness with atoxyl may depend on the inability of atoxyl to act on certain strains of trypanosomes and in such cases it is possible that combinations of substances destructive of trypanosomes may be found effective. Certainly it is an ambitious undertaking to attempt the discovery of specific remedies in the manner outlined; but, as we see, the search is proving fruitful in various ways and further developments will be awaited with great interest.

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[1] Berl. med. Woch., xliv, Nos. 9-12, 1907. See also The Journal, page 1219, abstract 26.

SURGERY 2500 B. C.

One of the recent publications of the Carnegie Institution in Washington is a series of Egyptologic researches by W. Max Müller[1] containing two plates which the author says "may claim to be the earliest known representations of surgical operations." As Dr. Müller, who is, we understand, a grandson of the great philologist of the same name, is a distinguished authority in Egyptology, and as this work represents some of the most recent results of his explorations, it would seem probable that we have here the first pictures of surgeons at work. The inscribed tablets, of which these pictures constitute part, were found in the necropolis of Memphis. The tomb in which they were found was made not later than 2500 B. C. The complete significance of them has not yet been worked out. Dr. Müller prefers, however, to communicate these extracts without waiting further because of their great interest and because of the light they may serve to throw on the early history of medicine and surgery for those who are working in that department of knowledge.

Considering that those were the days when anesthetics had not even been thought of, it is not surprising that a striking feature of the pictures is the efforts of the patients to suppress their pain by holding their arms, with the hands pressed in the axillæ, and that one patient holds the operator's hand and another implores him: "Don't hurt me thus." Two of the operations represented—though not with sufficient clarity to make their entire purport readily recognizable—are on the palm and the foot, the latter probably an operation on the toes. The upper row of the same tablet contains what is evidently a picture of the opening of a boil on the neck. While the editor calls it a boil, its position at the back of the neck is exactly that in which carbuncles usually occur, and the size of the lesion seems to indicate that it was more than a simple furuncle. This will be interesting to pathologists as well as to surgeons. According to Dr. Müller, the operator sits on a brick in order to be raised high enough to see better, and seems to hold the head of his victim with his left hand while the right hand operates. Unfortunately, the stone is so broken at the top that these latter details are uncertain. In the same row of pictures there is a representation which requires still more restoration, but which seems to picture the surgeon as opening a boil or operating on some other pathologic condition on the knee.

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[1] Egyptological Researches, Results of a Journey in 1904, Published by the Carnegie Institution in Washington, 1906. Quarto, 62 pp, 106 plates. Price $2.75.

The lower part of one of the tablets has two representations of circumcisions. The only early representation of such a ceremony among the Egyptians that has hitherto been known to be in existence was that published by Chabas in the *Revue Archéologique,* 1861, from the Temple of Khons in Thebes. This picture was reproduced and discussed by Ebers, one of the great authorities on the early history of medicine in Egypt, in his book on "Egypt and the Book of Moses." These pictures presented by Dr. Müller have the advantage of being about thirteen hundred years earlier than the previous one and, besides, are in an unmutilated condition, while the other required restoration, some of which was not entirely acceptable to all the authorities. Here once more the question of the discomfort of the patient is one of the things brought out very strongly in the drawings, and the patients, instead of being infants or even young boys, are youths of twenty or more, so that it is evident that the earliest custom in Egypt in regard to circumcision was perfectly in harmony with the early Semitic usage in this matter, and the rite seems to have preceded marriage. The instrument used for this purpose was a flint, showing how old is the ritual usage in this regard.

The operators in the pictures are dressed in priestly garments. The other surgeons, however, are dressed in the ordinary clothing of better class Egyptians, so that "it could not be concluded from these pictures," Dr. Müller says, "that the physicians were always priests at that time, although this is elsewhere known to be the rule for the better educated physicians." It would seem, indeed, as though there had begun already to be some distinctions between those who did ordinary surgical operations and those who performed the operations of religious ritual. This is a precious bit of information if it would indicate, as seems to be the case, that the surgical profession was even then assuming a certain independence of character which was to lead later to the development of a separate profession of surgery, at least, if not also of medicine. The whole subject is extremely interesting to those who have been following recent developments in the history of medicine, and though the chapter in the present volume is suggestive rather than informing to any great degree, it serves to call attention to a new and most interesting phase of the origin of medicine and surgery.

PRESCRIPTION REFILLING AND THE PURE FOOD LAW IN TEXAS.

A question seems to have arisen in Texas as to the application to physician's prescriptions of the provision in the state pure food law that drugs should be considered "misbranded" if the package fails to bear a statement as to the proportions of alcohol, morphin and other poisons contained therein. It is not quite clear why the question should have arisen, but it was evidently deemed of sufficient importance to call out an opinion from the assistant attorney-general that physicians' prescriptions were exempted, not being packages put up for commercial handling within the meaning of the law. Inferentially the opinion might be taken to imply that the commercial use of such prescriptions would bring them under the statute, though whether or not it technically does this we are not prepared to give an opinion. At all events, it would seem possible for a question to be raised as to the legality under the pure food law of druggists or others refilling prescriptions for their own profit, even for the original proprietor, without violating the confidential character which the combination should have. A prescription is intended for a particular case at a particular time, and the compounding of it under any other conditions would, it seems, be a general use that would bring it under the head of commercial packages and be equivalent to placing it on the market for sale. Even if it is not kept in stock, the filing of the prescription and its subsequent use, independent of any order of the prescriber, amounts practically to about the same thing.

THE MAKING OF DEATH CERTIFICATES FOR EDDYITE VICTIMS.

A New York coroner's jury calls the attention of the health department, the district attorney and the county medical society to the practice of certain physicians who furnish death certificates for persons dying under Eddyite treatment. The jury declares that this aids in the evasion of the state laws, and it requests that steps be taken to put a stop to this practice. The recommendation is an excellent one. More practical aid and comfort are given to Eddyites and other irregulars by the medical profession than is to the advantage of the public. The importunities of bereaved friends, and the desire to save them from the annoyance and semi-scandal of a public inquest as an additional affliction, are enough to make many benevolent physicians give a death certificate, although they are well aware that all sorts of quacks and irregulars profit by their soft-heartedness and parade the death records as evidence of their own success and the lack of success of the regular physicians. We are not sure as to the possible legal difficulties in refusing a death certificate when one has treated a patient to any extent whatever when one is sure of the diagnosis, and there is no question of any criminality except Eddyite fanaticism and ignorant neglect. Of course no prudent man would sign a certificate when there is any question of fraud or violence, but there are possibilities of deception, and undoubtedly some individuals have brought serious trouble on themselves in this way. It would be an excellent rule if physicians were forbidden to give death certificates for patients coming into their hands already moribund after treatment by quacks. This might work hardship in certain instances, but the general result would be for the better, to the sick, to the community, and to the medical profession. We hope the recommendation of the New York coroner's jury will have effect.

THE POSTOFFICE AND UNCLEAN ADVERTISEMENTS.

A news item, insignificant in size and tucked away unobtrusively in one of the large Chicago dailies, contains a statement of interest. The postoffice department, it is stated, has determined to take action regarding the class of medical advertisements carried by the Chicago papers. An order issued May 20 by the Postmaster General, according to the report, declared unmailable over twenty medical advertisements being carried in the Chicago dailies. It is high time that some action were taken. We recently[1] referred to the preposterous inconsistency between the editorial opinions on clean advertising and the class of advertisements carried in a Chicago newspaper. The postoffice order evidently affects only advertisements of an immoral nature—the professional abortionists, etc. It is unfortunate that there is no way of ridding the papers of such advertising as offends the taste. In a recent Sunday issue of one of the largest, and supposedly most respectable, Chicago papers was a two-column advertisement with the glaring caption "VARICOCELE." Then followed a quasi-scientific description of this interesting pathologic condition. A salacious morsel to serve up for the family Sunday reading! It is to be regretted that the law can not be invoked to demand of such papers that tribute to common decency which they seem unwilling to give voluntarily.

THE QUESTION OF OPERATION IN CASES OF DIABETES.

Some diversity of opinion exists as to the expediency of operating in cases of diabetes mellitus. Diabetics are rather prone to infection, and the wounds necessarily resulting in the course of surgical procedures constitute inviting portals for the entrance of pyogenic and other pathogenic micro-organisms. Moreover, the vital resistance of the diabetic patient is diminished by reason of his condition. In addition, changes in the blood vessels, giving rise to interference with the circulation of the blood, often develop, especially in the extremities. Finally, the administration of an anesthetic may superinduce the development of the acid intoxication that not uncommonly causes a fatal termination. For these reasons it would seem that the decision to operate in a given case should not be made lightly, but should be controlled by a judicial conservatism. The surgeon will have to weigh carefully all the circumstances in order to determine whether the patient will be placed in the greater danger from interference than from non-interference. As the result of a not inconsiderable experience and from a study of the literature of the subject, Dr. Joseph Wiener[1] points out that a distinction should be made in this connection between disorders complicating and those merely concurrent with the diabetes. In his opinion, operations for the relief or correction of conditions not due to the primary disease should be performed for exactly the same indications as they are undertaken in the absence of diabetes. The abnormal products—acetone, diacetic, oxybutyric and lactic acids—in the blood of diabetic patients do harm in two ways, (1) by lowering the resistance of the tissues and thus increasing the liability of infection, and (2) by contributing to the development of arteriosclerosis. The last-named condition is an important factor in the production of diabetic gangrene, which is of the "dry" variety in the absence of infection and becomes "moist" when infection is superadded. The endeavors of the surgeon should be directed, so far as possible, to the avoidance of infection. Arteriosclerosis and gangrene are more common in the lower than in the upper extremities. Wiener maintains that if more than three toes are involved in the gangrenous process, especially if there is associated cellulitis, a high amputation is generally indicated; it is also indicated if the infection is progressive, and if there is any doubt as to the site of amputation. If the urinary excretion of ammonia exceeds one gram in twenty-four hours it is wise to defer operation until the amount is considerably reduced by dietetic means. The prognosis depends on the degree of acid intoxication rather than on the amount of glucose in the urine. A rigid meat diet will reduce the amount of sugar in the urine, but may superinduce fatal coma through acid intoxication. The administration of sodium bicarbonate before and after operation is capable of doing good without any risk of harm. So far as possible ether and chloroform should be avoided as anesthetics, and whenever operations on diabetic patients are required they should be performed with the greatest simplicity and celerity.

INTERMITTENT FEVER IN VISCERAL SYPHILIS.

Fevers of obscure origin are of not infrequent occurrence, and, though a good deal has been written on the subject of syphilitic fever in the past few years, the profession is not yet alive to the fact that it is relatively common. Especially are medical men slow to realize that the tertiary lesions of the disease are associated in some instances with febrile attacks which may closely simulate other fevers, and especially malaria. We refer sceptics to the recent article of Mannaberg[2] for a temperature chart which is a typical example of the mimicry of malaria by tertiary syphilis. Apparently fever is especially liable to accompany certain forms of visceral lues, notably hepatic involvement, but the studies of Janeway and Futcher in this country have shown that this is not always the case, and that in certain instances the fever may be practically the only symptom.

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[1] The Journal, May 4, 1907, 1530.

[1] Medical Record, May 4, 1907, p. 722.

[2] Ztschr. für klin. Med., lxii, 1907.

STATE BOARD EXAMINATIONS FOR 1906.

We publish this week tabulated statistics based on the examinations of the various state examining and licensing boards for 1906. This is the fourth consecutive year we have published these statistics and we believe they are more complete this year than ever before. Instead of the large cumbersome sheets, the tables have been so divided as to go on the regular pages of The Journal. They have been further improved for easy reference by the addition of marginal numbers. The methods of procedure in granting license in Colorado, while they may be excellent in their end results, are so much at variance with the methods of other states that it is impossible for a fair comparison to include the figures for that state in some of the tables.

Table E.—Colleges Grouped by States.
Showing Number Examined and Percentage of Failures.

Colleges of	Graduates. Of 1901 to 1906. Number Examined.	Per cent. Failed.	Of 1900 and prev. Number Examined.	Per cent. Failed.	Of all years. Number Examined.	Per cent. Failed.	All years Examined 1904-6. Number Examined.	Per cent. Failed.	Rank according to number examined.	Rank according to Per cent of failures.
Alabama	41	0.	1	0.	42	0.	192	8.5	22	4
Arkansas	8	12.5	2	0.	10	10.0	19	15.8	32	21
California	127	12.6	11	9.1	138	12.3	574	20.7	14	26
Colorado	18	27.8	7	57.1	25	36.0	96	14.6	29	16
Connecticut	21	0.	3	0.	24	0.	138	2.9	24	1
Dist. of Columbia	146	24.0	8	25.0	154	24.0	500	20.0	15	25
Georgia	141	7.1	10	20.0	152	7.9	336	14.9	19	17
Illinois	898	7.9	88	35.0	986	9.4	3,823	9.5	1	8
Indiana	148	8.8	8	62.5	156	11.5	371	17.5	17	23
Iowa	167	17.4	21	14.3	193	17.1	762	15.6	10	20
Kansas	81	3.7	7	14.3	85	3.5	117	7.7	26	3
Kentucky	214	30.8	51	49.0	266	34.6	854	35.2	9	31
Louisiana	132	12.9	7	28.6	139	13.7	433	13.9	16	14
Maine	21	0.	7	14.3	28	3.1	112	8.9	27	7
Maryland	503	26.8	33	49.0	537	27.4	2,211	27.9	4	27
Massachusetts	258	10.1	34	2.9	292	9.2	1,073	8.9	8	6
Michigan	202	1.4	31	35.5	233	6.0	656	9.5	11	9
Minnesota	115	19.1	6	0.	121	18.2	587	14.1	12	15
Missouri	645	32.1	51	29.4	696	31.9	1,493	28.6	6	28
Nebraska	90	24.4	4	100.0	94	27.7	337	19.9	18	24
New Hampshire	20	15.0	5	20.0	25	19.0	87	13.8	31	13
New York	536	4.1	56	10.7	592	4.7	2,468	5.7	3	2
North Carolina	100	33.0	1	0.	101	32.7	291	35.0	21	30
Ohio.	269	7.4	38	47.3	307	12.4	1,090	16.6	7	22
Oregon	49	51.0	....	.....	49	51.0	128	39.8	25	32
Pennsylvania	629	7.2	57	14.0	686	7.7	2,593	8.8	2	5
South Carolina	17	11.8	1	100.0	18	16.7	99	13.1	28	11
Tennessee	444	33.1	47	31.9	493	33.3	1,614	33.0	5	29
Texas	64	14.1	2	0.	66	13.6	163	13.5	23	12
Vermont	51	5.9	8	50.0	59	11.9	297	15.2	20	18
Virginia	123	6.3	14	14.3	137	7.3	579	10.0	13	10
Wisconsin	32	9.4	2	50.0	34	11.8	92	15.2	30	19
Totals	6310	15.8	621	26.7	6938	16.9	24,135	16.5	....	....

Tables A, B and C, which are published on pages 1764 to 1775, are so arranged that, reading from left to right, gives the results by colleges, showing how many graduates appeared for examination in each state and whether they passed or failed, as well as the total number examined during the year, the number passed, the number failed, the percentage of failures and the number of states where graduates of the school appeared for examination. Reading from above downward gives the results by states, showing the number registered and rejected for each college, as well as the total examined, total registered, total rejected and the percentage rejected. The fact that the majority of graduates take the licensing examination in the state in which the college is located is shown by the grouping of figures which forms a dark diagonal zone passing from the left upper to the right lower corners of each of these tables. Numerous important deductions are possible, warranting a careful study of each table.

Table A shows the results for all candidates who took the examinations during the year. Table B gives results for graduates of 1901 to 1906, inclusive (recent graduates), while Table C gives results for older practitioners or those who graduated in 1900 or previously. A comparison of the failure percentages of any college in Tables A and B will indicate whether the college is improving in recent years or not.

There were 8,035 applicants examined during the year 1906, of whom 6,520, 81.2 per cent., were recent graduates, 793, 9.8 per cent., were old practitioners, and 703, 9.0 per cent., were non-graduates. There were also 19 graduates for whom no year of graduation was recorded. Besides these, there were 1,497 registrations (see Table N)., of which number 883 were registered other than by written examination and 614 under the reciprocity provision, making a grand total of 7,865 who were registered during 1906.

The failures are in about the same proportion as for 1905, there being 16.4 per cent. for recent graduates, 27.1 per cent. for old practitioners and 51.3 per cent. for non-graduates. The following comparison with results of previous years is interesting:

Comparison with Previous Years (Tables A, B, C, and D).

Year.	Total Examined.	Examined—Passed.	Examined—Failed.	Percentage Failed.	Recent Grads. Examined.	Percentage Failed.	Older Pract. Examined.	Percentage Failed.	Non-Grads. Examined.	Percentage Failed.	Regist'd Without Written Examination.	Total Registered.
1904	7035	5672	1363	19.3	4773	14.1	579	29.7	515	52.6	999	6671
1905	7170	5680	1490	20.8	6054	16.2	690	37.7	472	61.9	394	6074
1906	8035	6368	1667	20.7	6520	16.4	793	27.1	703	51.3	1497	7865

The apparent increase in the number registered without written examination in 1906 as compared with previous years is due largely to incomplete data received for 1904 and 1905.

Table D, (page 1776) gives the number examined by state boards for 1903 to 1906, inclusive, showing the total number examined from each college, the number who passed, the number who failed and the percentage of failures. The percentage of failures, therefore, shows the average of each school based on the reports received from state boards for the past four years. For the sake of comparison with the results of the individual years this table is of much value. This gives sufficient data in regard to practically every medical college, from which a fair idea can be obtained of its standing. It is interesting to note how the classification of schools from the statistics of individual years is supported by this table. In four years at least 26,995 applicants have been

TABLE F—COLLEGES HAVING 50 OR MORE EXAMINED.

TABLE SHOWS TOTAL NUMBER EXAMINED, PERCENTAGE OF FAILURES AND NUMBER OF STATES IN WHICH EACH COLLEGE HAD REPRESENTATIVES

Name of College.	Graduates all Years.			Graduates 1901-1903.			Graduates 1900 and Prev.			Exam'd. 1903 to 1906 incl.		
	No. Examined.	Per cent. Failed.	No. States.	No. Examined.	Per cent. Failed.	No. States.	No. Examined.	Per cent. Failed.	No. States.	No. Examined.	Per cent. Failed.	Margin No.
College of Physicians and Surgeons, Chicago	273	8.0	27	259	6.6	24	14	35.7	9	1,044	7.5	26
Jefferson Medical College	236	11.0	36	218	9.6	31	18	27.8	11	832	9.2	123
St. Louis University	213	27.2	21	196	28.0	16	17	17.7	12	371	21.8	83
College of Physicians and Surgeons, New York	193	4.1	20	180	3.9	15	13	7.7	13	825	4.1	95
Northwestern University	166	4.2	20	157	1.9	18	9	44.4	8	636	3.6	31
Rush Medical College	165	4.2	24	135	2.2	20	30	13.3	14	927	6.4	32
Baltimore Medical College	152	27.0	22	144	27.0	20	8	25.0	7	532	24.4	56
University of Pennsylvania	152	2.6	28	129	2.3	24	23	4.4	15	594	3.9	121
Indiana Medical College	142	10.6	13	136	8.8	12	6	50.0	4	329	15.8	36
Barnes Medical College	136	45.5	21	125	45.6	16	11	45.4	9	309	40.1	82
Harvard University Medical School	121	2.5	21	104	2.9	15	17	0.	9	523	1.5	66
Tulane University of Louisiana	115	5.2	16	108	3.7	14	7	28.6	7	372	5.9	54
Medico-Chirurgical College of Philadelphia	115	7.0	13	112	7.1	13	3	33.3	2	436	13.5	125
Meharry Medical College	111	45.9	20	107	45.7	19	3	33.3	3	228	42.5	133
University of Maryland	109	10.1	23	101	18.8	21	8	12.5	6	466	20.6	61
Memphis Hospital Medical College	105	22.8	10	93	22.6	8	11	18.1	5	417	30.0	134
University of Michigan	97	6.2	26	78	1.3	22	21	23.8	15	403	8.9	73
Washington University	89	6.7	13	84	6.0	11	5	20.0	3	208	12.0	87
Tufts College Medical School	88	5.7	11	85	5.9	10	3	0.	2	286	10.1	67
Detroit College of Medicine	87	6.9	9	81	2.5	5	6	66.7	5	164	9.8	68
Keokuk Medical College, College of Physcicians and Surgeons	85	31.8	12	74	33.8	8	11	18.1	8	284	28.2	40
Hahnemann Medical College, Chicago	84	15.5	18	69	10.1	13	15	40.0	10	281	12.1	27
College of Physicians and Surgeons, Baltimore	84	17.8	20	77	15.6	16	7	42.8	7	379	21.6	58
University and Bellevue Hospital Medical College, New York	84	5.9	24	56	5.4	7	28	7.1	21	367	10.9	101
College of Physicians and Surgeons, St. Louis	82	53.6	13	77	54.5	12	5	40.0	4	190	35.3	84
George Washington University	80	23.7	15	76	25.0	13	4	0.	3	231	15.6	16
Johns Hopkins University	77	1.3	25	75	1.3	24	2	0.	2	250	1.2	59
University of Iowa	75	2.7	11	64	0.	7	7	14.3	5	320	6.2	43
University of Minnesota	74	12.2	8	70	12.8	9	4	0.	3	414	7.5	74
University of Nashville	74	24.3	17	68	23.5	14	6	33.3	6	199	19.6	130
College of Physicians and Surgeons, Atlanta	73	5.7	12	65	4.6	9	7	14.3	4	186	15.1	19
Long Island College Hospital	73	5.5	9	69	2.9	6	4	50.0	4	266	7.5	98
Bennett College of Eclectic Medicine and Surgery	72	9.7	13	67	8.9	11	5	20.0	4	147	15.0	24
Maryland Medical College	69	56.5	21	67	55.2	20	2	100.0	2	330	49.1	63
University of Louisville	67	29.8	24	46	17.4	19	21	57.1	13	182	34.6	51
University of Kansas	65	3.1	5	64	4.7	6	4	0.	2	65	3.0	45
Western Pennsylvania Medical College	64	18.7	4	61	19.7	2	3	0.	3	312	17.0	126
Cornell University	63	1.6	9	63	1.6	9	..	..	..	268	1.5	96
Hahnemann Medical College, Philadelphia	63	1.6	9	59	0.	8	4	25.0	4	222	2.7	123
Ensworth Central Medical College	61	45.9	8	60	46.7	7	1	0.	1	118	44.9	81
University Medical College, Kansas City	59	10.2	7	52	7.7	4	7	28.6	5	121	28.1	78
University of Vermont	59	11.9	13	51	5.9	9	8	50.0	6	297	15.2	146
Leonard School of Medicine	56	42.9	12	55	43.6	11	1	0.	1	166	49.4	104
Medical College of Virginia	56	8.9	9	55	9.1	9	1	0.	1	211	13.7	147
Creighton Medical College	55	23.6	8	53	20.8	8	2	100.0	1	145	13.8	90
Ohio Medical University	56	8.9	8	53	7.5	6	3	33.3	3	203	14.8	114
Medical College of Ohio	54	3.7	15	44	0.	11	10	20.0	7	176	7.4	111
Chattanooga Medical College	54	31.5	10	48	29.2	10	6	50.0	4	156	31.4	136
Kentucky School of Medicine	51	45.1	22	37	45.9	14	14	42.8	12	209	38.7	47
Boston University	51	13.7	14	39	15.4	11	12	8.3	7	151	11.3	64
Total Examined, Percentage and Averages	4,885	15.7	16	4,446	14.7	12	437	24.7	6	16,748	14.6	

examined, of which number 21,830 passed and were registered and 5,165 (19.1 per cent.) failed. The numbers doubtless should be larger, since returns for 1903 and 1904 were not complete.

Table E (page 1781) gives the colleges grouped by states and shows in the first column the failures for recent graduates, in the second column the failures for graduates of 1901 or previous years, and in the third column the failures of graduates of all years. The first three columns are based on results of examinations held during 1906, while the fourth column shows the total examined and percentage of failures of all examined during the four years, 1903 to 1906, inclusive. The fifth column gives the rank of each state group of colleges according to the number of applicants. The eight states having the largest number of graduates examined by state boards are in their order: Illinois colleges 3,823, Pennsylvania 2,593, New York 2,468, Maryland 2,211, Tennessee 1,614, Missouri 1,493, Ohio 1,090 and Massachusetts 1,073. The sixth column of Table E gives the rank of each state group based on the failures before state boards. This is described further by Table I.

Table F, also based on the first four tables, allows us to study the larger colleges or those having 50 or more candidates examined in 1906. There were 147 colleges in all which had a total of 6,938 candidates examined by state boards. Sixteen colleges had over 100 candidates each, or a total of 2,504, and 50 had 50 or more candidates each with a total of 4,885.

Of the 16 largest schools—those having 100 or more examined—8 had less than 10 per cent. of failures, 3 had between 10 and 20, while 5 had failure percentages above 20, two of these having, respectively, 45.5 per cent. and 45.9 per cent. of failures.

Of those having between 50 and 100 candidates, 1 had less than 10 per cent. of failures, 7 had between 1 and 20, while 11 had over 20 per cent. Seven of thes had over 30 per cent., these having 31.5, 31.8, 42.9, 45.1 45.9, 53.6 and 56.5 per cent. of failures.

Of the 50 schools, therefore, having 50 or more candidates examined, 24 had less than 10 per cent. of failures

TABLE G.—COMPARISON OF RESULTS IN HOME STATES AND ELSEWHERE. BASED ON TABLE B.

College.	Total Examined.	Results in Home State.			Results in Other States		
		Passed.	Failed.	Per cent Failed.	Passed.	Failed.	Per cent Failed.
ALABAMA —	**41**	**34**	**0**	**0.**	**7**	**0**	**0.**
Birmingham Medical College	13	10	0	0.	3	0	0.
Medical College of Alabama	28	24	0	0.	4	0	0.
ARKANSAS + 33.3	**8**	**5**	**0**	**0.**	**2**	**1**	**33.3**
University of Arkansas	8	5	0	0.	2	1	33.3
CALIFORNIA — 0.1	**127**	**97**	**14**	**12.6**	**14**	**2**	**12.5**
Cooper Medical College	34	31	1	3.1	2	0	0.
University of California	21	18	1	5.3	1	1	50.0
California Medical College	4	1	3	75.0	...	..	....
Hahnemann Medical College	5	5	0	0.	...	..	....
Coll. of P. and S., San Fran.	26	14	3	17.7	8	1	11.1
Oakland Coll. of M. and S.	4	4	0	0.	...	..	....
Univ. of Southern California	29	20	6	23.1	3	0	0.
Coll. of P. and S., Los Angeles	4	4	0	0.	...	..	....
COLORADO* —	**18**	...	..	....	**13**	**5**	**27.8**
Denver and Gross	13	...	..	....	9	4	30.8
Denver Homeo. Med. College	1	....	..	....	0	1	100.0
University of Colorado	4	...	..	....	4	0	0.
CONNECTICUT —	**21**	**10**	**0**	**0.**	**11**	**0**	**0.**
Yale Medical College	21	10	0	0.	11	0	0.
DIST. OF COLUMBIA —26.0	**146**	**46**	**27**	**37.0**	**65**	**8**	**11.0**
George Washington Univ.	76	30	16	34.8	27	3	10.0
Georgetown University	36	11	7	38.9	16	2	11.1
Howard University	34	5	4	44.4	22	3	12.0
GEORGIA + 13.9	**141**	**103**	**4**	**3.7**	**28**	**6**	**17.6**
College of P. and S., Atlanta.	65	49	2	3.9	13	1	7.2
Georgia Eclectic Med. Coll.	19	13	0	0.	5	1	16.7
University of Georgia	37	29	2	6.5	3	4	57.1
Atlanta School of Medicine	20	12	0	0.	7	0	0.
ILLINOIS + 6.9	**898**	**560**	**33**	**5.6**	**267**	**38**	**12.5**
American Medical Miss. Coll.	23	8	0	0.	14	1	6.7
Bennett Medical College	67	43	2	4.4	18	4	18.2
College of Med. and Surgery.	9	3	4	57.1	1	1	50.0
Coll. of P. and S., Chicago	259	165	6	3.5	77	11	12.5
Hahnemann Med. C., Chicago.	69	49	5	9.3	13	2	13.3
Hering Medical College	14	3	3	50.0	5	3	37.5
Illinois Medical College	43	19	1	5.0	18	5	21.8
Jenner Medical College	36	30	5	14.3	1	0	0.
Northwestern University	157	105	1	1.0	49	2	3.9
Rush Medical College	135	70	0	0.	62	3	4.6
National Medical University	15	13	0	0.	0	2	100.0
American Coll. of M. and S.	34	22	1	4.4	8	3	27.3
Dearborn Medical College	37	30	5	14.3	1	1	50.0
INDIANA + 18.2	**148**	**123**	**9**	**6.8**	**12**	**4**	**25.0**
Indiana Medical College	136	112	8	6.7	12	4	25.0
Physio-Med. of Indiana	6	6	0	0.	...	..	....
Eclectic Medical Coll. of Ind.	6	5	1	16.7	...	..	....
IOWA + 15.1	**167**	**122**	**22**	**15.3**	**16**	**7**	**30.4**
Drake University	12	9	0	0.	3	0	0.
Keokuk Med. C. of P. and S.	74	43	18	29.5	6	7	53.8
Sioux City Coll of Medicine	17	12	4	33.3	1	0	0.
University of Iowa (H)	...	...	..	....	...	..	....
University of Iowa (R)	64	58	0	0.	6	0	0.
KANSAS + 13.3	**81**	**66**	**0**	**0.**	**13**	**2**	**13.3**
Kansas Medical College	17	17	0	0.	...	..	....
University of Kansas	64	49	0	0.	13	2	13.3
KENTUCKY** + 17.4	**214**	**25**	**6**	**19.4**	**123**	**60**	**36.8**
Hospital Coll. of Medicine	37	4	2	33.3	22	9	29.0
Kentucky School of Medicine.	37	7	1	12.5	13	16	55.2
Louisville Medical College	43	2	0	0.	30	11	26.9
Louisville National Med. Coll.	...	...	..	....	...	..	....
Southern Homeo. Med. Coll.	4	...	..	....	1	3	75.0
University of Louisville	46	9	2	18.1	29	6	17.1
Kentucky University	47	3	1	25.0	28	15	35.0
LOUISIANA + 12.7	**132**	**72**	**6**	**7.7**	**43**	**11**	**20.4**
Flint Medical College	24	9	6	40.0	2	7	77.8
Tulane University	108	63	0	0.	41	4	8.9
MAINE —	**21**	**16**	**0**	**0.**	**5**	**0**	**0.**
Medical School of Maine	21	16	0	0.	5	0	0.
MARYLAND — 1.5	**503**	**93**	**36**	**27.9**	**275**	**99**	**26.4**
Baltimore Medical College	144	17	8	32.0	88	31	26.1
Baltimore University	35	0	3	100.0	10	22	68.7
College of P. & S., Baltimore.	77	9	4	30.8	56	8	12.5
Johns Hopkins Med. School	75	18	0	0.	56	1	1.8
So. Homeopathic Med. Coll.	3	...	..	....	1	2	66.7
University of Maryland	101	44	9	17.0	38	10	20.8
Woman's Medical College	1	...	..	....	1	0	0.
Maryland Medical College	67	5	12	70.6	25	25	50.0
MASSACHUSETTS + 6.4	**258**	**138**	**11**	**7.4**	**94**	**15**	**13.8**
Boston University	39	20	3	13.0	13	3	18.7
College of P. and S., Boston.	30	8	4	33.3	10	8	44.4
Harvard University	104	53	1	1.9	48	2	4.0
Tufts Medical College	85	57	3	5.0	23	2	8.0
MICHIGAN + 2.8	**202**	**144**	**1**	**0.7**	**55**	**2**	**3.5**
Detroit College of Medicine	81	71	1	1.4	8	1	11.1
Detroit Homeo. Med. College	7	7	0	0.	...	..	....
Michigan Coll. of M. and S.	12	9	0	0.	3	0	0.
Grand Rapids Med. Coll.	6	4	0	0.	2	0	0.
University of Michigan (R)	78	40	0	0.	37	1	2.6
University of Michigan (H)	18	13	0	0.	5	0	0.
MINNESOTA — 12.4	**115**	**66**	**19**	**22.4**	**27**	**3**	**10.0**
University of Minnesota (H)	2	1	0	0.	1	0	0.
University of Minnesota (R)	70	42	8	16.0	19	1	5.0
Hamline University	43	23	11	32.4	7	2	22.2
MISSOURI —21.4	**645**	**158**	**125**	**44.1**	**280**	**82**	**22.7**
Univ. M. C., Kansas City	52	15	2	11.8	33	2	5.7
Kansas City Hahne. M. C.	7	....	..	....	6	1	14.3
Eclectic Medical University	16	2	7	77.8	5	2	28.6
Ensworth Central Med. Coll.	60	5	14	73.7	27	14	34.2
Barnes Medical College	125	21	29	58.0	47	28	37.4
St. Louis University	196	57	39	40.6	84	16	16.0
Coll. of P. and S., St. Louis	77	8	25	75.8	27	17	38.6
American Medical College	14	6	3	33.3	4	1	20.0
Homeo. College of Missouri	3	0	1	100.0	1	1	50.0
Washington University	84	37	5	11.9	42	0	0.
University of Missouri	11	7	0	0.	4	0	0.
NEBRASKA —13.7	**90**	**41**	**17**	**29.3**	**27**	**5**	**15.8**
University of Nebraska	20	7	7	50.0	5	1	16.7
Creighton Medical College	53	27	10	27.0	15	1	6.3
Lincoln Medical College	17	7	0	0.	7	3	30.0
NEW HAMPSHIRE —10.0	**20**	**8**	**2**	**20.0**	**9**	**1**	**10.0**
Dartmouth Medical College	20	8	2	20.0	9	1	10.0
NEW YORK + 4.7	**536**	**433**	**15**	**3.3**	**81**	**7**	**8.0**
Albany Medical College	37	31	1	3.1	5	0	0.
Coll. of P. and S., New York.	180	141	5	3.5	32	2	5.9
Cornell University	63	53	1	1.9	9	0	0.
Eclectic Med. Coll., New York	16	13	0	0.	1	2	66.7
Long Island College Hospital.	69	58	1	1.7	9	1	10.0
New York Homeo. Med. Coll.	35	28	1	3.4	5	1	16.7
N. Y. Woman's Med. Coll.	8	8	0	0.	...	..	....
University and Bellevue M. C.	56	39	3	7.1	14	0	0.
Syracuse University	25	24	1	4.0	...	..	....
University of Buffalo	47	38	2	5.0	6	1	14.3
NORTH CAROLINA + 7.5	**100**	**32**	**13**	**28.9**	**35**	**20**	**36.4**
Leonard Medical College	55	3	4	57.1	28	20	41.7
North Carolina Med. College	32	21	6	22.2	5	0	0.
University of North Carolina	13	8	3	27.3	2	0	0.
OHIO + 8.5	**269**	**177**	**8**	**4.3**	**72**	**12**	**12.8**
Western Reserve University	20	20	0	0.	...	..	....
Cleveland Coll. of P. and S.	24	19	0	0.	4	1	20.0
Cleveland Homeo. Med. Coll.	15	11	0	0.	3	1	25.0
Eclectic Medical Institute	40	8	1	11.1	25	6	19.4
Medical College of Ohio	44	27	0	0.	17	0	0.
Pulte Medical College	2	...	..	....	1	1	50.0
Miami Medical College	27	19	0	0.	8	0	0.
Ohio Medical University	53	43	2	4.4	6	2	25.0
Starling Medical College	33	25	4	13.8	3	1	25.0
Toledo Medical College	11	5	1	16.7	5	0	0.
OREGON —39.0	**49**	**16**	**23**	**59.0**	**8**	**2**	**20.8**
University of Oregon	28	13	8	38.1	7	0	0.
Willamette University	21	3	15	83.3	1	2	66.7
PENNSYLVANIA — 2.9	**629**	**384**	**34**	**8.1**	**200**	**11**	**5.2**
Temple College	13	12	0	0.	1	0	0.
University of Pennsylvania	129	71	3	4.1	55	0	0.
Hahn. M. C. of Philadelphia	59	43	0	0.	16	0	0.
Jefferson Medical College	218	116	12	9.4	81	9	10.0
Woman's M. C. Pennsylvania.	37	16	1	5.9	20	0	0.
Medico-Chirurgical Coll., Pa.	112	77	7	8.3	27	1	3.6
Western Pennsylvania M. C.	61	49	11	21.6	0	1	100.0
SOUTH CAROLINA + 17.3	**17**	**12**	**1**	**7.7**	**3**	**1**	**25.0**
Med. Coll. of South Carolina.	17	12	1	7.7	3	1	25.0
TENNESSEE + 4.2	**444**	**75**	**32**	**29.9**	**222**	**115**	**34.1**
Tennessee Medical College	23	13	4	23.5	1	5	83.3
Knoxville Medical College	3	...	..	....	1	2	66.7
University of Nashville	68	11	8	42.1	41	8	16.3
Vanderbilt University	29	5	0	0.	23	1	4.2
University of Tennessee	33	7	4	36.3	12	10	45.5
Meharry Medical College	107	6	7	53.8	52	42	44.7
Memphis Medical College	93	19	1	5.0	53	20	27.4
University of South	38	0	2	100.0	19	17	47.2
Chattanooga Medical College	48	14	5	26.3	20	9	31.0
University of West Tennessee.	2	0	1	100.0	0	1	100.0
TEXAS + 16.5	**64**	**44**	**5**	**10.2**	**11**	**4**	**26.7**
Fort Worth University	14	12	0	0.	2	0	0.
University of Texas	19	17	0	0.	2	0	0.
Baylor University	11	8	0	0.	2	1	33.3
Physio-Med. College of Texas.	2	...	..	....	2	0	0.
Gate City Medical College	4	2	0	0.	0	2	100.0
Southwestern University	6	5	1	16.7	...	..	....
Coll. of P. and S., Dallas	8	0	4	100.0	3	1	25.0
VERMONT + 13.6	**51**	**29**	**0**	**0.**	**19**	**3**	**13.8**
University of Vermont	51	29	0	0.	19	3	13.6
VIRGINIA + 3.4	**123**	**59**	**3**	**4.8**	**56**	**5**	**8.2**
Medical College of Virginia	55	32	2	5.9	18	3	14.3
Univ. College of Medicine	31	16	1	5.9	13	1	7.2
University of Virginia	37	11	0	0.	25	1	3.8
WISCONSIN + 24.6	**32**	**24**	**1**	**4.0**	**5**	**2**	**28.8**
Milwaukee Medical College	17	11	0	0.	4	2	33.3
Coll. of P. and S., Wisconsin.	15	13	1	7.2	1	0	0.
+ 7.6	6,310	3,212	467	12.7	2,098	533	20.3

*Graduates registered in home state without examinations.
**Most graduates registered in home state without examination.

Heavy-faced figures show totals by states.

10 had between 10 and 20 per cent., while 16 had over 20 per cent. Nine colleges had over 30 per cent. of failures. This is a serious showing because of the fact that these are large colleges and turn out large classes of graduates.

The third column gives the number of states in which each college had graduates appear for examination. Jefferson leads, its graduates appearing in 36 states; University of Pennsylvania comes next, being represented in 28 states. Then comes the College of Physicians and Surgeons of Chicago, in 27 states, University of Michigan in 26 states, Johns Hopkins in 25, Rush Medical College, the University and Bellevue Hospital Medical College and the University of Louisville, each in 24.

The fourth, fifth and sixth columns give the results for graduates of 1901 to 1906, while the seventh, eighth and ninth columns give the results for graduates of 1900 and previous years. The results for the examinations held during 1903 to 1906, inclusive, taken from Table D, have been added. By comparing the percentage of failures of this last column with those of the second column it can be noted whether the percentage for 1906 is higher or lower than the average of the school for the four years, 1903 to 1906, or, in other words, whether or not the college is making a better showing before state boards. The following table gives a comparison of the results in 1906 with those of previous years:

Comparison with Previous Years (from Table F).

Year.	Schools Having Candidates.	Total Candidates.	Percentage Failed.	Schools, 100 or more candidates.	Total Candidates.	Percentage Failed.	Schools, 50 or more candidates.	Total Candidates.	Percentage Failed.	Schools less than 50 candidates.	Total Candidates.	Percentage Failed.	Foreign and Undergrad. Candidates.	Percentage Failed.
1904	149	6241	16.4	14	2271	11.7	42	4088	14.0	107	2153	21.0	794	43.1
1905	153	6411	18.3	14	2350	12.4	51	4893	15.1	102	1518	28.9	759	41.1
1906	146	6938	17.3	16	2504	14.5	50	4885	15.7	96	2043	21.3	1097	42.5

Of the 146 colleges having candidates applying for license, 16 had 100 or more, and 34 had between 50 and 100, making 50 schools having 50 or more candidates, leaving 90 schools having less than 50. These are shown separately in the above table to call attention to any differences in the percentage of failures. Graduates of foreign colleges and undergradutes are shown in the last two columns. The apparent increase in the total for 1906 is partly due to incomplete data for previous years.

In making comparisons between schools, to insure greater accuracy a number of points must be carefully considered. Besides the percentage of failures, one must consider the number examined and the number of state boards before which graduates of the college appeared for examination. The general severity of the examination must be particularly considered, since it is shown by the tables that states differ considerably in this respect.

It should be noted that these tables show instances of success and failure rather than the number of individuals.

Table G is based on the examination of graduates of 1901 to 1906, inclusive, i. e., recent graduates. Graduates examined in the state in which the college is located are grouped in one column, while graduates of that college examined in other states are in another column. This shows the number of graduates who stay in the state in which the college is located; it also shows what is evidently a fact, that, as a rule, the graduates of a certain school have a much better chance of passing the examination in the state in which the school is located than the have elsewhere. This should always be considered in mal ing comparisons between colleges. A college having an e ceedingly low standard, by having its graduate all loca in the home state, may thus show a lower percentage failures than a college of much higher grade which h graduates examined by several states.

TABLE H.—Physicians Examined by State Boards, 1903 to 1906 Inclusive.

State.	1903		1904		1905		1906		Total Examined.	Registered.	Rejected.	Percentage Rejected.
	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.				
Alabama	...	...	118	20	131	22	138	22	451	387	64	14.
Arizona	...	...	28	7	35	7	35	4	116	98	18	15.
Arkansas	18	0	115	37	88	5[illegible]	152	73	541	373	168	31.
California	152	74	216	80	144	127	190	44	1,027	702	325	31.
Connecticut	128	23	67	26	66	17	84	28	439	345	94	21.
Delaware	7	4	10	1	20	8	11	1	62	48	14	22.
District of Columbia	46	13	78	14	67	23	63	34	338	254	84	24.
Florida	...	...	...	...	24	3	66	7	100	90	10	10.
Georgia	73	12	110	4	...	...	164	5	368	847	21	5.
Idaho	31	14	23	16	46	15	42	12	199	142	57	28.
Illinois	559	35	728	34	759	36	748	69	2,968	2,794	174	5.
Indiana	141	16	150	24	249	63	228	12	883	768	115	13.
Iowa	273	40	238	52	205	30	166	29	1,033	882	151	14.
Kansas	43	5	64	13	163	29	180	27	524	450	74	14.
Kentucky	...	...	4	6	38	4	52	13	117	94	23	19.
Louisiana	132	24	120	20	105	15	133	14	563	490	73	13.
Maine	73	0	66	8	68	3	80	8	306	287	19	6.
Maryland	102	40	121	66	120	75	112	44	680	455	225	33.
Massachusetts	263	43	320	77	274	63	270	120	1,430	1,127	303	21.
Michigan	19	2	52	1	82	5	162	6	329	315	14	4.
Minnesota	163	43	134	27	124	39	104	31	665	525	140	21.
Mississippi	17	8	119	130	113	138	156	144	825	405	420	50.
Missouri	...	...	...	...	...	...	249	193	442	249	193	43.
Montana	...	...	21	10	31	17	24	25	128	76	52	40.
Nebraska	...	...	93	7	87	29	58	25	299	238	61	20.
Nevada	...	...	2	0	...	...	2	0	4	4	0	0.
New Hampshire	29	4	33	9	15	5	34	17	146	111	35	24.
New Jersey	...	...	76	20	55	17	80	13	261	211	50	19.
New Mexico	...	...	9	2	...	...	...	...	11	9	2	18.
New York	633	55	667	62	705	51	629	56	2,858	2,634	224	7.
North Carolina	77	26	74	19	92	40	87	41	456	330	126	27.
North Dakota	60	14	54	13	72	7	60	10	290	246	44	15.
Ohio	98	6	236	13	213	8	222	16	812	769	43	5.
Oklahoma	19	19	30	36	53	28	95	28	308	197	111	36
Oregon	32	3	70	6	68	66	65	56	366	235	131	35
Pennsylvania	337	51	460	121	540	98	519	73	2,199	1,856	343	15
Rhode Island	52	15	52	5	47	19	54	30	274	205	69	25
South Carolina	47	4	49	6	44	22	39	13	224	179	45	20
South Dakota	17	3	36	12	41	11	26	11	157	120	37	23
Tennessee	78	6	166	107	86	35	150	96	724	480	244	33
Texas	116	21	96	87	117	73	159	53	722	488	234	32
Utah	30	3	31	7	32	8	37	7	155	130	25	16
Vermont	42	4	54	1	43	1	35	0	180	174	6	3
Virginia	134	39	121	54	140	50	123	35	696	518	178	25
Washington	115	23	135	46	141	34	137	45	676	528	148	21
West Virginia	102	16	163	40	109	95	84	72	681	458	223	32
Wisconsin	54	7	60	7	95	5	52	2	282	261	21	7
Wyoming	...	...	...	...	12	1	12	3	28	24	4	14
Totals	5,027		7,022		7,259		8,035		27,343	.....	.....	...
Registered	4,312		5,669		5,759		6,368		.....	22,108	.....	...
Rejected	715		1,353		1,500		1,667		.....	.....	5,235	...
Percent. Reg.	14.2		19.3		20.7		20.7		.....	.....	.....	19

The heavy-faced figures give the results by state The first column of heavy-faced figures shows the diffe ences between the percentages of home colleges and of colleges of other states. The plus sign indicates that colleges of other states have the larger percentage of rejections; the minus sign indicates that the home colleges have had the greater percentage rejected. Colorado and Kentucky registered without examination all or most of the graduates of their own schools.

Table H shows the number examined in each state for the four years, 1903 to 1906, inclusive, giving the number who were registered and the number rejected each year, as well as the totals for the four years. This shows that at least 27,343 candidates were examined, of which 22,108 were registered and 5,235, 19.1 per cent., were rejected. Therefore, a candidate coming up for examination has had four chances out of five of passing his examination.

Table I gives a classification of the colleges grouped by states, based on state board examinations for the four years, 1903 to 1906. This shows the total number examined from the colleges of each state, the number who passed, the number who failed and the percentage of failures. The state groups are arranged in order of this percentage of failures, the one having the lowest percentage being placed first. They are also separated into groups representing those having less than 10 per cent. of failures, those between 10 and 20 and those above 20 per cent.

TABLE I.—Colleges Grouped by States, Classified on the Basis of Rejections by State Examining Boards for Years 1903 to 1906 Inclusive.

Colleges of	Total Examined.	Passed.	Failed.	Per cent. failed.
Having less than 10 per cent. of failures.				
Connecticut	138	134	4	2.9
New York	2,468	2,327	141	5.7
Kansas	117	108	9	7.7
Alabama	142	130	12	8.5
Pennsylvania	2,593	2,366	227	8.8
Massachusetts	1,073	977	96	8.9
Maine	112	102	10	8.9
Illinois	3,823	3,461	362	9.5
Michigan	656	594	62	9.5
Totals	11,122	10,199	923	8.3
Having between 10 and 20 per cent. of failures.				
Virginia	579	521	58	10.0
South Carolina	99	86	13	13.1
Texas	163	141	22	13.5
New Hampshire	87	75	12	13.8
Louisiana	433	373	60	13.9
Minnesota	587	504	83	14.1
Colorado*	96	82	14	14.6
Georgia	336	286	50	14.9
Vermont	297	252	45	15.2
Wisconsin	92	78	14	15.2
Iowa	762	643	119	15.6
Arkansas	19	16	3	15.8
Ohio	1,090	909	181	16.6
Indiana	371	306	65	17.5
Nebraska	337	270	67	19.9
Totals	5,348	4,542	806	11.8
Having above 20 per cent. of failures.				
District of Columbia	500	400	100	20.0
California	574	455	119	20.7
Maryland	2,211	1,594	617	27.9
Missouri	1,493	1,064	429	28.6
Tennessee	1,614	1,081	533	33.0
North Carolina	291	189	102	35.0
Kentucky*	854	553	301	35.2
Oregon	128	77	51	39.8
Totals	7,665	5,413	2,252	29.4
Grand totals	24,135	20,154	3,981	16.5

* Graduates of Colorado and Kentucky schools exempt from examination in their home states.

In Tables J, K, L and M the colleges have been classified according to the percentages of failures. These figures have been drawn from Table B and are, therefore, based on the results obtained by recent graduates. Table J shows the colleges receiving less than 10 per cent.; Table K shows those receiving from 10 to 20 per cent., and Table L shows those obtaining 20 per cent. of

TABLE J.—Colleges Having Less than 10 per cent of Failures Before State Boards in 1906.
Based on Table B.

College.	Total Examined.	Number Passed.	Number Failed.	Per cent. Failed.	No. of States.
ALABAMA.					
Birmingham Medical College	13	13	0	0.	2
Medical College of Alabama	28	28	0	0.	3
CALIFORNIA.					
Cooper Medical College	34	33	1	5.9	2
University of California	21	19	2	9.5	3
COLORADO.					
Colorado School of Medicine	4	4	0	0.	8
CONNECTICUT.					
Yale University Medical School	21	21	0	0.	6
GEORGIA.					
Atlanta College of Phys. and Surg.	65	62	3	4.6	9
Georgia Coll. of Eclectic Med. and Surg.	19	18	1	5.3	8
Atlanta School of Medicine	20	19	1	5.0	5
ILLINOIS.					
American Medical Missionary College	23	22	1	4.4	14
Bennett Coll. of Eclectic Med. and Surg.	67	61	6	8.9	11
College of Physicians and Surgeons	259	242	17	6.6	24
Northwestern Univ. Medical School	157	154	3	1.9	18
Rush Medical College	135	132	3	2.2	20
INDIANA.					
Indiana Medical College	136	124	12	8.8	13
IOWA.					
Drake University	12	12	0	0.	4
State University of Iowa (R)	64	64	0	0.	7
KANSAS.					
Kansas Medical College	17	17	0	0.	1
University of Kansas	64	62	2	3.1	5
LOUISIANA.					
Tulane University	108	104	4	3.7	14
MAINE.					
Medical School of Maine	21	21	0	0.	3
MARYLAND.					
Johns Hopkins Medical School	75	74	1	1.3	24
MASSACHUSETTS.					
Harvard University Medical School	104	101	3	2.9	15
Tufts College Medical School	85	80	5	5.9	10
MICHIGAN.					
Detroit College of Medicine	81	79	2	2.5	5
Michigan College of Med. and Surg.	12	12	0	0.	4
Grand Rapids Medical College	6	6	0	0.	3
University of Michigan (R)	78	77	1	1.3	22
University of Michigan (H)	18	18	0	0.	6
MISSOURI.					
University Medical College	52	48	4	7.7	4
Washington University	84	79	5	6.0	11
University of Missouri	11	11	0	0.	5
NEW YORK.					
Albany Medical College	37	36	1	2.7	5
College of Physicians and Surgeons	180	173	7	3.9	15
Cornell University	63	62	1	1.6	9
Long Island College Hospital	69	67	2	2.9	6
New York Homeopathic Med. Coll.	35	33	2	5.7	7
University and Bellevue Med. Coll.	56	53	3	5.4	7
Syracuse University	25	24	1	4.0	1
University of Buffalo	47	44	3	6.4	6
OHIO.					
Western Reserve University	20	20	0	0.	1
Cleveland College of Phys. and Surgs.	24	23	1	4.2	5
Cleveland Homeopathic Med. Coll.	15	14	1	6.7	5
Medical College of Ohio	44	44	0	0.	11
Miami Medical College	27	27	0	0.	7
Ohio Medical University	53	49	4	7.5	6
Toledo Medical College	11	10	1	9.1	3
PENNSYLVANIA.					
Temple Medical College	13	13	0	0.	2
University of Pennsylvania	129	126	3	2.3	24
Hahnemann Med. Coll. of Philadelphia	59	59	0	0.	8
Jefferson Medical College	218	197	21	9.6	31
Woman's Med. Coll. of Pennsylvania	37	36	1	2.7	11
Medico-Chirurgical College	112	104	8	7.1	13
TENNESSEE.					
Vanderbilt University	29	28	1	3.4	12
TEXAS.					
Fort Worth University	14	14	0	0.	3
University of Texas	19	19	0	0.	3
Baylor University	11	10	1	9.1	2
VERMONT.					
University of Vermont	51	48	3	5.9	9
VIRGINIA.					
Medical College of Virginia	55	50	5	9.1	9
University College of Medicine	31	29	2	6.5	9
University of Virginia	37	36	1	2.7	18
WISCONSIN.					
Wisconsin College of Phys. and Surg.	15	14	1	6.7	2
Totals	3,430	3,279	151	4.4	..

failures and over. In Table M have been placed all the colleges regarding which the data was insufficient to allow of fair comparison.

There are 62 colleges listed in Table I; of these, 19 have no failures, 21 had from 1 to 5 per cent. failures, and 22 had from 5 to 10 per cent. In Table K, 24 colleges are listed, 13 having between 10 and 15 per cent. of failures and 10 which have between 15 and 20 per cent. of failures. In Table L, 43 colleges are listed, 15 having from 20 to 30 per cent. of failures, 5 having from 30 to 40 per cent., 11 having from 40 to 50 per cent., and 11 which have over 50 per cent. of failures.

Table N shows the total registration by the various state boards during 1906. The first three columns give those registered after passing a written examination, showing the number of recent graduates, graduates of 1901 or previous years and undergraduates. In the same column with the undergraduates are listed a few graduates for whom the year of graduation had not been recorded. The fourth column shows the number licensed through reciprocity, while the fifth column shows those licensed by other methods than the written examination, or under exemption clauses in the practice acts. The last column gives the total registration in each state.

TABLE K.—COLLEGES HAVING BETWEEN 10 AND 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1906.
BASED ON TABLE B.

College.	Total Examined.	Number Passed.	Number Failed.	Per cent. Failed.	No. of States.
ARKANSAS.					
Arkansas University	8	7	1	12.5	4
CALIFORNIA.					
College of Physicians and Surgeons	26	22	4	15.4	5
GEORGIA.					
Medical College of Georgia	37	32	5	13.5	3
ILLINOIS.					
Hahnemann Medical College	69	62	7	10.1	13
Illinois Medical College	43	37	6	14.0	14
Jenner Medical College	36	31	5	13.9	2
National Medical University	15	13	2	13.3	3
American College of Med. and Surg	34	30	4	11.8	8
Dearborn Medical College	37	31	6	16.2	5
KENTUCKY.					
University of Louisville	46	38	8	17.4	19
MARYLAND.					
College of Physicians and Surgeons	77	65	12	15.6	16
University of Maryland	101	82	19	18.8	21
MASSACHUSETTS.					
Boston University	39	33	6	15.4	11
MINNESOTA.					
University of Minnesota (R)	70	61	9	12.8	9
MISSOURI.					
Kansas City Hahnemann Med. Coll	7	6	1	14.3	3
NEBRASKA.					
Lincoln Medical College	17	14	3	17.7	4
NEW HAMPSHIRE.					
Dartmouth Medical College	20	17	3	15.0	6
NEW YORK.					
Eclectic Medical Coll. of New York	16	14	2	12.5	3
NORTH CAROLINA.					
North Carolina Medical College	32	26	6	18.7	6
OHIO.					
Eclectic Medical Institute	40	33	7	17.5	11
Starling Medical College	33	28	5	15.2	3
PENNSYLVANIA.					
Western Pennsylvania Medical College	61	49	12	19.7	7
SOUTH CAROLINA.					
Medical College of South Carolina	17	15	2	11.8	5
WISCONSIN.					
Milwaukee Medical College	17	15	2	11.8	6
Totals	898	761	137	15.3	

The three states leading in the number of registrations are: Illinois 791, New York 732 and Pennsylvania 519. No other state registers as high as 300, Missouri the fourth in order, registering 295. Eight states register between 200 and 300 each.

The influence of reciprocity is seen in a comparison of the second column (graduates of 1901 or previous years) with the fourth column. As would be expected, the larger numbers taking examination are found in those states not having provision for reciprocity. There were 329 non-graduates who received license to practice last year. The total registration was 7,865.

Our endeavor in the publication of these statistics has been to give an absolutely fair presentation of facts as they exist. A knowledge of such facts is always beneficial, and we trust this exposition of the results of the examination of applicants for license to practice medicine in the United States will help in the advancement of medical education in this country. We wish to acknowledge our indebtedness to the state licensing boards whose ready cooperation and complete reports have ma the publication of this data possible.

TABLE L.—COLLEGES HAVING OVER 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1906.
BASED ON TABLE B.

College.	Total Examined.	Number Passed.	Number Failed.	Per cent. Failed.	No. of
CALIFORNIA.					
University of Southern California	29	23	6	23.3	
COLORADO.					
Denver and Gross College of Medicine	13	9	4	30.8	
DISTRICT OF COLUMBIA.					
George Washington University	76	57	19	25.0	13
Georgetown University	36	27	9	25.0	13
Howard University	34	27	7	20.6	1
ILLINOIS.					
College of Med. and Surg. (Ph.M.)	9	4	5	55.5	
Hering Medical College	14	8	6	42.8	
IOWA.					
Keokuk Medical Coll., Coll of P. and S.	74	49	25	33.8	
Sioux City College of Medicine	17	13	4	23.5	
KENTUCKY.					
Hospital College of Medicine	37	26	11	29.7	1
Kentucky School of Medicine	37	20	17	45.9	1
Louisville Medical College	43	32	11	25.6	1
Southwest. Homeopathic Med. Coll	4	1	3	75.0	
Kentucky University	47	31	16	34.0	2
LOUISIANA.					
Flint Medical College	24	11	13	54.2	
MARYLAND.					
Baltimore Medical College	144	105	39	27.0	2
Baltimore University	35	10	25	71.4	1
Maryland Medical College	67	30	37	55.2	2
MASSACHUSETTS.					
College of Physicians and Surgeons	30	18	12	40.0	
MINNESOTA.					
Hamline University	43	30	13	30.2	
MISSOURI.					
Eclectic Medical University	16	7	9	56.2	
Ensworth Central Medical College	60	32	28	46.7	
Barnes Medical College	125	68	57	45.6	1
St. Louis University	196	141	55	28.0	1
St. Louis Coll. of Phys. and Surg	77	35	42	54.5	1
American Medical College	14	10	4	28.6	
Homeopathic Medical College	3	1	2	66.7	
NEBRASKA.					
University of Nebraska	20	12	8	40.0	
Creighton Medical College	53	42	11	20.8	
NORTH CAROLINA.					
Leonard School of Medicine	55	31	24	43.6	1
University of North Carolina	13	10	3	23.1	
OREGON.					
University of Oregon	28	20	8	28.6	
Willamette University	21	4	17	81.0	
TENNESSEE.					
Tennessee Medical College	23	14	9	39.1	
Knoxville Medical College	3	1	2	66.7	
University of Nashville	68	52	16	23.5	1
University of Tennessee	33	19	14	42.4	
Meharry Medical College	107	58	49	45.7	1
Memphis Hospital Medical College	93	72	21	22.6	
University of the South	38	19	19	50.0	1
Chattanooga Medical College	48	34	14	29.2	1
TEXAS.					
Gate City Medical College	4	2	2	50.0	
College of Physicians and Surgeons	8	3	5	62.5	
Totals	1,919	1,218	701	36.5	

TABLE M.—Unclassified Colleges.

College.	Total Examined.	Number Passed.	Number Failed.	Per cent. Failed.	No. of States.
CALIFORNIA.					
Hahnemann Medical College	5	5	0	0.	1
California Medical College	4	1	3	75.0	1
Oakland College of Med. and Surg	4	4	0	0.	1
College of Phys. and Surg., Los Angeles	4	4	0	0.	1
COLORADO.					
Denver Homeopathic Medical College	1	0	1	100.0	1
INDIANA.					
Physio-Medical College of Indiana	6	6	0	0.	1
Eclectic Medical College of Indiana	6	5	1	16.7	1
IOWA.					
Univ. of Iowa, Homeopathic Dept	..	..	..	.....	..
KENTUCKY.					
Louisville National Medical College	..	..	..	....	..
MARYLAND.					
Southern Homeopathic Medical College	3	1	2	66.7	1
Woman's Medical College	1	1	0	0.	1
MICHIGAN.					
Detroit Homeopathic Medical College	7	7	0	0.	1
MINNESOTA.					
Univ. of Minnesota, Homeopathic Dept.	2	2	0	0.	2
MISSISSIPPI.					
Mississippi Medical College	..	..	..	.....	..
NEW YORK.					
New York Med. Coll. for Women	8	8	0	0.	1
OHIO.					
Pulte Medical College	2	1	1	50.0	1
TENNESSEE.					
University of West Tennessee	2	0	2	100.0	2
College of Phys. and Surg., Memphis	..	..	..	.....	..
TEXAS.					
Physio-Medical College of Texas	2	2	0	0.	1
Southwestern University	6	5	1	16.7	1
Totals	63	52	11	17.5	..

TABLE N.—Registrations by State Boards During 1906.

States.	By Examination.			By Reciprocity.	Without written exam. or under exemptions.	Totals.
	1901-6	1900 and previous.	Non-grads. and Miscel.			
Alabama	114	12	12	..	..	138
Arizona	21	13	1	..	..	35
Arkansas	37	36	79	..	4	156
California	144	46	..	..	..	190
Colorado	...	..	..	..	168	168
Connecticut	66	18	..	8	..	92
Delaware	11	..	..	5	..	16
District of Columbia	59	4	..	11	..	74
Florida	44	22	..	..	2	68
Georgia	157	7	..	6	4	174
daho	28	14	..	..	1	43
llinois	731	17	..	43	..	791
ndiana	216	12	..	21	..	249
ndian Territory	...	..	..	..	82	82
owa	160	6	..	63	..	229
Kansas	170	10	..	56	..	236
Kentucky	52	..	..	2	201	255
Louisiana	122	11	..	..	..	133
Maine	70	10	..	..	..	80
Maryland	110	2	..	9	1	122
Massachusetts	227	12	31	..	..	270
Michigan	159	3	..	62	64	288
Minnesota	93	11	..	42	..	146
Mississippi	66	9	81	..	..	156
Missouri	186	11	52	46	..	295
Montana	19	5	..	..	..	24
Nebraska	55	3	..	56	..	114
Nevada	1	1	..	..	159	161
New Hampshire	30	3	1	..	..	34
New Jersey	70	10	..	..	..	80
New Mexico	...	..	..	..	96	96
New York	559	70	..	32	71	732
North Carolina	81	6	..	..	..	87
North Dakota	49	11	..	21	..	81
Ohio	213	9	..	6	..	228
Oklahoma	67	25	3	..	4	99
regon	50	15	..	..	..	65
ennsylvania	505	14	..	..	..	519
Rhode Island	46	7	1	..	..	54
outh Carolina	37	2	..	4	..	43
outh Dakota	24	2	..	29	..	55
ennessee	99	13	38	..	..	150
exas	106	5	48	8	26	193
tah	34	3	..	..	..	37
ermont	35	..	..	4	..	39
irginia	108	15	..	19	..	142
Washington	90	47	..	..	..	137
West Virginia	73	10	1	..	..	84
Wisconsin	50	2	..	61	..	113
Wyoming	8	4	..	..	..	12
Totals	5,452	568	348	614	883	7,865

Medical News

COLORADO.

March Mortality.—During March, 1907, 875 deaths were reported, equivalent to an annual death rate per 1,000 of 16.07. Scarlet fever caused 28 deaths, typhoid fever 11, diphtheria 10 and smallpox 2.

Infectious Diseases.—During March there were reported 376 cases of scarlet fever, 144 of smallpox, 58 of typhoid and 43 cases of diphtheria, an increase as compared with February, of 215 cases of scarlet fever, 40 cases of smallpox, 11 cases of diphtheria and 1 case of typhoid fever.

Personal.—Dr. B. G. Weisel, Glenwood, was seriously injured in a runaway accident, April 9.——Dr. John W. Morgan, Denver, is convalescent after an operation for appendicitis.——Dr. William C. Mitchell, city bacteriologist of Denver, has gone to Europe to study the inoculation theory of tuberculosis.——Dr. Amassa M. Bucknum, Denver, was thrown from his carriage in a collision with an electric car, May 1, and suffered severe contusions.

ILLINOIS.

Addition to Staff.—The county board of Cook County has added six members to the staff of the Cook County Hospital and one member to the staff of the Contagious Disease Hospital.

Physicians' Club Meets.—The Elgin Physicians' Club, May 6, elected the following officers: Dr. Jane C. Trull, secretary; Dr. Lewis W. Dudley, treasurer, and Drs. Edward H. Abbott, Leonard S. Taylor and James Campbell, members of the executive committee. Dr. Dwight E Burlingame was chosen as chairman for the evening.

Sanitary Act a Law.—Governor Deneen has allowed the bill giving the State Board of Health supreme authority in all matters of quarantine (page 1606, The Journal, May 11), to become a law without his signature. The constitutionality of the sections authorizing the board to make and enforce rules and regulations, which shall have the force and effect of the statutes, was questioned, and this led the chief executive to withhold his signature. The bill makes the secretary the executive officer of the board, and empowers him to enforce such measures as he may deem necessary to protect the public health, when the board is not in session.

Personal.—A banquet was given May 2 by the Menard County Medical Society at Petersburg in honor of Dr. Joseph W. Newcomer, "in recognition of his loyal and faithful services to the profession in Menard County."——Dr. Walter Wilhelmj, East St. Louis, has been appointed assistant physician of St. Clair County, vice Dr. William C. Spannagil, resigned.——Dr. August H. Arp has been made health commissioner of Moline, vice Dr. Robert C. J. Meyer.——Dr. John W. Huston has been made president of the Virginia Board of Health.——Dr. C. Burr Caldwell, Bethany, has received an appointment as resident physician of the Illinois Southern Hospital for the Insane, Anna.

Chicago.

Deaths of the Week.—During the week ended May 18, 707 deaths were reported to the department of health, 10 less than for the preceding week and 127 more than for the corresponding week of 1906, the respective annual death rates being 17.49, 17.74 and 14.76 per 1,000. Pneumonia caused 174 deaths; consumption, 75; heart diseases, 56; nephritis, 50; violence (including suicide), 37; scarlet fever, 12; convulsions and diphtheria, each 10; typhoid fever, 6, and whooping-cough, 4.

Hospital Notes.—Mercy Hospital has obtained a loan of $175,000 to build an addition to its present building at Calumet Avenue and Twenty-sixth Street. The addition is to cost about $200,000.——The first dispensary of the Chicago Tuberculosis Institute, at 34 Vedder Street, was opened under the name of the Olivet Branch. The work of the dispensary will include the examination and treatment of cases at the institution and at the homes of the patients. Drs. Ethan A. Gray and Bird McP. Linnell are members of the staff.

INDIANA.

Contagious Diseases.—A number of cases of smallpox of mild type are reported from Disko, Wabash County.——Five cases of smallpox have developed in Monticello.——Scarlet fever of mild type is reported in Waterloo.

District Society Meeting.—At the annual meeting of the Second District Medical Society, held at Vincennes, April 25, Dr. John W. Gray, Bloomfield, was elected president; Dr.

Thomas A. Hays, Burns City, vice-president, and Dr. Adam B. Knapp, Washington, secretary-treasurer.

Personal.—A banquet was given by the Elkhart County Medical Society at Elkhart, May 2, in honor of Dr. William A. Neal, who has completed 50 years in the practice of medicine. The society presented him with a beautiful cane.——Dr. William K. Mitchell, Ligonier, is reported to be seriously ill.——Dr. John T. McShane, Indianapolis, is seriously ill with heart disease at his home.——Dr. Tiffin J. Shackleford, Warsaw, has been appointed secretary of the local board of health, vice Dr. Irvin B. Webber, deceased.——Dr. Frank Randolph, Elkhart, has gone to England for the summer.

IOWA.

Commencement.—The annual commencement exercises of the Keokuk Medical College were held May 14, when a class of 30 was graduated.

Personal.—Dr. G. D. Soule has been appointed health officer of Camanche City.——Dr. Frederick J. Will, Des Moines, has been appointed surgeon general of the Iowa National Guard, with the rank of colonel, vice Dr. Wilton W. McCarthy, resigned.

Medical Alumni Election.—At the third annual meeting of the Iowa University Medical Alumni Association, held in Iowa City, May 1, the following officers were elected: President, Dr. Edward E. Dorr, Des Moines; vice-presidents, Drs. Joseph M. Aikin, Omaha, Neb., and Edgar B. Henderson, Marengo, Iowa; secretary, Dr. Clarence E. Van Epps, Iowa City, and treasurer, Dr. John T. McClintock, Iowa City.

Prevalent Diseases.—Northern Iowa is reported to be suffering from an epidemic of smallpox. Plymouth reports 37 cases; Mason City, 2, and a few cases have been reported from Holmes.——At Atlantic 30 cases of measles have been reported.——In Burlington 67 houses have been quarantined on account of measles.——Dr. J. E. Miller, Des Moines, states that there are 20,000 cases of measles in the state.—Measles is reported epidemic at Cedar Rapids.

KANSAS.

Hospital Notes.—A hospital to cost $20,000 is to be erected on the site of the Evergreen Sanitarium, Leavenworth, which was burned recently.——Almost one-half of the $9,600 necessary to purchase a site for the new Sisters Hospital at Topeka has been secured.——By the will of the late Col. S. B. Rohrbaugh, Bethany Hospital, Kansas City, is given a fifty-foot front three-story building on Main street and one-half of all property remaining after certain specific bequests are paid.

Society Meetings.—The annual meeting of the Golden Belt Medical Society was held in Abilene. April 4. The following officers were elected: President, Dr. Howard N. Moses, Salina: vice-president, Dr. Daniel E. Esterly, Topeka; secretary, Dr. William S. Yates, Junction City; treasurer, Dr. John D. Riddell, Enterprise, and librarian, Dr. Edward E. Hazlett, Abilene. The society decided to make its library a permanent feature of the organization, and proposes to collect standard and medical works of a historical nature. Headquarters for the library will be at Abilene.——At a meeting of the Atchison County Medical Society, April 24, Dr. Arthur B. Chase. Atchison, was elected president; Dr. Peter R. Moore, Effingham, vice-president; Dr. James P. Blunk, Atchison, secretary, and Dr. Edward P. Pitts, Atchison, treasurer.

LOUISIANA.

Commencement.—At the annual commencement exercises of the Medical Department of the Tulane University of Louisiana, New Orleans, May 8, a class of 92 was graduated. Prof. G. D. Shands of the law department of the university delivered the annual address, and the president of the university. Edwin Boone Craighead, conferred the degrees.

Anti-Tuberculosis League.—The Central Council of the Louisiana Anti-Tuberculosis League has secured the services of five prominent citizens of New Orleans to act as a finance committee to obtain the fund for the erection of the proposed sanitarium in St. Tammany Parish. About $10,000 is needed for this purpose. The educational campaign of the society is being vigorously prosecuted. On May 17 Dr. William S. Thayer, Baltimore, delivered a lecture under the auspices of the league.

Reorganization of Tulane Medical University.—By the plans for the reorganization of the Medical Department of the Tulane University of Louisiana, New Orleans, Dr. Isadore Dyer is to become associate dean of the faculty, succeeding Dr. Stanford E. Chaille at the end of the college year. The Richardson Memorial or Canal Street it is become the Catherine Hutchinson Memorial, and a new Richardson Memorial will be erected on the campus of the university dormitories for the students. Drs. Ernest S. Lewis and John B. Elliott will retain their chairs until the end of the session of 1907-1908. Dr. Isadore Dyer has been appointed professor of diseases of the skin. Dr. Edmond Souchon is to be passed to the Carnegie pension roll at the end of the present session and will then be appointed emeritus professor of anatomy and curator of the anatomic museum, without salary. Dr. Paul E. Archinard is to become professor of diseases of the nervous system. Dr. John B. Elliott, Jr., is to become professor of clinical medicine. The chair of diseases of children is to be divided into a professorship of orthopedic surgery and one of surgical diseases of children. Dr. Erasmus D. Fenner is to become professor and Dr. William W. Butterworth associate professor of diseases of children; Dr. Herman B. Gessner, associate professor of operative surgery; Dr. Gordon King, associate professor of otology, laryngology and rhinology; Dr. Henry D. Bruns, professor of ophthalmology. The chair of general and clinical obstetrics and diseases of women is to be divided into chairs of gynecology and obstetrics. The chair of physiology, hygiene and pathologic anatomy is to be divided into a chair of physiology and one of pathology and pathologic anatomy. On July 1, 1908 a professor of biology is to be named for the consolidated chairs of biology in the medical and academic departments. The schools of chemistry in medical and academic departments are to be consolidated and divided into appropriate divisions for medical, pharmaceutical, scientific and academic students.

MARYLAND.

Personal.—Dr. J. G. F. Smith, one of the staff of the Springer Hospital, Towson, will leave May 11 for Ardmore Pa., to take charge of a sanatorium. Dr. C. C. Aitken succeeds Dr. Smith.——Dr. C. R. Sheller has been reappointe assistant health officer of Washington County.

Tuberculosis Hospital Report.—The report of the Endowe Hospital for Consumptives, near Baltimore, showed that 13 patients were treated in 1906, with an average daily attendance of 40 patients. The institution has 51 beds. The tota expenses for the year were $15,796.66, or an average daily cos of $1.11 per patient. Dr. Henry Barton Jacobs was re-electe president and Dr. Alexius W. Forster resident physician.

Baltimore.

Death Causes.—During the week ended May 18, consumption caused 27 deaths, Bright's disease 19 and pneumonia 18.

Commencement.—The Baltimore Medical College held it annual commencement May 21. Hon. Charles James Bonaparte, Attorney General of the United States, delivered th address of the evening and conferred degrees on a class of 97

Personal.—Prof. C. A. Ewald of the University of Berlin wil be the guest of Dr. John C. Hemmeter, May 28, during th centennial ceremonies of the University of Maryland, at whic Dr. Ewald will receive the degree of LL.D. *honoris causa.*——Dr. Ira Remsen, president of Johns Hopkins University, i to be orator at the commencement exercises of Wake Fore College, N. C., Vanderbilt University, Nashville, the Univer sity of Michigan, Ann Arbor and the University of the Sout Sewanee, Tenn.——Dr. Walter M. Hemmett has resigned a resident physician at St. Luke's Hospital——Dr. Robert Kirk has been elected medical superintendent of the Balt more Eastern Dispensary and Dr. John Roth assistant.——Dr. William G. Howard, emeritus professor of gynecology a the University of Maryland, is to receive the honorary degr of LL.D. at the centennial of that institution, May 31.——D Hugh Johnston, Jr., sailed from New York for Genoa, May 1

MICHIGAN.

Presentation to Dr. Biddle.—Dr. Andrew P. Biddle, Detroi was presented with a silver platter by the Michigan Sta Medical Society in token of appreciation of his services to th society, his efficiency and zeal. During Dr. Biddle's service a secretary of the society, from 1900 to 1906, the membersh increased threefold.

Contagious Diseases.—The secretary of the State Board Health has found 14 cases of smallpox in Fenton and a number in Tyrone Township, Livingston County.——More cases smallpox have been reported from Calumet and two in Cente nial.——Two cases of smallpox are reported in the vicinity Jackson, but outside the city limits.——Three members of o family at Sault Ste. Marie have died from cerebrospinal me ingitis and two other members of the family are ill with t disease.——Scarlet fever in mild form is prevalent at Grani Bluff and the public schools have been closed.

Personal.—Prof. Warren P. Lombard, Ann Arbor, will spend the summer in southern Europe.——Dr. James F. Breakey has been appointed health officer of Ann Arbor.——Dr. Joseph B. Griswold has been elected president of the board of health; Dr. William H. Veenboer, city bacteriologist; Dr. William De Lano, health officer, and Dr. Ralph C. Apted, city physician, of Grand Rapids.——Dr. Benjamin T. Phillips has been appointed city physician of Menominee.——Dr. William H. Enders, Eaton Rapids, sailed from Baltimore, May 22, for Bremen.——Dr. John H. DeMay has been elected health officer of Jackson, and Dr. Roy W. Chivers, secretary of the board of health.

MINNESOTA.

Physicians Elected Mayors.—Dr. Howard R. Weirick has been elected president of the village of Hibbing; Dr. John W. Andrews, mayor of Mankato, and Dr. Edwin S. Muir, mayor of Winona.

Vital Statistics.—During the fiscal year ended March 31, 10,553 deaths were reported and 13,477 births. Consumption caused 1,107 deaths; pneumonia, 923; diseases of the circulatory system, 923, and Bright's disease, 650. There were 87 homicides and 214 suicides. Accidental deaths numbered 438 and 50 deaths followed surgical operations.

State University Notes.—The University of Minnesota received from the legislature this year more than $1,400,000 for all purposes. This includes $450,000 for the enlargement of the campus, $250,000 for engineering buildings, and an addition of $125,000 to the salary account. This has permitted the raising of salaries of heads of departments from $2,700 to $3,500, with corresponding raises for other positions. In addition, provision has been made for 28 new appointments in the university. In medicine, provision was made for a new man in physiology, one in pharmacology, one in pathology, and three in gross and microscopic anatomy. All of these appointments are to be of thoroughly trained men who will devote their entire time to teaching and investigation in their respective departments.——The legislature accepted the gifts of $150,000 for the first pavilion of the University Hospital, and $50.000 in addition for a site, and also provided for the maintenance of the hospital.——Through the generosity of Alfred F., Charles C., and John S. Pillsbury of Minneapolis, Dr. Thomas G. Lee has secured for the department of histology and embryology the "Handapparat." or working library of the late Prof. William His of Leipzig. This collection comprises over 8.400 monographs and essays contributed by more than 2,500 different authors. This valuable addition to the library of the department makes it now the largest anatomic library in the Northwest.

MISSOURI.

Society Meeting.—At the annual meeting of the Cole County Medical Society, held recently in Jefferson City, Dr. Charles P. Hough, Jefferson City, was elected president; Dr. Harden T. Leach, Elston, vice-president; Dr. Stephen V. Bedford, Jefferson City, secretary; Dr. Joseph P. Porth, Jefferson City, treasurer, and Dr. Jefferson L. Thorpe, Jefferson City, delegate to the state association.

Hospital for Crippled Children.—The committee which had under consideration the proposals for a state hospital for crippled and deformed children, has decided to accept the offer of St. Paul, which contemplates turning over to the state the building now occupied as a hospital for cripples at that city and county hospital and a tract of land at Lake Phalen, together with a cash donation of $5,000 made by the Business League and the Commercial Club, which will probably be used for the erection of cottages for the inmates of the hospital.

NEW JERSEY.

Camden's Health.—The report of the medical inspector, Dr. John F. Leavitt, for the month ended May 17, shows that only 46 cases of contagious disease were reported, as follows: Typhoid fever, 4; scarlet fever, 19; diphtheria, 17; membranous croup, 2; consumption and cerebrospinal meningitis, 2.

Medicine Distributor Fined.—A man who was distributing samples of a proprietary medicine in East Orange was arrested, but pleaded ignorance of the law, and was fined $2. The ordinance, which became effective February 22, provides "that no person shall distribute, deposit or leave on any street or private place any medicine, medical preparation or preparation represented to cure ailments or diseases of the body or mind, or samples thereof, or any advertisement or circulars." The penalty attached is a fine of $50.

Personal.—Dr. Daniel Elliott, Newark, has been elected physician of Essex County, vice Dr. Andrew M. Mills, deceased.——Dr. Charles D. Selvage, assistant house physician at the Newark City Hospital, is a patient in the contagious department of that institution, ill with scarlet fever.——Dr. James D. DeWitt, Harmony, is reported to be seriously ill at the home of his daughter in Easton, Pa.——Dr. Luther M. Halsey, Williamstown, and family are preparing to go to Santa Barbara, Cal.——Dr. W. Blair Stewart has been elected president of the board of trade of Atlantic City.

Society Meetings.—At the annual meeting of the Doctor's Club of Newark, held May 6, the following officers were elected: President, Dr. James H. Lowrey, Newark; vice-president, Dr. Edwin N. Riggens, East Orange; and secretary-treasurer, Dr. Benjamin S. Van Dyke, East Orange.——At the annual meeting of the Morris County Medical Society, held in Dover, Dr. George H. Foster, Rockaway, was elected president; Dr. Lancelot Ely, Flanders, vice-president; Dr. Henry W. Kice, Wharton, secretary; and Dr. James Douglas, Morristown, treasurer.——At the annual meeting of the Somerset County Medical Society held in Plainfield, Dr. J. Henry Buchanan, North Plainfield, was elected president; Dr. Henry V. Davis, North Branch, vice-president; Dr. William H. Long, Jr., Somerville, secretary; Dr. Thomas H. Flynn, Somerville, treasurer; Dr. Aaron L. Stillwell, Somerville, reporter; and Dr. Peter J. Zeglio, North Plainfield, censor.——At the annual meeting of the Camden County Medical Society, Dr. Sylvan G. Bushey was elected president; Dr. Paul M. Mecray, vice-president; Dr. Daniel Strock, secretary; Dr. A. Haines Lippincott, treasurer; Dr. Alfred Cramer, Jr., historian; Dr. Harry H. Sherk, reporter; and Dr. Edmund L. B. Godfrey, trustee, all of Camden.——At the annual meeting of the Mercer County Medical Society, held in Trenton, May 14, the following officers were elected: President, Dr. David F. Weeks; vice-president, Dr. James J. McGuire; secretary, Dr. Charles M. Mitchell; treasurer, Dr. Irenaeus M. Shepherd; and recorder, Dr. Edgar L. West, all of Trenton.——At the annual meeting of the Hunterdon County Medical Society, held in Frenchtown, the following officers were elected: President, Dr. Louis C. Williams, Lambertville; vice-presidents, Drs. Theodore B. Fulper, Junction, and Enoch Blackwell, Clinton; secretary, Dr. Obadiah H. Sproul, Flemington; treasurer, Dr. Isaacs S. Cramer, Flemington; and reporter, Dr. Leon T. Salmon, Lambertville.——The physicians of Vineland have incorporated as the Vineland Medical Association and elected the following officers: President, Dr. Theodore Foote; secretary, Dr. John H. Winslow, and treasurer, Dr. George Cunningham.

NEW YORK.

Bequest to Hospital.—The German Hospital, Buffalo, is to receive $1,000, as part of the proceeds of a concert given by the Vienna Maennerchor in Buffalo.

Ambulance Accident.—While the Emergency Hospital ambulance, Buffalo, was making a hurry call, it collided with a trolley car, and the driver and surgeon of the ambulance were thrown to the ground, but not seriously injured.

Personal.—Drs. Theodore Wright and Charles Andrews have been appointed assistant surgeons of the N. G. N. Y., and assigned to the Seventy-fourth Infantry.——Dr. William Krieger, Poughkeepsie, has been appointed pathologist at the Albany Hospital.——Dr. Helena B. Pierson has been appointed resident physician at the Western House of Refuge for Women, Albion.

The Hospital Bill Again.—The Huth bill, better known as Coroner Harburg's bill, relating to the removal of dying patients from hospitals in New York City, has been passed by the assembly over Mayor McClellan's veto.——The assembly also passed the Armstrong bill authorizing the state to select a site for a new state hospital near New York City, and the Boshart bill prohibiting the employment in any dairy or creamery of persons having infectious or contagious diseases.

The Registration of Tuberculosis.—The report of the State Board of Health shows that during February more than 44 persons died each day of tuberculosis. This bulletin calls attention to the fact that the State Department of Health now requires the registration of all cases of tuberculosis, and urges all local boards of health to include in their ordinances regarding contagious diseases the word "tuberculosis." The experience of New York City has shown the definite and practical value of this plan. The fact that the health department of this city maintains a bacteriologic laboratory where examinations of sputum are made free of charge, has been considered a strong influence in inducing physicians to report cases.

Medical Bill Signed.—Governor Hughes has signed the single Medical Board bill. This bill creates a new definition of the term practice of medicine and substitutes one board of medical examiners under the auspices of the Board of Regents, in place of the three boards, representing the allopathic, homeopathic and eclectic schools of medicine, which hitherto had jurisdiction. The new law recognizes osteopathy as a system of treatment and provides for examination and licensing of its practitioners. The practice of medicine is defined as follows: "A person practices medicine within the meaning of this act, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake, by any means or methods, to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition." Of osteopaths the law says: "Where the application be for a license to practice osteopathy, the applicant shall produce evidence that he has studied osteopathy not less than three years, including three satisfactory courses of not less than nine months each in three different calendar years in a college of osteopathy maintaining at the time a standard satisfactory to the regents. After 1910 the applicant for a license to practice under this act shall produce evidence that he has studied not less than four years, including four satisfactory courses of not less than seven months each in four different calendar years in a college maintaining at the time a standard satisfactory to the regents."

New York City.

Resolution Regarding the Late Dr. Otis.—The American Society of Genitourinary Surgery, at its recent meeting, adopted resolutions deploring the death of its president, the late Dr. William K. Otis.

Interneships.—Seton Hospital, Spuyten Duyvil, offers a service of 400 beds to qualified graduates in medicine. Two appointments are to be made for a service of one year, beginning July 1. Application may be made to Dr. Haven Emerson, 120 East Sixty-second Street, New York City.

Fewer Pulmonary Deaths.—The reports of the Health Department for the week ended May 11 show a falling off in typhoid fever, only 46 cases having been reported, the lowest number in seven weeks. Tuberculosis reports are also lower than for several weeks. The number of new cases of pneumonia was only 152, the lowest since Dec. 1, 1906.

Personal.—Dr. Thomas Darlington fainted as the result of overwork just after making a speech in Sunbury, Pa.——Dr. and Mrs. Herman M. Biggs and Dr. and Mrs. Francis P. Kinnicutt sailed for Europe on the *Kaiserin Auguste Victoria*, May 15.——Dr. F. E. Winter has been appointed assistant physician at the Minnesota State Hospital for the Insane, St. Peter.

Health of School Children.—This was the subject of a lengthy and profitless discussion, so far as results are concerned, held at the New York Academy of Medicine recently. The object of the conference was to formulate a plan to secure prompt relief to children whose defects are known; to arrange to locate before vacation all children needing attention, and to agree on a method of securing from the Board of Estimate and Apportionment the necessary funds. The Board of Education and the Board of Health were unable to agree that these things ought to be done. The Department of Health objected to the schools being turned into hospitals and clinics, and thought that the effect of so much free medical attention was pauperizing.

Jury Severe on Eddyites.—The coroner's jury in the inquest on the death of Mrs. Corinne McBride, who died recently under the treatment of Eddyites, returned a verdict that the victim had died of acute lobar pneumonia, from which she might have recovered had she had proper medical attendance. The Eddyites who attended here were severely censured as well as the doctors who furnished death certificates for persons who died under this treatment. They called the attention of the Board of Health of New York City, of the district attorney of New York County and of the Medical Society of the County of New York to the practice of such physicians, and requested them to take all the steps required by law to put a stop to such practices and to punish the perpetrators thereof.

The Menace to Water Supply.—The report of the officials who have been investigating conditions in the Croton watershed reveals an extremely startling state of affairs. There are eighteen places where there is wholesale pollution of the watershed as dangerous as that recently revealed at Mount Kisco. The difficulty in the way of remedying the evil is the Apgar bill, passed two years ago, prohibiting the city from purchasing or condemning another foot of land in Westchester County for the protection of the water supply. In order to meet this emergency, a bill has been introduced into the legislature which permits the Apgar bill to be disregarded in this specific case and allows the city of New York and the village of Mount Kisco to enter into a contract for the condemning of such lands as are necessary to abate the present pollution.

NORTH CAROLINA.

Change of Date.—The date for the annual meeting of the Medical Society of North Carolina has been changed from May 28-30 to June 11-13.

Smallpox.—It is reported that smallpox has broken out in Rowan County. Dr. Isaac H. Foust, Salisbury, county health officer, has the cases all under quarantine and has ordered general vaccination.

New Health Board.—The following are appointed members of the State Board of Health for a term of six years each: Dr. Richard H. Lewis, Raleigh (reappointed), and Dr. Edward C. Register, Charlotte.

Medical Practice Act Amended.—At the recent session of the state legislature, the law regulating the practice of medicine was amended so as to empower the State Board of Medical Examiners to grant license to applicants from recognized medical colleges, and licentiates from other states.

New Health Officers.—Dr. Daniel E. Sevier, Asheville, has been appointed county superintendent of health of Buncombe County.——Dr. J. Rufus McCracken, Waynesville, has been reappointed superintendent of health of Haywood County.——Dr. James W. McGee, Jr., Raleigh, has been reappointed superintendent of health of Wake County.

OHIO.

Smallpox.—Smallpox is reported to be epidemic at Chicago Junction, where churches and schools have been closed.——The public schools of Oak Hill have been closed on account of smallpox.——More than 100 cases of smallpox are said to exist in Newport and other places in Miami County, north of Piqua.

Newspaper Notices Prohibited.—At a recent meeting of the Academy of Medicine of Toledo and Lucas County a by-law was enacted making conspicuous newspaper notices of professional attendance by the members a cause for discipline, and possibly expulsion. The annual banquet of the academy was held May 3, when nearly 100 members were present.

Commencement Exercises.—At the first joint commencement of the Starling Medical College and Ohio Medical University, held in Columbus, May 8, a class of 65 received diplomas. The address of the evening was by Rev. Herbert Walsh, D.D., president of the Ohio Wesleyan University, and the diplomas were conferred by Hon. R. W. Huntington and Hon. Fred Heere, presidents of the respective boards of trustees of the colleges.

Personal.—Drs. Lawrence C. Grosh and Peter Donnelly of Toledo sailed from New York, for England, April 27.——Drs. Willis W. Ranshaw and Louis E. Brinker have been elected members of the Cincinnati board of health.——Dr. A. Per Lee Pease, Massillon, returned from a trip to the South Seas and Australia, April 30.——Dr. Edson J. Emerick, Columbus, has been appointed to succeed Dr. E. H. Rorick as superintendent of the State Institution for the Feeble Minded, Columbus.——Dr. J. C. George, Cincinnati, has been elected assistant superintendent of the State Hospital, Columbus.——Dr. Harmon B. Gibbon has been elected health officer of Tiffin.——Dr. Thompson R. Terwilliger, Lima, has returned after a stay of nine months in Europe.——Dr. Harry M. Mealy, Newton Falls, has been appointed local surgeon for the L. E., A. & W. Railroad.

PENNSYLVANIA.

Personal.—Dr. George R. Rohr of Lancaster was thrown from his carriage, May 17, and painfully injured.——Dr. Isaiah F. Everhart has donated a museum of art to the city of Scranton. It is to be erected in the City Park at a cost of a quarter of a million dollars.

Thousands for Charity.—The governor has approved the bill appropriating $600,000 for the establishment and maintenance of a sanatorium for poor consumptives. The work is to be carried out under a department of the State Department of Health, and the sanatoriums may be located in the state forestry reservations.

State Medical Examinations.—The place of holding the state medical examinations has been changed from Harrisburg to Philadelphia and Pittsburg. In Philadelphia the examinations will be held in Musical Fund Hall, and in Pittsburg in the Pittsburg Academy. The time for holding these examinations will be June 25 to 28. All candidates for examination will be required to furnish a cabinet photograph with endorsed autograph, both photograph and signature being certified by the dean of the medical college from which the candidate was graduated.

Large Appropriation for Insane.—The senate and house have made the extraordinary appropriation of $5,433,665 for the care of the state's insane, and this is divided as follows: Maintenance of insane, $2,500,000; Wernersville Hospital, $40,500; Danville Hospital, $389,300; Harrisburg Hospital, $262,000; Norristown Hospital, $416,000; Warren Hospital, $254,500; Polk Institution for Feeble-Minded, $788,000; site for State Hospital for Insane, Allentown, $383,365; site for State Institution for Feeble-Minded and Epileptic, Spring City, $400,000. The above appropriations will provide accommodations for 2,450 additional insane or 862 more than can now comfortably be provided for. The bills making this appropriation are now in the hands of the governor.

Philadelphia.

Hospital Opened.—The Episcopal Hospital, which was closed March 1 on account of the introduction of several cases of infectious diseases by visitors, was reopened May 16.

Alumni to Meet.—The Philadelphia Medical Alumni Association of the University of Pennsylvania will hold its regular yearly meeting in Atlantic City June 4. All medical alumni are invited to attend.

Personal.—Dr. Aller G. Ellis, demonstrator of pathology in Jefferson Medical College, has sailed for Europe, to spend a year in pathologic research.——Dr. Ellwood Matlack sailed for Europe, May 18.——Dr. H. A. Garrison of the Methodist Hospital staff was operated on for appendicitis, May 10.

Bequests.—The will of the late Elizabeth J. Greir bequeaths $4,000 to the Home of the Merciful Savior for Crippled Children as a memorial to Mary Long Greir.——By the will of the late Cockcroft Thomas, St. Joseph's Hospital receives $1,000.——The will of the late Jane Kennedy bequeaths $250 to the Presbyterian Hospital.

Exempt from Civil Service.—The Civil Service Commission accedes to the request of the director of public health and charities and exempts from examination the physicians in attendance at the Philadelphia General Hospital and Municipal Hospital. About 500 persons are thus freed from civil service examinations, including 150 visiting or out-door physicians.

Decrease in Infections.—The report of the bureau of health for the last year shows a marked decrease in cases of typhoid fever, scarlet fever and diphtheria, as compared with the figures of the first four months of this year. Typhoid cases have dropped from 4,664 to 4,320; scarlet fever from 809 to 641, and diphtheria from 1,455 to 1,413. The health authorities believe the decrease in the latter two diseases is due to the thorough isolation and systematic medical inspection of school children. The decline in typhoid fever is said to be due to the extension of the supply of filtered water.

Health Report.—The report of the bureau of health for the week ended May 18 shows that the total number of deaths reported for the week aggregated 485, a decrease of 75 from the number reported in the previous week and a decrease of 82 from the number reported in the corresponding period of last year. The principal causes of death were: Typhoid fever, 18; diphtheria, 11; cerebrospinal meningitis, 8; consumption, 63; cancer, 17; apoplexy, 22; heart disease, 52; acute respiratory disease, 64; enteritis, 20; appendicitis, 3; Bright's disease, 43; accidents, 13, and marasmus, 3. There were 182 cases of contagious disease reported, with 32 deaths, as compared with 218 cases and 32 deaths in the preceding week.

TEXAS.

Smallpox.—Fifty cases of smallpox are reported from Midland. The entire town is said to be under quarantine and no trains are allowed to stop.——The epidemic reported at Frankston, said to have been smallpox, proved on investigation to be measles of a severe type.

Society Meetings.—The Starr County Medical Society was organized at Rio Grande City, April 7, when the following officers were elected: President, Dr. A. M. Headley; vice-president, Dr. W. T. Kennedy, and secretary-treasurer, Dr. Walter R. Dashiell, all of Rio Grande City.——The Burleson County Medical Association met in Caldwell recently and elected the following officers: President, Dr. Robert E. B. Bledsoe, Somerville; vice-president, Dr. J. C. McGregor, Caldwell, and secretary-treasurer, Dr. G. C. McLeod, Lyons.

Personal.—Dr. Sofie Herzog, Brazoria, has been appointed local surgeon for the St. L., B. & M. Railroad.——Dr. Oliver C. Buster, Pilot Point, was thrown from his buggy, April 15, and severely injured.——Dr. Mills Dennis, Cleburne, was operated on for appendicitis, April 20.—Dr. G. A. Steele, Corpus Christi, has been appointed quarantine inspector to be stationed at Aransas Pass; Dr. Joseph G. Smith, Nevada, to be stationed at Port Cavallo, near Point Lavaca, and Dr. Edwin R. Walker, Ballinger, to be stationed at Velasco.——Dr. William H. Anderson has been made secretary of the El Paso board of health.——Dr. Solon Milton has succeeded Dr. Lyman A. Barber as city physician of Fort Worth.

Commencements.—At the annual commencement exercises of the Medical Department of Fort Worth University, May 6, a class of 21 was graduated. The diplomas were presented by President William Fielder of the university.——At the seventh annual commencement of the Baylor University College of Medicine, Dallas, April 23, a class of seven was graduated. The baccalaureate address was given by Rev. H. F. Riley, Houston, the faculty address was delivered by E. G. Eberle and the degrees were conferred by President S. P. Brook, president of Baylor University, Waco.——The Southwestern University Medical College, Medical Department of Southwestern University, Dallas, at its annual commencement, April 27, graduated a class of 12. The degrees were conferred by Dr. John O. McReynolds.——The commencement exercises of the College of Physicians and Surgeons, Dallas, were held April 10, when a class of 23 was graduated.

UTAH.

State Board Meeting.—At the reorganization of the State Board of Medical Examiners Dr. David C. Budge, Logan, was elected president; Dr. Robert W. Fisher, Salt Lake City, secretary, and Dr. Amasa S. Condon, Ogden, treasurer.

Personal.—Dr. David C. Budge is making arrangements for the building of a general hospital at Logan.——Dr. Frederick W. Taylor, Provo, has been made a member of the State Board of Medical Examiners, vice Dr. Elias S. Wright, Salt Lake City, resigned.——Dr. James M. Henry, Payson, has been elected president of the Utah County Medical Society, vice Dr. Robert E. Steele, Lehi, who has moved to Salt Lake City.

VIRGINIA.

Medical Society Meeting.—At the annual meeting of the Piedmont Medical Society the following officers were elected: President, Dr. James H. Browning, Charlottesville; vice-presidents, Drs. W. S. Phillips, Orange County, and John A. B. Sinclair, Charlottesville; secretary, Dr. Lewis Holliday, Orange Courthouse; treasurer, Dr. John T. Walker, Barboursville.

Personal.—Dr. Littleberry S. Foster, formerly superintendent of the Eastern State Hospital, Williamsburg, has been appointed superintendent of the Norfolk Protestant Hospital.——Dr. Daniel Trigg, Jr., who has been assistant physician at the Southwestern State Hospital, Marion, has resigned and will enter practice in Johnson City, Tenn.——Dr. Moses Bennosche, Richmond, has gone to Europe to study tuberculosis.

New Superintendents.—The general board of directors of state hospitals at its recent meeting elected Dr. William F. Drewry superintendent of the Central State Hospital, Petersburg; Dr. Oliver C. Brunk, superintendent of the Eastern State Hospital, Williamsburg, and Dr. Joseph S. DeJarnette, superintendent of the Western State Hospital, Staunton, and Dr. Albert S. Priddy, superintendent of the Southwestern State Hospital, Marion.

Virginia Sanatorium for Consumptives.—The Virginia Sanatorium for Consumptives, located at Ironville, which was opened February 10 for the reception of patients, has received 18 patients since that time, 17 of whom have thus far improved, exceeding the expectation of the management. The capacity of the institution is 30. The general line of treatment is fresh air, forced alimentation and regulation of rest and exercise. The friends of the sanatorium are endeavoring to raise $20,000, so that the institution may be on a free basis. At present about $6,000 has been raised, but the sanatorium has a debt of $3,600.

WISCONSIN.

Commencement.—Authority having been granted by the legislature for the consolidation of the Marquette College and Milwaukee Medical College, degrees were conferred on a class of 51, May 14, by President A. J. Burrows of the Marquette College.

Sanatorium Opened.—The Milwaukee Sanatorium for Tuberculosis opened to receive patients May 15. The central building and tent cottages can now accommodate from 12 to 15 patients. The business men who are interested in the work are endeavoring to raise $20,000 for the support of the institution.

Medical Society Meeting.—At the annual meeting of the Dodge County Medical Society, held in Beaver Dam, May 6, the following officers were elected: President, Dr. Wallace E. Hallock, Juneau; vice-president, Dr. Henry M. Holtz, Beaver Dam, and secretary-treasurer, Dr. George W. Dewey, Burnett Junction.

Personal.—Dr. and Mrs. William H. McDonald, Lake Geneva, returned May 4, after a three months' tour of Europe.——Dr. John B. Spalding has been reelected health officer of Kenosha.——Dr. Walter F. McCabe, Beloit, has been obliged to give up his practice on account of ill health.——Dr. and Mrs. Stanton Allen, Milwaukee, will leave in a short time for their new home in Seattle, Wash.

GENERAL.

Confederate Surgeons to Meet.—The annual meeting of the Association of Medical Officers of the Army and Navy of the Confederacy will be held in Richmond, Va., May 30, under the presidency of Ernest L. Lewis, New Orleans.

Retirements.—Col. Edward B. Moseley, assistant surgeon general, U. S. Army, was placed on the retired list May 10, on account of disability incident to the service.——Medical Director James R. Waggener, U. S. Navy, was placed on the retired list May 6.

Civilian Practitioners on Military Reservations.—Orders have been issued by the War Department requiring civilian physicians who desire to practice on military reservations, to register their names with the post commander and to agree to obesrve the rules and regulations relative to the protection of the command against infectious and contagious diseases.

Medical Milk Commission.—The Medical Milk Commissions of the United States will hold a conference at the St. Charles Hotel, Atlantic City, N. J., Monday, June 3. There will be three sessions at 10 a. m., 3 p. m. and 8 p. m. The object of the conference is to determine the scope of Medical Milk Commission, harmonize its working methods and requirements and establish uniform standards for certified milk. Dr. Henry L. Coit, Newark, N. J., is temporary chairman, and Dr. Otto P. Geier, Cincinnati, Ohio, temporary secretary of the commission.

State Board Convention.—The seventeenth annual meeting of the National Confederation of State Medical Examining and Licensing Boards will be held at the Hotel Traymore, Atlantic City, N. J., June 4, 1907. The following topics are announced for discussion:

1. The Legality of State Medical Examinations and Interstate reciprocity in Medical Licensure.
2. The Recognition of Sectarian Medicine by Statutory Law.
3. Therapeutics: The Acme of Medical Art, the Bane of Sectarianism.
4. One Board Laws for the Regulation of Medical Licensure.
5. Definitions: (1) "A Reputable Medical College." (2) "The Practice of Medicine." (3) "Preliminary Training."
6. The Divided Examination for Medical Licensure.
7. The Relative Functions of Degree-Conferring and Licensing Bodies.
8. The Qualifications of Medical Teachers.
9. The Qualifications of Medical Examiners.

Further information may be obtained from the secretary, Dr. Murray Galt Motter, 1841 Summit place, Washington, D. C.

CANADA.

Ontario Physicians to Meet.—The Ontario Medical Association will hold its twenty-seventh annual meeting in the medical building of the University of Toronto, May 28-30.

Medical Society Organized.—A new medical society has been organized in Haldimand County, Ontario, with Dr. Thomas T. S. Harrison, Selkirk, as president, and Dr. William Arrell, Cayuga, secretary.

Commencement.—Thirty medical degrees were conferred this spring at the University of Manitoba. One remarkable point in the lists of medalists and prize winners was the very high stand taken by the Icelandic students of the university.

Infectious Disease Hospitals Needed.—Dr. Charles Sheard, health officer of Toronto, will advise the city council of that city to provide a hospital for such diseases as measles, erysipelas, tuberculosis, mumps, ringworm and itch, as these diseases are not admitted to the Toronto General Hospital.——The health commissioner of Montreal will recommend to the city council that a renewal of the 25-year contract be made between the St. Paul's and Royal Alexandria hospitals in that city for the treatment of contagious diseases in the municipality. By the provisions of the contract the annual civic grant will be increased from $15,000 to $30,000, and under the new arrangement the hospitals must erect a separate pavilion for cases of erysipelas.

Personals.—Dr. Harry B. Anderson, associate in medicine in the University of Toronto, has gone to Germany for a few months.——Dr. William H. Pepler, Toronto, demonstrator in pathology in the University of Toronto, is doing graduate work in New York.——Dr. George Elliott, Toronto, general secretary of the Canadian Medical Association, is in Montreal arranging for the coming annual meeting in that city September 11, 12 and 13.——Dr. Woodhouse, house surgeon at the Victoria Hospital for Sick Children, Toronto, has been appointed superintendent of the Toronto Isolation Hospital.——Dr. David A. Shirres, Montreal, while out horseback riding recently, was attacked by a bull dog, and so severely injured that the amputation of several toes was necessitated.——Dr. Walter M. English, London, has been appointed medical superintendent of the Hamilton (Ont.) Provincial Hospital for the Insane, vice Dr. James Russell, resigned.——Drs. W. J. Chapman and Stanley Paulin of Toronto University, and Dr. J. L. Walker of McGill University, have been admitted to membership of the Royal College of Surgeons, England.

FOREIGN.

Warning Circulars for File-Makers, Stonecutters, etc.—The German Imperial Board of Health has been issuing a series of circulars giving advice for prevention of various diseases and professional affections. The latest set is for the use of stonecutters, file-makers and workers in tanneries where chromic acid is used. These circulars are distributed free to those interested.

Fine for Unqualified Medical Man in Germany.—The Dresden Medical Society, recently denounced to the police the owner and director of a local sanitarium. He is a former gardener, named Gössel, and besides his sanitarium did a large business in what he called "radium water," claiming that it was a sure cure for diabetes, cancer, etc. It was proved that it was nothing but ordinary spring water. He was condemned to a fine of $400 or 100 days' imprisonment.

Medical Study Trip in France and Germany for 1907.—The annual medical educational trip to health resorts will this year commence at Nancy, France, August 7. The party will then proceed to Stuttgart, Munich, Carlsbad, Marienbad, Vienna, Budapest, Innsbruck and Zurich, disbanding at Besançon August 23. The medical and sanitary institutions of each place visited are inspected and the party is always cordially welcomed by the local physicians. The trips are in charge of M. Etienne Bazot, 8 rue François-Millet, Paris, XVI, France.

Medical Missions in China.—According to the *Deutsche med. Wochschr.*, the Germans have only 4 hospitals and 5 physicians in China. The French have 100 hospitals, the Americans 97, with 137 physicians, and the English 57 hospitals and 83 physicians. There is further an Anglo-American Union Medical College, with 9 physicians and 13 medical instructors. The French are also planning to found a medical school at Szechuan. The Germans are taking steps to organize a medical school at Shanghai, as already mentioned in these columns.

Epidemic Diseases in Europe.—Epidemic cerebrospinal meningitis is reported in many German cities, including Berlin and Dresden, and also in Vienna, in Milan, Italy, and at various points in Russia. The cases are comparatively few in number, although scattered over a large territory, and the course of the disease seems to be this year milder than usual. A number of cases of sickness have developed at Cartagena, Spain, and the *Siglo Medico* states that the prime minister threatened to prosecute any periodical which should state that the sickness in question was bubonic plague.

Scarcity of Communications to the French Academy of Medicine.—Some of our foreign exchanges are commenting mischievously on the fact that the grave and important *Académie de Médecine* has had to adjourn several times lately after the reading of the minutes of the last meeting and the correspondence, without listening to any scientific communication, as there was none presented. This is the more remarkable, as the Academy at Paris is regarded among all the Latin races as the great high tribunal to which important works and discoveries are communicated from all over Latin Europe and Latin America.

Ozone for Local Treatment of Wounds.—A von Gleich announced at the meeting of the Vienna K. K. Medical Society, May 3, that he had devised a means to generate ozone in a wound as a local disinfectant. This combines the advantages of a solution of hydrogen dioxid with those of electric action, while avoiding the use of water. The technic is like that for temporary or continuous irrigation, the oxygen being supplied from an ordinary tank and activated by an induction current. He suggests that the superior results obtained in the treatment of wounds at certain clinics may be due to the ozone naturally in the air. He adds that with this artificial generation of ozone it might be possible to secure the advantages of "open treatment" of wounds, free from its present drawbacks.

Museum of Phylogeny.—The town of Jena in Germany is planning a museum illustrating the evolution of species, as a tribute to Ernst Haeckel, the great biologist and embryologist. Land has been donated near the Zoologic Institute of which he has charge, and the building will be completed by fall. The extensive collections now in the university are to be made accessible and explained to the general public in the new "Phylogenic Museum." The university and town of Jena recently celebrated Haeckel's fiftieth professional anniversary with much ceremony. The university presented him with a parchment extolling his achievements in the biologic sciences, and his work as a scientific writer, as an artistic interpreter of the beauties of Nature, and as a guide in decorative art, revealing to the latter unsuspected treasures of form and design.

LONDON LETTER.

(*From our Regular Correspondent.*)

London, May 8, 1907.

Counter Manifesto on Alcohol.

The manifesto on this subject, referred to in The Journal, April 20, 1907, p. 1363, has now been followed by a counter-manifesto signed by several equally eminent members, such as Sir Frederick Treves, Sir James Barr, Prof. Sims Woodhead and Dr. William Ewart. The counter-manifesto is as follows: "A manifesto with regard to the use of alcohol has received wide circulation. By reason of the high position in the scientific world held by its signatories, great importance has been attached to the views it expresses. As it appears to us, both by reason of the wording of the manifesto and of the use to which it has been put, certain misconceptions may arise we wish to say that we gravely dissent from much of its teaching, nor can we accept it as an authoritative statement of recognized medical opinion on the matter. Without asserting that alcohol has no value in the treatment of disease, we believe that its use is occasional rather than regular, and limited rather than wide. We regard the word 'life-preserving' in connection with alcohol as misleading, and we consider the statement that alcohol 'has the power to sustain cardiac and nervous energy' rests on no certain clinical or experimental evidence. On the other hand, we strongly believe that alcohol is unnecessary as an article of consumption in the case of healthy men and women, and that its general use could be discontinued without detriment to the world's welfare. As alcohol is one of the most fruitful causes of poverty, disease and crime, we are pleased that it is sparingly employed as a remedy by the majority of medical men."

Great Mortality from Plague in India.

The enormous number of 75,000 deaths from plague has been recorded in India for the week ending April 13; of these 70,000 have occurred in Bengal, the United Provinces and the Punjab. The present epidemic commenced in the Punjab in October, 1897, and since then nearly 1,500,000 deaths have occurred. The seasonal recurrence of plague in India, despite the extensive, and at times drastic precautions of the sanitary authorities, continues.

The Detrimental Effects of the London Fogs.

At the annual meeting of the Coal Smoke Abatement Society, Sir Frederick Treves dwelt on the evil effects of fogs. During three days' fog in Manchester it was calculated, he said that for every square mile there were 168 pounds of sulphuric acid and 1,456 pounds of soot. A similar calculation in Chelsea, a fashionable London borough, showed for every square mile 6 tons of soot. One of the worst visitations of fog occurred in January and February, 1880, when the death rate of London rose from 27 to 48 per 1,000. In recent years, due to the increasing use of gas stoves, London fogs have not been as bad.

The House Fly and Summer Diarrhea.

The Health Committee of the Liverpool Corporation, suspecting that the house fly plays a part in the production of summer diarrhea, has made an appropriation to Professor Ross, the discoverer of the malarial parasite, for the investigation of its life history. It is purposed to strike at the breeding place of the flies by encouraging the public to abolish ash-pits and substitute sanitary bins.

Unification of Pharmacopeial Formulas.

A report has been submitted to the Pharmacopeia Committee of the General Medical Council by the Committee of Reference in Pharmacy showing what changes will be necessary in the next issue of the British Pharmacopeia to give effect to the international agreement.

The Epidemic of Cerebrospinal Fever.

The disease still prevails, principally in Glasgow and Belfast. In Glasgow there were 114 cases under treatment on April 26. In the whole of Scotland for the week ending this date there were 26 deaths from the disease, of which 8 occurred in Glasgow and 2 in Edinburgh. In Belfast 36 fresh cases were notified, and 27 deaths occurred in the week ending April 25, making a total of 337 cases and 227 deaths since the commencement of the epidemic.

VIENNA LETTER.

(*From our Regular Correspondent.*)

Vienna, May 6, 1907.

Insurance for Practitioners.

Within the last few years a large number of malpractice suits have been brought against physicians, and although the majority of them were dismissed by the judge, in some cases the doctors had to pay heavy sums. If a patient thought he had been harmed by the medical man there was always some one at hand to "blackmail" the physician. A stop has been put to this by a judge deciding that the costs of a case where a physician was prosecuted without any fault being proved, had to be paid by the prosecutor. In order to check such lawsuits the medical council appointed a commission, with a view of entering into connection with some of the largest insurance companies, and two different kinds of insurance are now recommended by the council. The first concerns the insurance against claims for malpractice (Haftpflicht). The council is to be informed of every claim made by the patients against the doctor. The latter will receive not only a counsel, but an amount usually sufficient to cover all claims will be paid for him by the company. The other kind of insurance is the personal accident insurance, which will cover the risks of infection during practice, including all contagious diseases and syphilis. Hitherto no medical man was able to recover damages if he contracted diphtheria or syphilis, or if he was incapacitated by a simple angina contracted from his patients.

A Military Surgeon on the Value of Military Drill.

At one of the last meetings of the medical officers of the garrison a remarkable criticism was made of the value of military drill as now practiced. Instead of developing the soldier and making him capable of bearing the strain of the exertions of active service, the majority of officers practice the so-called "parade" march, which offends the medical eye, because it requires the muscles of the leg to act in an unnatural way. Another practice condemned is the "development of chest" and the "biceps exhibition." A much worse condition obtains in the German army, where the parade drill is still more practiced. The results of the present methods of drill are a large number of foot sores, of spraining of the ankles and small hemorrhages in the muscles of the calves, along with hypertrophied heart muscles, without any gain on the side of endurance.

Fighting Infantile Mortality.

The committee for reducing infantile mortality, constituted some two years ago on the initiative of Professor Escherich, recently published its yearly report, which makes interesting reading. The good results obtained by instructing mothers and distributing wholesome milk to the very poor are particularly commendable. In several of the densely populated outlying districts, where the fecundity and mortality are high, so-called "goutte de lait" were erected, where mothers could get, free of charge, not only good medical advice, but also a good supply of pure milk. A small deposit was charged only for the stoppered bottles which were specially constructed for sterilization. The children had to be brought at least once a month to the institution, where their weight and general condition were noted. Several trained nurses were employed to visit the mothers and their babies in their homes. Special care was taken to induce mothers to give up mixed feeding, and to promote breast feeding a premium of 5 to 10 crowns ($1 to $2) was given to some women if they fed their offspring by the breast for at least seven months. The diet of the mothers also was controlled. Infant mortality has been reduced to 13 per cent in the first year.

Correspondence

Medicinal Foods.

Chicago, May 14, 1907.

To the Editor:—I am glad to see the report on medicinal foods in The Journal, May 11. I have long wished for accurate proof of the weakness of such foods in nutrient value, for I was firmly convinced their value was low, and such proof is afforded by the table. It is well for those who use them so freely and who so unhesitatingly substitute them for milk and other articles of diet, to study the problem of the calories in these foods as set forth in the report; it is surely instructive. Those who are opposed to the use of alcohol in practice will do well to read this report before they again prescribe these articles with so free a hand. James B. Herrick.

State Aid for Private Medical Schools.

Chicago, May 11, 1907.

To the Editor:—The editorial on "The Future of Medical Education in the United States," in The Journal, May 11, 1907, is timely and covers the field, excepting that it does not suggest a remedy. In this country are between $15,000,000 and $20,000,000 of private capital invested in the various medical schools, and it is not fair that the owners of these schools should be taxed to support state schools, however desirable the latter might be. It is not fair, either, for states to come in competition with this capital. There can be no question that the states should establish standards which will give us as good physicians as there are anywhere in the world. As suggested in your editorial, there is no longer any necessity for turning out a lot of physicians to meet the wants of poor people in thinly settled communities.

As it is not possible to establish high grade state schools in states where there are already one or more medical colleges without injury to these latter institutions, unless some special provision is made for them, it appears to me that the most equitable way would be for the state to appropriate a sum equal to the cost of instruction for each student graduated within its borders. It should at the same time supervise these schools and demand that the school graduating that student have ample facilities for teaching and that its requirements be fully as high as those of the most enlightened European countries. Such a plan as this would enable medical schools already established to go on with their work without a complete sacrifice of their investments. It would not operate to the advantage of any particular school or sect, and it appears to me that it would be the most likely of any plan that has yet been suggested to meet with the support of a large percentage of the teachers in the various medical colleges already existing, and also of the profession at large. The state schools already in existence ought at once to advance their requirements to the best of European standards.

E. Fletcher Ingals.

Infant Feeding and "The Digestive Impossibilities."

Greenville, Ohio, May 17, 1907.

To the Editor:—I must unburden my mind of a recent incident in reference to proprietary medicines. The case is that of an infant (my own) which failed to thrive on breast feeding, at six weeks having gained one pound. The child had colic and passed frequent watery stools, greenish in color and containing curds. I corresponded with one of the most eminent men in the middle West as to what I would best do, not caring, under the circumstances, to take the entire responsibility myself. This man is a professor in a first-class college. Imagine my disgust and amazement when he recommended not only a prepared food, but also equal parts of Elixir Lactopeptine and Liquid Takadiastase with each feeding. As our Council has shown the former practically inert, and as I had recently read the report on the digestives, I gently placed his letter in my waste basket and put the baby on mixed feeding. I used cow's milk, modified according to Holt, with happy results. Had I been unwise enough to have used the medicine recommended I doubtless would have attributed the sudden change for the better to it. It appears to me the Council yet has an immense amount of work ahead of it. It has evidently a mighty power to overcome, in that such men as have the training of medical students are teaching them to use the very remedies that have been condemned. I want forcibly to express my appreciation of the great work being done by the Council. B. F. Metcalfe.

Newspaper Reports of Morphin Euthanasia in Tuberculosis.

Ann Arbor, Mich., May 17, 1907.

To the Editor:—I take this method of trying to correct the outrageously false impression given by many newspapers to the statement of Dr. Knopf before the Clinical and Climatological Section of the National Association for the Study and Prevention of Tuberculosis, at its recent meeting in Washington. I was present as chairman of the section when Dr. Knopf made his remarks. He was within a few steps of where I sat, and I was paying close attention to his remarks. I understood him, and all others with whom I have spoken on the matter since the meeting understood him, to state plainly the need of using morphin to relieve painful symptoms in the last stage of this disease. Any physician who heard the remarks must have known that the morphin was used, not for shortening life, but solely for making it easier, and every physician also knows that life is generally prolonged by that sort of treatment. As I have expressed myself before regarding the shortening of lives of seriously sick people, I need hardly say that had Dr. Knopf advocated anything like the administration of large or dangerous doses of morphin I would have vigorously protested. I hope that physicians who are asked about the matter will contradict the newspaper statements, and seize the opportunity of explaining the real object of the treatment.

George Dock, M.D.

The Great American Fraud.

Edmore, Mich., May 14, 1907.

To the Editor:—Regarding your comment on Dr. Miller's letter in The Journal, May 11, 1907, page 1617, couldn't Drs. Bye and Coffee be prosecuted for receiving money under false pretenses? Surely such a charge could be made from such cases as Dr. Miller reports. Or if that is not feasible, perhaps the postoffice authorities would take action if such frauds were brought to their notice. It seems inhuman that such vampires are allowed to feed on the poor and ignorant for want of some one to start a case against them.

E. M. Highfield, M.D.

New York City, May 15, 1907.

To the Editor:—The methods of the "patent medicine" quack and advertising charlatan were pointed out anew in the two cases reported in The Journal, May 11, 1907. The usual details of low and sordid deceit, rapacity, hypocritical interest in the patients'—or rather the victims'—well being, and mock piety of a particularly offensive and greasy nature are coupled in these instances by actual false representations as to the nature of the remedy, the results to be attained by its use, the danger of neglect of "treatment," and other items. In the same communication Dr. Miller proposes that an effort be made to raise a fund to have *Collier's Weekly* and the *Ladies' Home Journal* republish their articles on "patent medicines" in pamphlet form, and gives it as his opinion that this would be "the most vital blow that could be given this colossal fraud." While it is not my intention to oppose reform, however accomplished, nor to object to any method which promises even the slightest progress, it seems to me that the educational propaganda is but a single factor and one whose efficacy has been greatly overestimated in this as in other social campaigns. Education is not a panacea. It is an instrument of precision; a weapon, if you will, requiring strength and good will to use it, and the sinews of war—that is, cash—to back it. Ignorance alone is not the cause of the success of the great American fraud or of any other fraud, as the better classes, the intelligent citizens, the ministers, lawyers, and not infrequently the physicians, are but too ready to lend their support to shams.

What we do need is the protection of the law for the dupes who can not or will not protect themselves. We have enough education; let us do something with it. If the community is not enlightened as to "patent medicines" and advertising charlatans, at least the profession knows all about them. Let it bring this knowledge of facts to the notice of the proper authorities and use every effort to have the necessary steps taken to punish the offenders. Surely the contemptible specimens, like "Dr." Bye and "Dr." Coffee, with their "oil cures" for cancer and their "absorption" treatment for eye patients whom they have never examined, are guilty of fraud or of obtaining money under false representations. Can not the reputable physicians of their town or district, the county or state medical society, or if need be, the American Medical Association itself, get the local district attorney or court to take action in such a case? A single conviction on this charge will do more good than a ton of pamphlets. We get too much mail matter as it is, and all know that it is not always easy to separate the chaff from the wheat. Magazine science and magazine reform are apt to be taken *cum grano salis*, which in this connection means "with a *barrel* of salt." Not so the plain facts of a court's sentence of the criminal fakir. In Germany these gentry are required to publish notices of their own conviction in criminal cases and of the court's adverse decision in civil cases. What we need is a little concerted action, not education. PERCY FRIDENBERG, M.D.

Association News

Validation of Tickets on Pier.

Arrangements have been made to have a branch agency on Young's Pier to validate excursion tickets during the meeting. The regular railroad agency will be at the Morris Guards' Armory, 12 South New York Avenue, and extension of tickets after June 10 will be made at this place.

Philadelphia General Hospital Clinics.

The clinics, for the Atlantic City visitors, to be given at the University of Pennsylvania and at the Jefferson Medical College have already been noted and the schedules given in THE JOURNAL, May 4 and 18, respectively. These clinics come immediately before and after the session of the American Medical Association, to permit the members to attend them on their way to and from Atlantic City. A series of clinics will also be given at the Philadelphia General Hospital, as follows:

MONDAY, JUNE 3.

10:00 to 11:00 Pediatric Clinic, Dr. J. Madison Taylor.
11:00 to 12:00 Surgical Clinic, Dr. Edward Martin.
3:00 to 4:00 Neurologic Clinic, Dr. Charles K. Mills.
4:00 to 5:00 Medical Clinic, Dr. L. N. Boston.

SATURDAY, JUNE 8.

10:00 to 11:00 Gynecologic Clinic, Dr. W. F. Haehnlen.
11:00 to 12:00 Surgical Clinic, Dr. A. C. Wood.
3:00 to 4:00 Neurologic Clinic, Dr. James Hendrie Lloyd.
4:00 to 5:00 Medical Clinic, Dr. David Riesman.

MONDAY, JUNE 10.

10:00 to 11:00 Tuberculosis Clinic, Dr. W. B. Stanton.
11:00 to 12:00 Surgical Clinic, Dr. William L. Rodman.
3:00 to 4:00 Neurologic Clinic, Dr. Charles S. Potts.
4:00 to 5:00 Medical Clinic, Dr. Joseph Sailer.

Oncologic Clinics.

Dr. G. Betton Massey writes that at the Oncologic Hospital, Forty-fifth and Chestnut Streets, Philadelphia, clinical demonstrations of cataphoric and other metnods in the treatment of cancer will be given June 1, 3, 7 and 8, from 2 to 4 p. m. Physicians en route to or from the Atlantic City meeting will be cordially welcomed.

The Outing Club Trip.

The American Medical Association Outing Club has given up its resort trip after the session because of the short time limit on tickets.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

Medical Legislation.

Dr. Noah Haynes, Seneca, Kan., writes regarding medical practice acts as follows:

"In the protest against the passage of Senate Bill 5221 appeared a suggestion to the effect that it was a positive duty of the medical profession to secure a uniform system of examinations of all persons who desire to practice medicine in any of its branches, leaving the question of therapeutics only, for examiners of special schools or sects in medicine. Examinations for the right to practice medicine should conform to a standard agreed on and the standard should not be raised without giving three year's notice of the proposed change. Examination papers should be open to the public. Equal scientific attainments should be required for all, leaving the question of therapeutics to be determined by the states. A state has no more right to license an uneducated man to practice medicine than it has to refuse to quarantine against contagious diseases or to neglect to observe reasonable hygienic precautions for the safety of its own citizens and the citizens of contiguous states. The right of the state to guard its people against disease or any other misfortune is unquestioned. If the object of medical practice laws was merely to give all the *physicians* in the state a "square deal," the question might be left (although it should not be) to take care of itself. But nothing less than a high and uniform examination test will give the *people* a "square deal." The organized medical profession is caring for all the people all the time. The altruism and humanity of medicine is higher than anything the world has hitherto witnessed. It is practical Christianity with or without the faith. To oppose scientific medicine by admitting the unlearned, the immoral and the incompetent is a public calamity. The people, with the exception of the superstitious and the unreasonable, will stand by and uphold the profession if need be. We still have some work to do within our ranks. Organized medicine has produced her institutions of learning and has made it possible for the physician to be what he is, to have learned what he knows. In return, he should contribute of his time, experience and thought to the maintenance of organizations for the common good. In union lies power to do good. The first opportunity to join the local society should send every physician as an enthusiastic knocker to the door of admission. What is true of the individual also applies to sects. They must be brought into the open for their own good and for the good of the public. This is one of our many humanitarian duties."

Our correspondent has struck at the root of the entire perplexing question of medical legislation when he says that laws regulating the practice of medicine are for the good of the people and not for the protection and fostering of any one school or sect. Too many of our legislators take a most superficial view of the question and look on efforts to obtain medical legislation as simply "a row among the doctors."

One of the duties of the organized profession is to enlighten and educate legislators so that the object of medical legislation may be understood. As to the exact form which an ideal law should take, this must be determined by competent men after careful and patient study. Uniform legislation must then be secured in every state. A single board, organized to protect the public rather than to advance the interests of the profession or any part of it, giving an adequate examination in all branches of medicine, with the possible exception of therapeutics; having the power to revoke licenses for immoral or unprofessional conduct, and holding uniform standards with similar boards in other states, seems at present to be essential to ideal legislation.

Physicians' Influence on Legislation.

In a recent number of the *Mobile Medical and Surgical Journal* appears an excellent article by Dr. C. Kendrick, of Kendrick, Miss., on "Medical Legislation." Dr. Kendrick says: "In perhaps a large majority of the states, when the physicians ask for any special legislation, there are many ready to cry out against it and to say that it is in the interests of doctors only. For many years I have been in a position to study this subject, and I believe that the doctors themselves are responsible more than any other class for the opposition to the laws they ask for. When lawyers and men of other professions desire a change in the law they work for it. We, as a class, do not. During the sitting of the last session of the Mississippi Legislature this matter was more forcibly impressed on me than ever before. The code commissioners had inserted a section in the code which they proposed to the legislature for adoption which made the secretary of state the examining board for osteopaths. By paying the fee of $10.00, osteopaths desiring to practice their art or profession could do so without any further examination. There were only ten to twelve osteopaths in the state. How they succeeded in getting their ideas adopted I do not know. As one illustration of their efforts and the lack of efforts on the part of physicians, I was told by one of the state senators, a prominent lawyer, ex-confederate soldier and experienced legislator, that he had received about forty letters asking him to support the osteopathic section and only three asking him to vote against it. There were at that time about ten osteopaths and about 2,000 physicians in the state."

Dr. Kendrick's proposed remedies for the above conditions are:

1. The medical profession must agree fully beforehand as to what it wants.

2. This action must be endorsed by all county and district societies.

3. Every member in the state must see to it personally that his senator or representative receives complete information regarding the bill and that he is urged to support it or to condemn it, as the case may be, as a measure of public policy and for the good of the people.

Marriages

JAMES M. FORBES, M.D., to Miss Ida Heyl, both of Philadelphia, May 6.

HARVEY L. MORRIS, M.D., to Miss Mabel C. Jarvis, both of Vassar, Mich., May 8.

PHILEMON ROY, M.D., St. Paul, Minn., to Miss Adah Cheverton of Rich Hill, Mo.

OSCAR HARUFF, M.D., Pueblo, Colo., to Miss Reta Waggoner, at Greeley, Colo., May 8.

A. JUDSON CHALKLEY, M.D., Norton, Va., to Miss Annie Ireland, at Lexington, Mo., May 11.

JOHN J. BARCLAY, M.D., Grinnell, Kan., to Miss Mary S. Royer of Gove, Kan., January 27.

ARCHIE LORAINE DAY, M.D., Trenton, Iowa, to Miss Bertha Twining of Pasadena, Cal., May 4.

LOUIS FERDINAND ALRUTZ, M.D., Chicago, to Miss Helen Althea Truax of Kenosha, Wis., May 8.

MANUEL ALVAREZ, M.D., New Orleans, La., to Miss Harriette Dell Westgate of Jackson, Mich., May 1.

EVERETT PUSEY BARNARD, M.D., to Miss Eliza Harman Bosler, both of Philadelphia, at Baltimore, May 10.

SMITH W. BALLINGER, M.D., Council Bluffs, Iowa, to Miss Edith McCallum of Brockville, Ont., April 29.

Deaths

J. G. Brodnax, M.D. University of Virginia, Department of Medicine, Charlottesvile, 1849; surgeon in the Confederate service throughout the Civil War; a member of the Medical Society of the State of North Carolina and Guilford County Medical Association, International Association of Railway Surgeons and Association of Southern Railway Surgeons, died suddenly at his home in Greensboro, N. C., May 9, from neuralgia of the stomach, aged 78.

Thomas Page Grant, M.D. University of Louisville, Medical Department, 1874; Jefferson Medical College, Philadelphia, 1886; captain and assistant surgeon, Ky. N. G.; a member of the Association of Military Surgeons of the United States, and chairman of one of the important committees of that association, died at his home in Louisville, from heart disease, May 16, after an illness of eight months, aged 53.

John A. Cummings, M.D. John A. Creighton Medical College, Omaha, Neb., 1902; a member of the Nebraska State Medical Association and Douglas County Medical Society; demonstrator of anatomy in the Medical Department of Creighton University, and physician to the Old People's Home and Child Saving Institute, Omaha, died at his home, May 12, from pneumonia, after an illness of one week, aged 35.

William Q. Marsh, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor; for 18 years a practitioner of Sierra Mojada, Mexico; chief surgeon of the Mexican Northern Railroad and United States consular agent; one of the most prominent and beloved American physicians in Mexico, died in Providence Hospital, El Paso, Texas, April 21, after an illness of six weeks, aged 52.

Logan P. Tooley, M.D. St. Louis Medical College, 1872; a member of the Medical Society of the State of California, California Northern District Medical Society, and Glenn County Medical Society; district surgeon for the Southern Pacific Railway, and in charge of the Glenn County Hospital, died at his home in Willows, Cal., May 9, after a long illness, aged 58.

Alexander Grant, M.D. University of Buffalo (N. Y.) Medical Department, 1855; for many years a member of the South Dakota State Medical Association and Brown County Medical Society; one of the oldest practitioners of Aberdeen, S. D., died in the Brown County Hospital in that city, May 8, from paralysis, after an illness of several years, aged 82.

Milton Godfrey Planck, M.D. College of Physicians and Surgeons in the City of New York, 1870; a member of the Medical Society of the State of New York and the Schenectady County Medical Society; some-time coroner and physician of the county, died at his home in Schenectady, May 12, from cerebral hemorrhage, after a short illness, aged 65.

John W. Brennan, M.D. College of Physicians and Surgeons in the City of New York, 1862; a member of the medical societies of the state and county of New York; a California pioneer of 1849, and surgeon of Gen. H. Berdan's sharpshooter regiment during the Civil War, died at his home in New York City, May 10, from cancer, aged 77.

Isaac M. Ridge, M.D. Medical Department of Transylvania University, Lexington, Ky., 1848; one of the earliest residents and practitioners of Kansas City, Mo.; for several years city physician of Kansas City, and a member of the city council, died at his home in Kansas City, May 7, after an illness of nearly a year, aged 81.

Thomas M. Marcellus, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1878; formerly a practitioner of Sleepy Eye, Minn., and later editor and publisher of the Charlottesville (Va.) *Morning News*, died at his home in Charlottesville, May 6, from carcinoma of the stomach, aged 55.

Casper S. Decker, M.D. College of Physicians and Surgeons in the City of New York, 1861; who retired from practice five years later; some-time commissioner of the State Reformatory and one of the supervisors of Elmira, N. Y., died at his home in that city, May 7, from influenza, after an illness of four months, aged 87.

David S. Pinnell (Years of Practice, W. Va.), for many years a practitioner of Grafton, W. Va.; surgeon in a West Virginia volunteer regiment during the Civil War, and physician of Taylor County, died at his home in Grafton, April 15, from pulmonary edema, after an illness of two weeks, aged 64.

David Wallace Edmiston, M.D. Rush Medical College, Chicago, 1873; a member of the Illinois State and DeWitt County medical societies; a veteran of the Civil War and an esteemed practitioner of Clinton, Ill., died at his home in that city, May 10, after an illness of two weeks, from pneumonia, aged 69.

Franklin Blair, M.D. Jefferson Medical College, Philadelphia, 1884; of Princeton, Ind.; a member of the Indiana State Medical Association and Gibson County Medical Society, died May 11 at the Princeton Sanatorium, of which he was one of the founders, of typhoid fever, after a long illness, aged 47.

Charles Laight, M.D. College of Physicians and Surgeons in the City of New York, 1868; who served as interne in the New York Hospital for two years after his graduation, and was then connected with the New York Eye and Ear Infirmary until 1880, died in Rome Italy, March 31, aged 60.

G. C. Head, M.D. Medical Department of the University of Nashville, 1876; of Alvarado, Texas; a member of the State Medical Association of Texas and Johnson County Medical Society, died suddenly, May 8, from hemorrhage of the lungs, while making a professional call near Alvarado.

William W. Griggs, M.D. Medical College of Virginia, Richmond, 1863; a member of the Medical Society of the State of North Carolina and Pasquotank County Medical Society; a Confederate veteran, died at his home in Elizabeth City, N. C., May 5, after an illness of four weeks, aged 65.

Frederick P. Pfeiffer, M.D. Penn Medical University, Philadelphia, 1863; surgeon of the Fifth Artillery, United States Army during the Civil War; for several terms a member of the city council of Camden, N. J., died at his home in that city, May 7, after a lingering illness, aged 65.

Edward A. Norton, M.D. Reformed Medical College of Georgia, Macon, 1861; a member of the Tennessee State Medical Association and Marshall County Medical Society, and at one time representative in the state legislature, died at his home in Cornersville, Tenn., May 7, aged 69.

Alexander McIntosh, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1858; who had retired from active practice, but was probate judge of Antigonishe County, N. S., up to the time of his death, died at his home in Antigonishe, February 27, aged 75.

Mason Parker, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1903; a member of the Maine Medical Association and Franklin County Medical Society, died at his home in Rangeley, May 5, from pleuro-pneumonia, after an illness of eleven days, aged 35.

Noah Shepardson, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1870; for many years a practitioner of Fremont, Ohio, and Rockford, Ill.; a veteran of the Civil War, died at the home of his son, near Fremont, Ohio, May 8, from paresis, aged 71.

Howard S. Ohltenburg, M.D. University of Louisville (Ky.) Medical Department, 1892; president of the Leflore County (Miss.) Medical Association, died at his home in Sidon, Miss., April 4, from tetanus, after an illness of thirty-six hours, aged 35.

George F. Arney, M.D. Jefferson Medical College, Philadelphia, 1878; for many years a specialist in diseases of the eye, ear, nose and throat in Altoona, Pa., died at a hospital in Philadelphia, May 3, after an illness of two years, aged 54.

Daniel DeWitt Harnden, M.D. Geneva (N. Y.) Medical College, 1844; one of the oldest practitioners of Chemung and Tioga counties, New York, died at the home of his son in Waverly, N. Y., May 6, from senile debility, aged 87.

Shuler Craft, M.D. Denver and Gross College of Medicine, Denver, Colo., 1905; of Vermejo, N. M., died May 12, at the Denver County Hospital, where he had served as interne, from pneumonia, after an illness of four days, aged 28.

Charles J. Keegan, M.D. Rush Medical College, Chicago, 1858; a member of the American Medical Association, and a practitioner of Millersburg, Ind., for more than half a century, died at his home in Millersburg, March 7, aged 75.

Martin R. Bainter, M.D. Starling Medical College, Columbus, Ohio, 1873; formerly of Muskingum County, Ohio, but more recently a resident of Florida, died at his home in Daytona, Fla., May 6, from hemorrhage of the lungs.

William H. Kuntz, M.D. Chicago Homeopathic Medical College, 1888; some time a member of the board of health of Newcastle, Del., died at his home in that place, May 4, from septicemia, after a long illness, aged 61.

Joseph A. McKee, M.D. Jefferson Medical College, Philadelphia, 1896; formerly assistant in the nose and throat clinic at Jefferson Hospital, died at his home in Petersburg, Pa., January 25, from pleuro-pneumonia, aged 38.

Melvin C. Millet, M.D. University of Minnesota, College of Medicine and Surgery, Minneapolis, 1895; a member of the American Medical Association, died at his home in Rochester, Minn., May 6, from nephritis, aged 39.

William Elmo Kurtz, M.D. University of Maryland School of Medicine, Baltimore, 1903; formerly assistant surgeon in the United States Navy; a resident of Cambridge, Md., died in Denver, April 28, from tuberculosis.

John McGill, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1861; died at his home in Okolona, Ark., February 23, from obstruction of the gall duct, after an illness of three months, aged 69.

Joseph N. Medberry, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1874; a pioneer practitioner of Webster City, Iowa, died at his home, May 1, from paralysis, after an invalidism of several years.

John C. Riley, M.D. University of Louisville (Ky.) Medical Department, 1881; of Pilot Point, Tex., died May 5, from injuries received during the cyclone which destroyed Hemming, Tex., April 27, aged 54.

Lewis Perry Atkins (Years of Practice, Iowa); a practitioner of medicine for sixty-one years, died at the home of his daughter in Muscatine, Iowa, from paralysis, after an illness of one week, aged 82.

Charles A. Dusinberre, M.D. College of Physicians and Surgeons in the City of New York, 1849; a member of the Wayne County (Pa.) Medical Society, died at his home in Honesdale, Pa., May 12, aged 83.

James Harvey Pleasants, M.D. St. Louis Medical College, 1873; a member of the Oregon State Medical Association and Multnomah County Medical Society, died at his home in Portland, May 7, aged 73.

Daniel L. Hetrick, (Years of Practice, Pa., 1869); a veteran of the Civil War and a practitioner of Pleasantville, Pa., for forty years, died at his home in that place, May 4, from heart disease, aged 62.

George D. Craven, M.D. Keokuk, (Iowa) Medical College, 1897; of Drummond, Mont., died at the Sisters' Hospital, Missoula, May 12, from pneumonia, after a short illness, aged 35.

Willard Greenfield (Years of Practice, Pa.); for more than 50 years a practitioner of Pennsylvania, died at his home in Erie, February 26, after a long period of invalidism, aged 80.

Robert Orr Crist, M.D. University of Maryland School of Medicine, Baltimore, 1903; died at his home in Boswell, Pa., May 6, from hemorrhage following tonsillitis, aged 29.

William S. Martin, M.D. Jefferson Medical College, Philadelphia, 1864; a Confederate veteran, died at his home in Leaksville, N. C., from paralysis, Nov. 2, 1906, aged 72.

John D. Chaffee, M.D. Hahnemann Medical College of the Pacific, San Francisco, 1887; died at his home in Long Beach, Cal., May 2, after an illness of one week, aged 63.

John C. Sturgus, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1883; died at his home in Vashon Island, Wash., May 6, after a brief illness, aged 48.

Thomas James Baird, M.D. Rush Medical College, Chicago, 1889; died at his home near Victor, Mont., April 13, from pneumonia, after a short illness, aged 42.

James O. Ware, M.D. Starling Medical College, Columbus, Ohio, 1863; died at his home in Lake Charles, La., May 10, after an illness of ten days, aged 80.

Albert Henry Humes (Act of 1894, Massachusetts), for 20 years a practitioner of Boston, died suddenly at his home in Woburn, Mass., May 7, aged 52.

Reuben Bigelow Burton, M.D. Albany (N. Y.) Medical College, 1855; died at his home in New York City, April 22, after a short illness, aged 79.

Charles C. McCrillus, M.D. Miami Medical College, Cincinnati, 1898; of Muncie, Ind., died May 6, at Las Vegas, N. M., after a long illness.

William P. Sutherland (Years of Practice, Ill.); died at his home in Stillwell, Ill., April 15, aged 74.

Deaths Abroad.

P. Poirier, M.D., professor of anatomy at Paris and author of a manual of dissection, etc., died May 4. Several months ago he faced the diagnosis of inoperable cancer of liver and pancreas, and kept a detailed record of his symptoms and other points that might aid in the diagnosis of the disease in others. His promising career as anatomist, surgeon and clinical lecturer was thus cut short at the age of 51.

G. Gabritschewsky, M.D., director of the Bacteriologic Institute at Moscow, died April 6, of pneumonia, aged 47. His works on serum treatment and immunization are well known.

H. Magnus, M.D., professor of ophthalmology at Breslau, and author of numerous works on this specialty, and also on the history of medicine, died April 22, aged 65.

C. Féré, M.D., a prolific writer on subjects connected with nervous and mental affections and perversions, died at Paris, April 22.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

SYMPATHETIC VOMITING OF PREGNANCY IN THE MALE.

To the Editor:—I have seen several cases of sympathetic vomiting, nausea, etc., in the male, similar in every respect to the symptoms we see in pregnant women. Some physicians go so far as to deny that anything of the kind takes place in the male. Please enlighten me on this subject. DR. N. W. MOORE.

ANSWER.—Our correspondent's observations are sufficient answer to the purely arbitrary denial of an occurrence which has been often observed, although not frequently mentioned in medical literature.

LAWS GOVERNING PRACTICE IN FOREIGN COUNTRIES.

BISMARCK, N. D., May 12, 1907.

To the Editor:—I read in THE JOURNAL that some physician had described in some German medical paper the various qualifications necessary to practice in foreign lands. I have searched diligently but can not find the item. M. M.

ANSWER.—The article was by J. Schwalbe, on *"Zulassung zur aerztlichen Praxis im Auslande,"* in the *Deutsche med. Wochschr.*, Nos. 1 and 12, Jan. 3 and March 21, 1907, vol. xxxiii. This weekly is published by Georg Thieme, Rabensteinplatz 2, Leipsic, Germany, at $8 a year. The American Medical Association issues a paper bound booklet of 112 pages, giving an abstract of the "Laws Regulating the Practice of Medicine" in the United States and elsewhere. Eleven pages are devoted to the laws in Europe and other parts of the world outside of America. A copy of the latest edition will be sent to any address on receipt of thirty cents.

PAINFUL HEEL.

TOLEDO, OHIO, May 15, 1907.

To the Editor:—Will you kindly tell me where I can find a description of the so-called "painful heel?" The patient complains of pain when walking, in the plantar structures of the feet, immediately in front of the heel. T.

ANSWER.—This condition is briefly referred to by Bradford and Lovett in their work on "Orthopedic Surgery," but has received little notice by other authors. J. J. Nutt devotes a recent article to it in THE JOURNAL, Jan. 19, 1907. He explains its causation as due to shortening of the gastrocnemius, or Schaffer's foot, called by Schaffer "non-deforming club-foot." The condition is often relieved by supporting the arch of the foot, although no deformity may be apparent. A fact noticed by some patients confirms Nutt's view of the etiology, viz., the support of the foot is ineffective until high heels are worn. The high heel evidently relieves the tension on the gastrocnemius.

THE FOURTH DISEASE.

CROTON-ON-HUDSON, N. Y., May 16, 1907.

To the Editor:—What is Dukes' disease and under what other name may it be found? DR. T. J. ACKER.

ANSWER.—Dukes' disease is an infectious, contagious fever, closely resembling mild scarlet fever and by some held to be identical with it. Most references will be found under the title "fourth disease," a name given by Dukes, referring to its possible classification as a fourth disease separate from the three similar ones—measles, German measles and scarlet fever. It has also been designated Filatow-Dukes' disease on account of the previous observations of Filatow. The subject was discussed fully in an editorial in THE JOURNAL, Feb. 9, 1907, the editorial containing complete references to the literature. A somewhat exhaustive review is published in the U. S. P. H. & M.-H. Service Public Health Reports, vol. xxii, No. 19, May 10, 1907.

FORMULA FOR SAPO VIRIDIS.

ST. PAUL, May 15, 1907..

To the Editor:—Please publish a recipe for a not too expensive liquid soap. Would Tincturæ Saponis Viridis, with a little oil of lavender added, and made of or with denatured alcohol, meet the case in your opinion? L. H.

ANSWER.—Liniment of soft soap (linimentum saponis mollis), official in the U. S. Pharmacopeia, contains 650 grams soft soap, 20 c.c. of oil of lavender flowers, and alcohol sufficient to make 1,000 c.c. You no doubt will find it satisfactory unless you object to the odor of the soft soap which is not completely disguised. The following formula, published by M. I. Wilbert, has been used with advantage in the operating rooms of the German Hospital, Philadelphia, and was found to replace satisfactorily the more expensive commercial products:

Cottonseed oil, 300 parts; alcohol, 300; water, 325; sodium hydrate, 45; potassium carbonate, 10; ether, 15; phenol (carbolic acid), 25 parts. To the oil contained in a bottle, add 100 c.c. of water and 200 c.c. of alcohol; add the sodium hydrate and shake or stir occasionally until saponification has taken place, then add the remaining portion of the alcohol, and the potassium carbonate dissolved in the water; lastly, add the phenol and the ether and mix or shake well. Keep in well-corked vials, and, if possible, at a temperature not below 10 or 12 degrees C. (50 to 53.6 F.), so as to prevent solidification, though it readily reliquefies on exposure to gentle heat. This soap is light yellow, has a distinctly alkaline reaction, produces a copious lather, and possesses a not unpleasant ethereal odor. A good soap for the toilet may be produced by omitting the ether and carbolic acid and substituting a little essential oil, such as oil of rose-geranium or oil of bergamot.—(*Amer. Jour. Pharm.*, April, 1902, 172-175.)

The use of denatured alcohol is not to be recommended, since, as supplied to the trade, it contains benzine (gasoline) and wood alcohol.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending May 18, 1907:

O'Connor, R. P., asst.-surgeon, will, in addition to his present duties at Fort Crook, Neb., on May 11, temporarily assume charge of the office of Chief Surgeon, Department of the Missouri, Omaha.

Richard, Charles, surgeon, is detailed member of board of officers to meet at Washington, D. C., to consider the subject of purchase of ground for a rifle range in the vicinity of Washington.

Vedder, Edward B., asst.-surgeon, on arrival at San Francisco, will proceed to Fort Douglas, Utah, for duty.

Pipes, Henry F., asst.-surgeon, on arrival at San Francisco will proceed to the Army General Hospital, Washington Barracks, D. C., for duty.

Bushnell, George E., surgeon, granted 30 days' leave of absence.

Moseley, Edward B., asst.-surgeon general, retired from active service on account of disability incident thereto.

Patterson, R. U., asst.-surgeon, granted two months' leave of absence.

Maus, Louis M., asst.-surgeon general, promoted as such, with rank of lieutenant-colonel, to date from May 10, 1907.

Wilson, William H., surgeon, promoted as such, with rank of major, to date from May 10, 1907.

Foster, Charles L., asst.-surgeon, granted 10 days' leave of absence.

Reno, William W., asst.-surgeon, granted leave of absence, to take effect on the arrival of another medical officer at Fort Riley, for 20 days, or so much thereof as he may be able to take advantage of before sailing for the Philippine Islands.

Deshon, George D., surgeon, granted four months' leave of absence on surgeon's certificate of disability, to take effect on or about June 12, 1907, with permission to go beyond the sea.

Truby, Willard F., asst.-surgeon, granted leave of absence for one month.

Purnell, Harry S., asst.-surgeon, ordered to proceed to Denver for the purpose of appearing as a witness before the retiring board at that place.

Sanford, Joseph L., contract surgeon, returned to duty at Fort Washington, Md., from accompanying troops from Fort Ethan Allen, Vt., to San Francisco.

Whitney, Walter, contract surgeon, left Fort Wadsworth, N. Y., and arrived at Fort McPherson, Ga., for duty.

Miller, Albert L., contract surgeon, relieved from further duty in the Philippines Division, and ordered to report June 1, 1907, for duty at the U. S. Military Prison, Fort Leavenworth, Kansas.

Rebert, Michael A., ordered from Fort Terry, N. Y., to his home, York, Pa., for annulment of contract.

Slayter, John T. H., contract surgeon, returned to Fort William Henry Harrison, Mont., from temporary duty at Fort Missoula, Mont.

Wallace, George S., contract surgeon, granted leave of absence for one month, about June 1, 1907.

Le Hardy, Julius C., contract surgeon, arrived at San Francisco, on the transport *Thomas*, on leave of absence for three months from the Philippines Division.

De Quevedo, Luis G., contract surgeon, ordered from San Juan, Porto Rico, to temporary duty at Henry Barracks, Porto Rico.

Dunbar, Lee R., contract surgeon, ordered to Fort Terry, N. Y., for duty.

Long, Charles J., dental surgeon, left Fort Missoula, Mont., for duty at Fort Yellowstone, Wyo.

Wolven, F. Homer, dental surgeon, left Fort Hamilton, N. Y., for duty at Fort Niagara, N. Y.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending May 18, 1907:

Longabaugh, R. I., assistant surgeon, ordered to the Naval Hospital, Annapolis, Md.

Richards, T. W., surgeon, detached from Naval Hospital, Norfolk Va., May 19, and ordered to the *Kansas*.

Ohnesorg, K., passed assistant surgeon, detached from the *Mayflower* and ordered to the Navy Yard, Boston, Mass.

Rossiter, P. S., passed assistant surgeon, detached from th Naval Academy and ordered to the *Nevada*.

Oman, C. M., passed assistant surgeon, detached from the *Ohi* and ordered to the *Arkansas*.

DeLancy, C. H., passed assistant surgeon, detached from th Navy Yard, Washington, D. C., and ordered to the *Florida*.

Dykes, J. R., passed assistant surgeon, detached from naval station, New Orleans, and ordered to the *Mayflower*.

Stuart, M. A., assistant surgeon, ordered to the Naval Hospital Norfolk, Va.

Duhigg, J. T., assistant surgeon, detached from the Naval Hospital, New York, N. Y., and ordered to the *Severn*.

Jones, A. McK., acting assistant surgeon, detached from dut with the Naval Recruiting Party No. 4, June 1, and ordered to dut at the Naval Recruiting Station, Chattanooga, Tenn., June 3.

Bacon, S., acting assistant surgeon, detached from the Nava Hospital, Norfolk, Va., and ordered to the Naval Station, Ne Orleans.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended, May 15, 1907:

Pettus, W. J., asst.-surgeon general, granted leave of absence for 2 days, from May 9, 1907.

Stoner, Geo. W., surgeon, granted leave of absence for 2 days from May 13, under Paragraph 189 of the Service Regulations.

Carmichael, D. A., surgeon, granted leave of absence for 15 days from May 28, 1907.

Brooks, S. D., surgeon, authorized to proceed to San Pedro, Cal., not oftener than once in 3 months on station business.

McIntosh, W. P., surgeon, re-assigned to duty at Portland, Me., effective May 28, 1907.

Guiteras, G. M., surgeon, directed to proceed to Gulf Quarantine Station for temporary duty, on completion of which to rejoin his station at Mobile.

Rosenau, M. J., passed asst.-surgeon, granted leave of absence for 1 day, May 11, 1907, under Paragraph 189 of the Service Regulations.

Gardner, C. H., passed asst.-surgeon, assigned to duty on the U. S. Revenue Cutter *McCulloch*.

Mathewson, H. S., passed asst.-surgeon, directed to report at Bureau, en route from Pomfret, Conn., to Pittsburg, Pa.

Lavinder, C. H., passed asst.-surgeon, leave of absence granted for 1 months from April 24 amended to read 16 days only.

Grubbs, S. B., passed asst.-surgeon, granted leave of absence for 14 days, from May 16, 1907.

Von Ezdorf, R. H., passed asst.-surgeon, granted leave of absence for 2 days.

Amesse, J. W., passed asst.-surgeon, leave of absence granted for 14 days from May 14, amended so as to be effective from May 19, 1907.

Frost, W. H., asst.-surgeon, granted leave of absence for 1 day, May 12, 1907.

Herring, R. A., asst.-surgeon, directed to proceed to Ellis Island, N. Y., reporting to chief medical officer for duty.

Bryan, W. M., asst.-surgeon, directed to proceed to New Orleans and report to the medical officer in command for duty and assignment to quarters.

Lanza, A. J., asst.-surgeon, directed to proceed to San Francisco and report to the medical officer in command for duty and assignment to quarters.

Bailey, C. W., acting asst.-surgeon, granted leave of absence for 7 days, from May 20, 1907.

Onuf, B., acting asst.-surgeon, granted leave of absence for 5 days, from May 6, 1907, under Paragraph 210 of the Service Regulations.

Goodman, F. S., pharmacist, granted leave of absence for 2 days, from May 13, 1907, under Paragraph 210 of the Regulations.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 17, 1907:

SMALLPOX—UNITED STATES.

Florida: Duval County, Jacksonvile, April 27-May 4, 1 case; Santa Rosa County, 3 cases.

Georgia: Augusta, April 30-May 7, 1 case.

Illinois: Belleville, April 20-27, 1 case; Springfield, May 2-9, 2 cases.

Indiana: Elkhart, May 4-11, 1 case: Indianapolis, April 28-May 5, 5 cases; South Bend, April 28-May 11, 8 cases.

Iowa: Ottumwa, April 28-May 4, 7 cases.

Kansas: Lawrence, April 1-30, 2 cases.

Kentucky: Louisville, May 2-9, 3 cases.

Louisiana: New Orleans, April 27-May 4, 9 cases.

Massachusetts: Chelsea, April 27-May 4, 1 case; Lawrence, 4 cases; Pittsfield, May 4-11, 1 case, 1 death.

Michigan: Detroit, April 28-May 11, 9 cases; Holly, Dec. 10-April 3, 75, estimated.

Minnesota: Stillwater, April 1-30, 8 cases.

Missouri: St. Joseph, April 27-May 4, 10 cases; St. Louis, 1 case.

New York: Buffalo, April 27-May 4, 2 cases; New York, 3 cases; Niagara Falls, 2 cases.

North Carolina: Greensboro, April 27-May 4, 3 cases.

Ohio: Toledo, April 27-May 4, 2 cases.

Pennsylvania: New Castle, April 1-30, 1 case.

South Carolina: Charleston, April 1-30, 1 case.

Tennessee: Memphis, May 4-11, 1 case.

Texas: Bell County, May 6, 3 cases; San Antonio, April 27-May 4, 1 case.

Virginia: Richmond, April 27-May 4, 1 case.

Washington: Spokane, April 27-May 4, 13 cases.

Wisconsin: Milwaukee, April 27-May 4, 6 cases.

SMALLPOX—FOREIGN.

Austria: Trieste, April 13-20, 2 cases.

Brazil: Bahia, March 23-April 13, 17 cases; Para, April 13-27, 4 cases, 3 deaths; Rio de Janeiro, March 30-April 14, 3 cases, 1 death.

Canada: Sherbrooke, April 1-30, 44 cases; Vancouver, April 20-27, 1 case.

Chile: Coquimbo, April 13, present; Iquique, present.

China: Hongkong, March 23-30, 20 cases, 16 deaths.

Columbia: Barranquilla, April 6-13, 1 death.

Cuba: Habana, May 3, 1 case (on S. S. *Alphonse*).

France: Paris, April 20-27, 8 cases, 1 death; St. Etienne, April 1-15, 1 case.

Germany: General, April 13-26, 18 cases.

Great Britain: Aberdeen, April 13-20, 1 imported case; Liverpool, April 20-27, 7 cases.

India: Bombay, April 9-16, 4 deaths; Calcutta, March 30-April 6, 87 deaths; Madras, April 6-12, 1 death.

Italy: General, April 22-29, 18 cases; Palermo, April 13-20, 1 case, 1 death; Torre Annunziata, April 27, 11 cases, 4 deaths; Turin, April 7-21, 5 cases, 1 death.

Mexico: Jalapa, April 28-May 3, 2 deaths.

Portugal: Lisbon, April 13-20, 11 cases.

Russia: Moscow, April 6-13, 15 cases; Odessa, April 13-20, 15 cases, 4 deaths; Riga, April 13-20, 13 cases.

Spain: Barcelona, April 10-20, 4 deaths; San Feliu de Guixols, April 20-27, 1 death; Valencia, April 20-28, 9 cases.

Turkey in Asia: Bassorah, March 6-13, 2 cases.

YELLOW FEVER.

Brazil: Manaos, April 13-20, 1 death; Para, April 13-27, 10 cases, 8 deaths; Rio de Janeiro, March 30-April 14, 11 cases, 9 deaths.

West Indies: Trinidad, Port of Spain, April 13-19, 2 cases, 1 death.

CHOLERA.

India: Bombay, April 9-16, 2 deaths; Calcutta, March 30-April 6, 56 deaths; Rangoon, March 30-April 6, 7 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 10-12, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Bahia, April 6-13, 2 cases, 1 death; Para, April 13-27, 4 cases, 3 deaths; Rio de Janeiro, March 30-April 13, 3 cases, 2 deaths.

Chile: Antofagasta, April 13, 20 cases, 7 deaths; Santiago, April 13, present; Taltal, April 13, present.

China: Hongkong, March 23-30, 2 cases, 2 deaths.

India: General, March 23-30, 62,897 cases, 53,681 deaths; Bombay, April 9-16, 461 deaths; Calcutta, March 30-April 6, 290 deaths; Rangoon, March 30-April 6, 109 deaths.

Peru: Chepen, April 3-10, 6 cases, 2 deaths; Lambayeque, April 3-10, 1 death; Lima, April 3-10, 3 cases, 2 deaths; Paita, April 3-10,, 9 cases, 9 deaths; Trujillo, April 3-10, 7 cases, 5 deaths.

Turkey in Asia: Djeddah, March 31-April 14, 46 cases, 46 deaths; Tor (quarantine station), March 31, 1 case, 1 death.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

Arizona Medical Association, Bisbee, May 28-29.
South Dakota State Medical Association, Sioux Falls, May 28-30.
Amer. Laryn., Rhin. and Otol. Society, New York, May 30-June 1.
American Academy of Medicine, Atlantic City, N. J., June 1-3.
American Association of Medical Examiners, Atlantic City, June 3.
American Gastro-Enterological Association, Atlantic City, June 3-4.
American Proctologic Society, Atlantic City, June 3-4.
American Urological Association, Atlantic City, June 3-4.
Maine Med. Assn., Lewiston, June 12-14 (changed from June 5-7).
Massachusetts Medical Society, Boston, June 11-12.
Medical Society of the State of North Carolina, Morehead City, June 11-13.
Rhode Island Medical Society, Providence, June 13.
Medical Society of New Jersey, Cape May, June 25-27.

STATE MEDICAL ASSOCIATION OF TEXAS.

Thirty-ninth Annual Meeting, held at Mineral Wells, May 7-9, 1907.

The President, Dr. G. D. Foscue, of Waco, in the Chair.

According to reports received, this meeting is characterized as a short, enthusiastic business session. The scientific work received less attention than at any meeting for years. The attendance was about 500. The reports of the officers were of more than usual interest, especially the report of the secretary, which showed that the membership during the year increased from 2,622 to 2,921, and the report of the treasurer, which showed that the association is in splendid financial condition.

The legislative committee report was received with much enthusiasm because the committee had secured passage in the legislature of a new medical practice act and an anatomic bill.

The issuance of the American Medical Directory was considered to be one of the events of the year, and the opinion was expressed that the directory will prove of immense value in organization work.

Insurance Fees.

The report of the committee on insurance fees was very exhaustive and met with the unqualified approval of the association. The following resolutions were adopted in the House of Delegates by a unanimous vote:

Be it Resolved, That the House of Delegates of the thirty-ninth annual session of the State Medical Association of Texas, in joint session with the scientific body, representing 137 county societies and 2,921 members of the state medical profession, does protest against the maintenance, by insurance companies, of fees for medical examiners less than the $5.00 flat rate.

Resolved, further, That insurance companies chartered in Texas be hereby requested to establish in this state, at an early date an examiner's fee of not less than $5.00.

Resolved, further, That this House of Delegates endorses and approves the action of its committee on insurance and urges the active continuance of their efforts along the lines outlined in its recent report.

Officers Elected.

The following officers were elected for the ensuing year: Dr. C. E. Cantrell, Greenville; vice-presidents, Drs. H. D. Barnes, Tulia; D. S. Wier, Beaumont, and A. B. Small, Waxahachie; trustees, Drs. Joe Becton, Greenville, W. E. Sturgis, Stephenville, five years; secretary, Dr. I. C. Chase, Fort Worth, three years; councilors, Drs. Walter Shropshire, Yoakum, James A. Hill, Groveton, and J. M. Britton, Cisco.

COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION.

Third Annual Conference, held at Chicago, April 29, 1907.

(*Continued from page 1707.*)

REPORT ON ADMISSION TO ADVANCED STANDING.

The following was read by Dr. John M. Dodson, chairman of the Special Committee on Admission of College Graduates to Advanced Standing in the Medical School, appointed by the Council:

QUESTION FOR CONSIDERATION.

We understand the question submitted for consideration to be as follows: As the medical colleges now require for admission at least a diploma from a four-year high school, or a full equivalent therefore, and for graduation attendance on four annual sessions of at least seven months each, shall a student who possesses the bachelor's degree from a literary or scientific college (four years' course), and who has taken work in branches which constitute part of the medical curriculum, be given credit (a) for the medical work completed, or (b) for time; that is, be allowed to secure the medical degree after attendance on less than four annual sessions?

HISTORY.

For many years certain literary and scientific colleges have offered courses in the medical branches which correspond closely to part of the required work in the medical curriculum. As early as 1876 such courses were offered at Cornell University, somewhat later at Yale, and in 1887 the University of Wisconsin announced a definite course in general science antecedent to the study of medicine.

Pursuant to the request of many medical schools numerous other colleges have provided instruction in chemistry, physics, biology, embryology, histology, bacteriology and a smaller number in physiology and human anatomy. Commencing about 1888 medical colleges have given credit for such work, and with few exceptions have permitted graduates of such literary and scientific colleges to enter the sophomore year of the medical course. In 1896 the medical practice act in New York was changed so as to preclude the granting of such advanced standing. This statute was amended in 1903, giving the board of regents the right to permit such practice under certain conditions.

In 1898 the statute in Minnesota was modified so as to require that every applicant for license should have spent four annual sessions in residence in a medical college. This statute was applied by the examining board of Minnesota to the individual and not to the college until November, 1904, when it was announced by that board that thereafter the diploma of any medical college granting such advanced standing would be refused recognition by the board.

Subsequently a similar ruling was made in Kentucky, in Michigan, in Iowa, and recently in a number of other states the medical boards have announced their intention to put in force a similar provision. As it stands at present, therefore, no medical college can grant advanced standing, in time, for work done in a literary or scientific college without subjecting its graduates to the rejection of their diplomas in several of the states.

The subject has been investigated and discussed very extensively during the last few years by the American Academy of Medicine, the Association of American Medical Colleges, and by several of the medical examining boards.

PRESENT STATUS.

A. *Attitude of the State Board of Medical Examiners.*—The following questions were sent, with a circular letter requesting answers, to all the examining boards in the United States:

1. Does your board recognize the diploma of a medical school granting advanced standing for work done in other than medical colleges, as entitling the holder thereof to examination for license to practice?

2. Where against advanced standing or time credits is your decision operative, against the college, or only against the individual to whom such credit has been allowed?

3. On what grounds does your board make its ruling for or against such advanced standing?

Replies were received from 37, which must be classified according to Question 1 under three heads:

First. Those having no authority, the question being decided by statute. The following 18 states are in this class: Maryland, Arizona, Georgia, Texas, Massachusetts, Mississippi, Missouri, West Virginia, Tennessee, Arkansas, Rhode Island, Utah, South Carolina, Oregon, New York, Colorado, Wyoming, Washington.

Second. Those boards recognizing a time credit advanced standing. The following 8 boards are in this class: Nevada, Indian Territory (three boards), New Hampshire, Connecticut, Illinois, Nebraska.

Third. Those boards which do not recognize a time credit advanced standing. The following 11 boards are in this class: Michigan (applies ruling against college), Vermont (not stated), Iowa (against college), Indian Territory, Southern District (against individual), District of Columbia (against individual), California (against individual), Wisconsin (against college), Indiana, except where credit is fully equivalent to first-year course (against individual), Ohio (same as Indiana), Minnesota (against college), New Jersey (against individual).

B. *Practice of the Medical Colleges.*—Recent correspondence with the medical colleges of the United States, conducted by two members of the committee, results in the finding that o the 146 colleges from which replies were secured, 102 grant no advanced standing in time for work done in a literary o scientific college, but require that every student shall hav attended four annual sessions in a medical college before h may become a candidate for graduation.

Forty-three medical schools continue to admit the holder of the bachelor's degree to the second year of the cours either (a) without restriction excepting that first-year branche which have not been covered are to be made up; or (b) o condition that the work in the scientific college has comprise certain specified branches which are usually included in th first year of the medical curriculum.

Several of these communications state that the former prac tice of granting such advanced standing has been abandone only in order to comply with the rulings of the examinin boards which are adverse thereto, and not because the facult believes such ruling to be logical or wise. In other institu tions the faculties are said to be in entire accord with th ruling which abolishes this practice.

It is proper in this connection to call attention to the fac that the ruling of any particular state medical examinin board affects not simply the medical schools in that state bu applies to every medical school whose graduates may seek license to practice in that state. The effect of a ruling of single state board is therefore far-reaching.

C. *The Attitude of the Literary and Scientific Colleges.*—The colleges of arts believe that some provision should made by the medical authorities for examining the work do by them in pure science for which, under proper conditions teaching and equipment, credit might reasonably be ask from medical schools. Some colleges are offering courses this kind, and others are likely to do so. The total number independent colleges (by which term is meant colleges witho professional school affiliations) at present able to offer genui medical work is small. The number will increase graduall hence it will be a matter of no great difficulty to determi just what colleges that ask credit are doing, and what amount of credit they are entitled to have.

RELATION OF LITERARY COLLEGE TO MEDICAL COLLEGE.

The college of arts without question should have the privilege, under suitable conditions, to articulate its work with that of the medical schools. There is a common ground between the college and the medical school where subjects are both cultural and medical. The college will continue to teach these subjects with increasing efficiency. For the work done they will continue to ask credit, until the medical schools decide to become true university schools, that is, require the bachelor's degree for admission; and until the universities give up their so-called combined courses. These two possibilities are remote. Meanwhile, the college is entitled to preserve in its integrity its full four-year course; and has, or ought to have, the same right in its own territory to provide for a reduction of time, if reduction is necessary, as the composite institution which we call the university.

It is fair to assume that a first-class college should be able to give instruction in the pure medical sciences at least as adequately as second-class medical schools. The colleges claim more than this. They believe that there is justice in their contention, and simply ask that their claims, based on work actually done, receive reasonable consideration. They ask for no favors or concessions of any sort.

The colleges believe that credit for work should be provided for by actual inspection, preceded by a written report from the college applying for consideration. This report should be made on a blank provided by the medical authorities, and should furnish data sufficient to determine whether the college is entitled to a special visit of inspection.

The decision, finally, should rest on the quality of the work done. If the colleges actually give courses that are deserving of credit they should receive credit. All that the colleges ask is a decision based on personal knowledge. It is not reasonable nor just, without actual knowledge, to declare that it is not possible for them to meet the requirements of the medical schools.

To carry out the suggestions here made, a board of inspectors should be provided, whose duty it should be to pass on the quality of the work already offered, and also to suggest courses suitable to be offered in colleges of arts; to define what should be the standard of such courses, what should be the quality and aim of the teaching, and under what conditions it should be done. In this way there would be formed a basis of cooperation, which would be productive of educational results quite as important for the medical school as for the college.

THE COMBINED COURSE FOR THE DEGREES OF A.B., B.S., OR PH.B. AND M.D.

Having an important bearing on the question under consideration is the practice in vogue in a large and increasing number of universities with medical departments of offering a combined course in science and medicine of six or seven years beyond the high school, leading to a bachelor's degree and the degree of doctor in medicine.

In the large majority of these institutions the requirement for admission to the medical course proper is a high school diploma, but the longer course comprising two years of college study antecedent to the medical curriculum is advised. In four only are the two years of college work absolutely required as a prerequisite, viz., the University of California, the University of Minnesota, Western Reserve University, and Rush Medical College in affiliation with the University of Chicago.

In several the fundamental branches constitutes the curriculum of the first two years, is taught in the university proper, removed by some distance (in most cases many miles) from the college where the clinical branches are taught. Such is the arrangement at the University of California, the University of Texas, the University of Kansas, the University of Nebraska, the University of Chicago, the University of Indiana, the University of West Virginia, and the University of North Carolina.

In two other institutions the work of one or both of the first two years may be taken at the university proper; these are Cornell University and the University of Illinois.

In all of these institutions the conditions under which the first two years of the medical curriculum are given really differ from those obtaining in the detached literary or scientific colleges only, in that the whole instead of a portion only of the first two years' work is given, and second, that in the detached college the student does not matriculate as a *medical* student in an institution chartered as such.

THE ARGUMENT FOR.

It is argued by those who favor the granting of advanced standing in the medical school to the holders of the bachelor's degree, that:

1. There is great need in the medical profession for men of a broader, more thorough culture and training such as the college course affords; that the granting of one year of credit encourages prospective medical students to take the college work first, and by virtue of the mental power and grasp acquired in a college course, they can study the medical branches to better advantage, and advance more rapidly than the student without such training.

2. The best instruction in some of the medical branches, conspicuously in chemistry, physics, histology, embryology, biology, bacteriology (in some schools also gross anatomy and in physiology) is offered in some of the literary and scientific schools, and that good work should be recognized wherever it is accomplished.

3. The instruction in these branches given in the detached colleges is, in many cases at least, quite as thorough and effective as that given in the universities having medical departments, and much better than that given in many medical schools. The branches are taught by men who are devoting their whole time to teaching and research in their respective lines.

4. To recognize two years of medical work given in a university which chances to have a medical department, and to refuse recognition for work done in the detached colleges, to the extent of its actual value—be it one year or less—is to discriminate unjustly and illogically against the college.

THE ARGUMENT AGAINST.

The principal arguments of those who oppose the granting of advanced standing may be stated as follows:

1. No medical branches can be properly taught excepting by medical men and in a medical atmosphere, by which, presumptively, is meant the atmosphere of a school where clinical medicine is being taught.

2. While in some of the literary and scientific colleges those medical subjects which are offered are well and thoroughly taught, in others the instruction is very poor indeed. In other words, that there is a great inequality in the colleges, some demanding high requirements and giving most thorough instruction, while others are extremely lax in this respect. It is urged that no discrimination has been exercised by some of the medical schools in granting advanced standing, and that the boards of medical examiners have no means of determining the quality of these literary and scientific colleges, or, if they had, of compelling the medical schools to so discriminate.

THE ARGUMENTS EXAMINED.

As to the first argument it is perhaps sufficient to point out that the same objections obtain in reference to the first two years' curriculum of the university medical schools to which allusion has already been made, yet these have already been recognized by the state boards, and their practice appears to have become an established and approved custom. It may be further said that as between custom of having the fundamental branches, anatomy, physiology, etc., in the hands of medical practitioners (who are doing this work as an incidental diversion to general practice, and, to whom in many cases, the interests of the important branch assigned to them is quite secondary to that of a clinical chair appended thereto), and the teaching of those branches in a non-medical atmosphere by experts, the argument is surely, under present conditions, quite in favor of the latter alternative.

To the second argument there attaches much more weight. There can be little doubt that the custom of granting advanced standing has been very loosely exercised by some medical colleges. One of the members of the committee is cognizant of an institution, which at least until recently, admitted students substantially from the grammar school, granted the bachelor's degree in two sessions of fifty weeks each, and permitted the student in the same interval to take the course for, and to receive the degree of graduate in pharmacy. Yet the bachelor's degrees of this institution were recognized as good for a year of advanced standing in several medical schools. This looseness of practice by many of the medical schools in granting advanced standing to the graduates of good and poor schools alike, without discrimination as to the real work they have had, seems to your committee the one serious objection to the practice. Can this difficulty be obviated? Is it possible to devise a plan by which the boards of medical examiners can classify the literary and scientific colleges, specifying those from which credits may be accepted by the medical schools and forbidding the granting of advanced standing to graduates of unworthy colleges? We believe such a procedure to be feasible and advantageous; that it can be accomplished by the same methods that should be adopted in discriminating between medical colleges, classifying those which are recognized by the several boards.

It may here be pointed out, however, that no adequate basis for discrimination has, so far as we can learn, ever been put into operation by any state board. Mere inspection of the published announcements, catalogues or other publications of a college, and the current rumor as to its character, afford a totally inadequate basis for recognition. To be able justly to decide whether or not a medical college shall be "recognized," and its diplomas accepted as a prerequisite for licensure, a board must know by personal inspection of its members, or an authorized agent, something of the buildings, equipment, methods and character of the institution. This matter, in at least one instance, has been the subject of legal decision by the courts.

RECOMMENDATIONS.

Your committee would, therefore, recommend that the Council on Medical Education take steps to secure the institution by the several medical examining boards of a system of thorough inspection and investigation of the medical schools of this country, the results of such investigation to be made the basis for recognition of the diplomas of these schools. The Council of Education, through carefully selected officials, might undertake this investigation, provided the boards would appoint these persons as their duly authorized agents for this purpose. Your committee recommends that the Council of Education offer to the state examining boards to undertake this work of inspection.

It is further recommended that this system of inspection be extended to include the literary and scientific colleges which offer instruction in any of the medical branches and whose graduates make claim for advanced standing in the medical schools. That on the basis of the report of such investigators the medical examining boards be requested to classify these colleges, stating what medical subjects are adequately taught in each case, and advising as to the amount of credit which may be given to the graduates of each institution, for (a) work done, and (b) in time of required attendance in the medical college.

In the judgment of your committee such an arrangement would tend to promote a better understanding and a more effective cooperation between the medical schools and the institutions for general learning, an especial desideratum at the present time when one year of college work is soon to be demanded by many medical schools and by several state boards as a prerequisite for admission to medical study.

John M. Dodson,
J. H. T. Main,
W. S. Fullerton.

It was moved that the report be adopted. Seconded.

DISCUSSION.

Dr. William A. Spurgeon, Indiana:—I would like to ask Dr. Dodson if he can give the citation of the case in which the members of the examining board were required by the court to make an inspection of the institution referred to.

Dr. Dodson:—This case occurred in Wisconsin. About three years ago the State Board of Wisconsin refused to admit a young man to examination for licensure, because he possessed a diploma from one of the Chicago night schools. A curious decision was rendered by the court. The attorney for the plaintiff, who sued for mandamus against the board, set up in his plea that the board was basing its decision on inadequate information. They had never seen the school, he said, and did not know anything about it; that the school had as good an equipment as any other school. The court therefore instructed the board to investigate this school, and if, after personal investigation, they were justified in refusing it recognition, they could withhold the permission, but otherwise the mandamus would hold, and the board came down here post haste and investigated this school.

Dr. Spurgeon:—Have you the title of the case?

Dr. Dodson:—I have not. I think Dr. Curren, a former president of the Wisconsin State Board, can give the facts.

Dr. W. T. Sarles, Wisconsin:—I wish to say that an investigation was first made, and the court ruled that the investigation was not sufficient; that time enough was not spent in attending the lectures and in examining the equipment. We then ordered a committee to investigate and re-report. On re-reporting, the court decided in our favor. The last Wisconsin legislature gave full power to the board of saying what is a reputable school, and on that basis we got a decision.

Dr. S. L. Jepson, West Virginia:—I believe the committee recommended in its report that a commission be appointed to investigate certain institutions. There are two institutions of a literary character in which I am somewhat interested. The University of West Virginia has a medical course of two years, and we have a contract with some of the Baltimore medical schools whereby those two years shall be recognized. I am trustee of the Washington and Jefferson College, which has a pre-medical course, and I think we have an arrangement with the West Pennsylvania Medical College. I have doubted the advisability of recognizing these, especially where the teaching is done in a separate city. I think the recommendation of the committee should be adopted, and that this pre-medical course should not be recognized until after an investigation has been made and reported on favorably. I have not been favorably impressed with the fact that they give the same class of teaching that is given in the medical schools, and I think the recommendation of the committee is an important one.

Dr. William H. Wathen, Kentucky:—If we are ever to arrive at any practical conclusion as to giving advanced standing for work done outside of the medical course, or for a bachelor's degree, it must be as a result of the united action of the state examining boards of the country. It would be better, it seems to me, to refer the whole question that has been discussed by this committee to the state examining boards of this country; and these examinations should be made through these boards to make them effective in all states. I move that the report of this committee, read by Dr. Dodson, be referred to the national examining boards for the purpose of investigating and reporting and deciding just what standing, if any, shall be given for a bachelor's degree, or for work done outside of a regular medical college.

Seconded by Dr. Means.

The Chairman:—There is no organization which includes all the examining boards in its membership. One of the most desirable things that could happen would be a strong organization which represented every state examining board. But that is difficult of accomplishment. I think the same thing can be accomplished, as you suggest, by placing the responsibility, which, I understand, the report suggests, on the state boards. That, of course, can be done.

Dr. W. S. Fullerton, Minnesota:—I am a member of this committee; therefore, I do not wish to second the motion that has been made to adopt this report, or to support it. Before this matter can be referred to the examining boards of the country, it seems to me, that there should be something definite for them to act on, and that something definite is just this matter which, I understand came to us as an offer from the Council on Medical Education, that it would furnish the inspecting end of this work. Then it comes before the state examining boards to adopt these inspectors as an official part of their machinery. Minnesota has already endorsed that movement officially, so that we are in a position to accept the work done by this investigating committee as our own investigation. This committee is made a part of our official board; it is our inspecting bureau, and we are on record as adopting that. I would like to see this matter brought before the different state examining boards and have them take such action as we have taken.

Dr. William A. Spurgeon, Indiana:—This is one of the perplexing questions we have to meet in connection with the work of the state medical examining boards. While the work of this Council is important and the various boards throughout the country are watching its work with interest, yet it must not be forgotten that this Council is possessed of no legal authority, and that its work is advisory. The motion made by Dr. Wathen a moment ago that this report be referred to the national medical examining boards, or to the American Confederation of Examining Boards, is open to the same objection, that no national organization of medical examining boards has any sort of authority. Its work is advisory only. The authority to act is vested in each separate state medical examining board, and there comes the perplexing question in connection with the solution of our problem—is it to be referred back to these boards? We should keep in mind that those who are members of examining boards should be particular just now because we occupy a peculiar relation. Those of us who are in this Council by direction of the governors of our states, and who are members of state medical examining boards, have no right to bind our boards by our action here. We can not do it, so that we are occupying a rather peculiar position. If we vote to adopt this report, then we may be in a way regarded as binding the boards we represent, which I have said we can not do. It makes it rather embarrassing for us to vote on the question because of that peculiar relationship.

Dr. W. S. Fullerton, Minnesota:—I do not wish for one moment to entertain the idea that the action of this body would bind the individual state boards. Each state board is an entity, acting by itself. I only wish to repeat that Minnesota has taken action endorsing this plan and is willing, when this report has been sent to it, to act on that report. That is as far as we can go.

The Chairman:—Probably Dr. Spurgeon was not here when the chairman read his report. I said we were not a legal body; that the state medical examining board is properly and always will remain the body in control of medical education in its particular state, and Dr. Spurgeon is right in saying that whatever we do here is simply in an advisory capacity. I wish to throw out this thought, however, that what the men, who are here to-day representing medical colleges and state boards and the profession generally, determine on carrying out, if it is broad and correct in principle, will undoubtedly eventually be carried out by the state boards. All we can do with such a report as this is to suggest to your respective state boards that this report is possibly a solution of this question. Of course, it will take time to work it out.

Dr. H. W. Orr, Nebraska:—It is obvious that what this conference and Council are accomplishing is not beyond what they may accomplish to some extent, and I am strongly in favor of proper credit being given by medical colleges for work previously done. I think the recommendations of the committee are important and should be fulfilled, if possible. I therefore think it would be expedient to appoint a committee from this conference to pursue the same line of investigation regarding pre-medical work done by the medical colleges themselves or by other schools.

Dr. B. F. Bailey, Nebraska:—I believe it is an admitted fact that the work of this Council is only advisory and that it has no legal authority. The same is true of the American Confederation of Reciprocating Boards; but although they have no authority, they have power. Therefore I am heartily in favor of Dr. Wathen's motion.

Dr. J. W. Bennett, New Jersey:—The medical laws of some of the states, for instance, New Jersey, would not permit us to delegate the inspection of these schools to other than members of our own board. Evidently the laws of Wisconsin are of the same nature from the report of the case that has been cited. Indiana, I understand, is the same. That is one thing we will have to bear in mind.

Dr. A. Ravogli, Ohio:—The Ohio State Board now recognizes one year of advanced standing of any one who has in a literary college covered all the sciences which are taught in the first year of a medical college; and the board of preliminary examinations gives an exact report of the work which is done in these literary colleges, and if it is acceptable, it serves as a substitute for what is done in medical colleges.

Dr. W. J. Means, Ohio:—This conference can do nothing less than adopt this report, and when it is once adopted as the sentiment of this conference, then we can dispose of it in the direction we wish. I understand that these organizations are largely advisory, the same as this Council; they are not legal bodies, and unless we have something that is crystallized to present to these state boards, where there is legal authority, we might as well not meet. Therefore, I move that the report now be adopted, as the sense of this conference, and then we can dispose of it afterward in the direction we choose.

This motion was seconded and carried and the report declared adopted.

A Member:—I suggest that the report be referred to the presidents of the various state boards, with the request that they bring the matter before their respective boards.

The Chairman:—We have another important committee to hear from before we adjourn, namely, the Committee to Consider Details as to the Requirement, in Addition to a Four-Year High-School Education, of a Year to be Devoted to Physics, Chemistry, Biology and One Language, as a Prerequisite to the Study of Medicine. This report will be presented by Dr. John H. Long.

Dr. Long presented the report as follows:

REPORT OF THE SPECIAL COMMITTEE ON PRELIMINARY MEDICAL EDUCATION.

The Committee on Preliminary Education in Sciences and Languages, appointed last winter by the Council on Medical Education, has undertaken to secure information on certain points from which conclusions pertinent to the present inquiry may be drawn. Some time before the appointment of this committee, consisting of Professors Long, Bardeen and Piersol, the Council made a direct effort, through correspondence with a number of the more prominent universities and colleges of the country, to discover the amount of work which should be considered as a year's equivalent in the several topics, and how much of this work in sciences and languages could be completed in a single year at the various institutions addressed. In other words, it was sought to learn how far the usual, or an elective, freshman course would go toward satisfying the requirement of the Council with reference to this preliminary year.

The replies received by the secretary, Dr. Colwell, were far from satisfactory; in fact, in many cases they were very misleading and gave no clear idea of what the universities could do in the matter which would be of value in helping on with the plans of the Council and the medical schools interested in the proposition of raising the standard of work in medical education. It was even evident that in some of the answers the university and college authorities had dodged the issue.

With these facts in view our committee decided to ask for more definite information, and in such a way as to leave no loophole for misunderstanding. Accordingly, the following circular was printed and sent to all the colleges, universities and technical schools listed in the last report of the Commissioner of Education. There are about 500 names in the list, and the circular letter was sent out in February last.

THE CIRCULAR LETTER.

"Chicago, Feb. 25, 1907.

"*Dear Sir:*—Because of the rapid advances made in medical science in the last ten years it is becoming necessary to greatly increase the work given to students of medicine to enable them to take advantage of the modern points of view and follow understandingly the many valuable recent discoveries. It is not possible to increase the work within the limits of the four-year courses as now given in our best schools of medicine, as these courses are already overcrowded. On the other hand, it does not appear to be at present possible to lengthen these courses to five years, as has been sometimes suggested. The only remaining alternative is to require of students beginning the study of medicine a broader preliminary training than is usually called for from young men or women entering the medical school. This training should embrace some of the work now given in the medical school in the first or freshman year, with certain subjects in addition, and may be outlined as follows:

"1. A year's work in general biology.
"2. A year's work in chemistry.
"3. A year's work in physics.

"4. A year's work in a modern language, preferably German.

"All of this work is supposed to be of the grade given in the freshmen or later years of our best colleges. It may be and should be preceded by elementary high school work in the same subjects, especially in the languages. It is understood that a year's work which may be counted toward the bachelor's degree, is the equivalent of four recitations or lectures a week in each of four subjects through the usual nine months' course.

"The following statement may make clearer what is understood by a year of college work in the several subjects:

"*Biology.*—The course here should include lectures or recitations, and laboratory exercises amounting to about six hours of work a week through one college year. In the laboratory the following types, or their equivalents, should be studied: (a), a protozoon (a ciliate and ameba); (b), a celenterate (hydroid, hydra or sea-anemone); (c), an annelid (earthworm); (d), an arthropod (preferably a decapod); (e), a vertebrate (preferably a frog or fish), with a view of a general comparison of the plan and internal structure with that of the human body. When possible a study of tissues should be made, first with the unaided eye and then with the microscope, to demonstrate the relation of cells to intercellular substance, as in epithelium and connective tissue. It is desirable that the student should study other fresh typical specimens of elementary tissues, as muscle, nerve and blood.

"If the college work in biology is wholly or largely of a zoologic character, as outlined above, it is desirable that it should have been preceded by some work in botany in the high school.

"*Chemistry.*—The student entering the medical school should have completed a substantial course in general inorganic chemistry, with experiments, elementary qualitative analysis, an outline, at least, of volumetric analysis, including the theory of the fundamental processes, and finally, a short course in organic chemistry sufficient to serve as an introduction to physiologic chemistry. All this work in chemistry should consume, at least, about ten hours of recitation and laboratory work per week through a year.

"Inasmuch, however, as few freshman courses cover as much ground as is here indicated, the work in general inorganic chemistry, with laboratory experiments and qualitative analysis, may be taken at present as the minimum amount which would satisfy the needs of the medical schools under the new requirement.

"*Physics.*—This college work is supposed to be preceded by an elementary or preparatory course in the high school or academy. The subjects here of the greatest importance for the study of medicine are heat, light and electricity. Satisfactory work in these branches should cover probably three recitation hours and five or six laboratory hours through a college year. The student should acquire some practical knowledge of the microscope, the spectroscope, of thermometry and specific heat, and some familiarity with simple electric measurements.

"*Languages.*—In addition to the work of the high school or academy in these subjects the student should have enough college training to enable him to read one foreign language, preferably German or French, with some degree of ease.

"Up to the present time most of our medical schools have drawn their students from the graduates of the high schools. A few medical schools have required college graduation for entrance, but it is recognized that this relation is not yet, in general, realizable. It is hoped, however, that in order to meet the urgent demand for better preliminary education now being made by the leading schools of medicine, the colleges of the country will be prepared to furnish in the first years of their courses to prospective medical students such a curriculum as is outlined above.

"This letter is sent out by a committee of the Council on Medical Education of the American Medical Association in an effort to discover just what the colleges of the country can do for the instruction of this class of students who usually do not enter college at all, but who now, under the press of changing conditions, must do some college work before being considered properly prepared to enter upon the study of medicine.

"Will you kindly answer the following questions:

"How much of the work outlined above is your institution prepared to give in *one year* to students who have a high school training?

"How much of this work can you give in *a year and a half*, that is to the middle of the sophomore year, to students equipped in the same way as above?

"If not at present able to furnish the courses in the specified time, can you, in view of the apparent demand, give such courses beginning with the college year 1908-9?

"The point to be kept in mind is that the college should be able to furnish this desired instruction within a period corresponding to the freshman and perhaps a part of the sophomore year. A blank is enclosed for a reply, which will be greatly appreciated, as will also any comments or suggestions which you may make.

"In presenting its report the committee desires to prepare for publication a list of those colleges which are or will be able to offer courses substantially like those outlined above.

"Yours truly,

"C. R. Bardeen,
"G. A. Piersol,
"J. H. Long,
"*Committee.*"

REPLY TO CIRCULAR LETTER ON PRELIMINARY MEDICAL EDUCATION.

Name of Institution..............................

Location ....

This institution is prepared, or will be prepared, to furnish class work or laboratory instruction to Freshman students in Biology, Chemistry, Physics and one foreign language, preferably German or French, of a character corresponding to that described in the accompanying circular letter, and within the time specified, as shown in the table below. Work which can not be done in the Freshman year may be done as explained under "Comments."

Number of Hours Given Each Week Through the Freshman Year.

	GIVEN AT PRESENT.		TO BE GIVEN BY 1908-09.	
	LECTURE OR CLASS.	LABORATORY.	LECTURE OR CLASS.	LABORATORY.
Biology	....	....	....	....
Chemistry	....	....	....	....
Physics	....	....	....	....
Language	....	....	....	....

Signed..............................

Comments:

The phrase "preliminary year in biology, chemistry, physics and languages" is somewhat vague, and your committee, after much discussion, undertook to define it to some extent, as appears in the wording of the circular letter. To be of real value the courses taken in a preliminary year should make it possible for the student to begin a higher grade of work immediately after entering the medical school. At the present time most of our medical schools teach the elements of biology, chemistry and physics, and it is probably no exaggeration to say that two-thirds of the time of the medical freshman is taken up with work which may be, or in fact, should be done elsewhere, and better, too.

It was this consideration which led your committee to outline in a general way what should be covered in the several preliminary courses. It will be seen that the suggested exercises in biology cover work which would serve as a beginning in histology and physiology as well as in comparative anatomy; the chemistry work would cover that given in our usual medical freshman year, while the courses in physics would take the place of work now given in a perfunctory way in many of our medical schools, but which is becoming every year more and more necessary as the many relations of this fundamental science to medicine become more and more tangible.

NEW CLASSIFICATIONS NEEDED.

A modern German classification divides physiology into the two groups of studies comprised under the titles of biochemistry on the one hand, and bio-physics on the other. A glance through any one of the larger manuals of physiology in use in our medical schools discloses a justification of this division, and suggests also the desirability of relegating much matter from the class-room in physiology to the class-room in physics. Besides this, it is becoming evident that modern pathology is making every day wider inroads not only into the fields of chemistry, but also into the domain of physics, and taking all things together, the committee felt that it was not going too far in calling for the amount of physics suggested in the circular letter. No explanation of any length was made in deference to the language work, as little difficulty from this direction was expected.

RESULTS OBTAINED.

Now as to the results. The replies received were 211, of which the larger number were plain and not ambiguous; a few were not as clear as might be desired, from which it follows that a perfectly sharp classification can not be made from the data secured. But the results are close enough for the present purpose. Sixteen of the answers came from state universities, 8 from agricultural and technical schools, and 187 from other institutions, some of which include the best known colleges and universities in the country. The replies from 15 of the state universities and from 7 of the agricultural and technical schools showed a good general agreement with our proposed courses of study. The replies from 75 other institutions were also favorable, although it appears likely in a few cases that the schools in question have not the facilities for properly doing the work called for, as will appear from an inspection of the lists given below. On the other hand, about 30 well-known institutions made replies which could not be looked on as wholly favorable.

The situation in some of the older schools seems to be best expressed by the comments made by President Hadley of Yale, as follows: "The demand for places in our undergraduate courses is so far in excess of what we can readily meet that we can hardly arrange to take men for one year, with a view of letting them leave us at the end of that time. We must, I think, arrange our courses for men who expect to stay longer." In this list along with Yale we must place Cornell, Princeton, Trinity, Williams, Lafayette, Union, Tufts, Vanderbilt, Bowdoin, Oberlin, Hamilton, Syracuse and others of known rank. It is evident that the schemes of instruction in these schools are not flexible enough to allow a freshman to elect as large an amount of work as our committee suggested. The greatest difficulty seems to be with the work in physics, which naturally presupposes some acquaintance with trigonometry, and which in consequence is usually thrown over to the sophomore year. The work in chemistry, biology and languages could in most cases be provided for.

HOSTILITY TO THE PLAN.

The replies from about 80 institutions gave evidence of lack of interest in the matter, lack of equipment for the work, or, finally, a distinct hostility to the plan. As illustrating the last situation the answers from two small colleges, one in Pennsylvania and one in Illinois, must be quoted. The first reads as follows:

> In reply to your letter I would say that we can not justly give the course you suggest in less than two years, except in rare cases. We have found, in our experience, that the students who took a full B.S. course received the best results. We even discourage the short two years' course, because it has so little of general culture work, and the American College stands for culture. If professions will continue to admit men on purely technical preparation and disregard the college, the college nevertheless must stand for the ideals that have made it. Your suggested one-year course is unpractical. You require so much laboratory work in chemistry and physics that none but the exceptional freshman can take them. The number of hours of your proposed course outnumber the hours which educators, knowing the capacity of the human brain and mind, have fixed as a maximum. Should your plan obtain the work must be superficial. For some time we college men have watched the plans of the medical profession and we are astonished that there is so little appreciation of sound pedagogics.

From the president of the Illinois school the following reply came:

> In response to your inquiry concerning our work in science relative to its value for medical education, permit me to say that we offer all and more than you require, but not in the freshman year. We carry science study through four years of the college course. It appears to us on careful consideration that what you require as preliminary to the medical course could not be well crowded into one year. Three different lines of science study with extended laboratory practice is more than students can advantageously carry in one year, not to speak of the addition of a modern language. Certainly, such crowding could hardly meet the requirements of a good college course. Besides, freshmen are not qualified for the more advanced work in the sciences. Moreover, it seems hardly fair to us that colleges should be asked to do such hurried preparatory work for the professional schools. Why might not law and theology come with similar requests? In what manner could any college do justice to its students under such pressure? Would it not be perfectly fair for the professional schools to adjust their courses to the needs of college graduates? That would certainly greatly improve professional efficiency. We are quite ready to maintain such courses as the professional schools can recognize; but we can not see our way clear to comply with the requests of your letter of inquiry.

It is evident that these men do not fully understand the situation and in addition that their answers are dictated by a somewhat natural self-interest; but in the opinions of other men better able to appreciate our position, we have noticed a similar doubt as to the wisdom of attempting so much work in a single year. In this connection there are two questions to consider: first, the practical one of arranging hours to avoid a conflict of studies, and yet present all the work suggested to be taken, and, second, the possibility of carrying this number of hours successfully. In actual time the scheme provides for about 25 hours of work each week through the college year, divided between class-room and laboratory and omitting organic chemistry. Now allowing for a reasonable division of time in the work in the sciences, this is not more than a fair student should be expected to carry, and not more than students carry well in many of our best schools. It must be admitted that students who are expected to devote a good fraction of their time to athletics and fraternity interests can not carry such courses, but we are far from believing that the present tendency in these matters in some of our schools is a desirable one or one which may be expected to persist.

COMPLETE COURSE IDEAL BUT NOT PRACTICABLE.

It goes without saying that a college course of four years would give a prospective medical student a much better groundwork than the one we are talking about, but we are concerned with the practical question of what we can get rather than with what we should like to have. The members of your committee recognize fully the value of college training as an introduction to medicine, but we must keep in mind what is actually practicable under the conditions which obtain in the United States. Now while we recognize that it is hardly likely that any very large number of our medical schools are prepared to make a requirement of two years of college work for entrance, it is probably true that the best of them will be ready to ask for one solid year of work as a prerequisite. We are called on to determine if the facilities are available, and the answer must be read from the replies to our letter. While the favorable answers are not as numerous as we could wish, there are still enough to indicate that when the preliminary year is actually decided on the facilities for securing the desired work will be forthcoming. A mistaken self-interest seems to deter some of the colleges from giving a favorable answer to our questions. It is evident that some of them are afraid they might lose a few students, who might otherwise stay longer, by offering courses which would lead to the medical school at the end of one year. We see the force of this, but, on the other hand, an increased number of freshman students would be taken in, and some of these in turn might choose to remain with the college. There would thus be compensation.

The situation in the southern states is the worst as far as facilities for preliminary work in the fields discussed is concerned, but in all other sections of the country there are several colleges in each state which seem to be ready and willing to give such courses. If attention is called to these through the pages of The Journal other institutions may be induced to fall into line and offer the desired work. On the whole, we consider the outlook a favorable one, and feel that enough support is in sight to warrant the schools of medicine in asking for the preliminary year of college work.

But in many of the colleges, for some time to come, it is likely that the prospective medical student will have to spend a year and a half or two years to get the desired training. Several college officials in replying to our letter state that the high schools do not send out their graduates with sufficient preparation in the first elements of the sciences to enable them to make rapid progress in the college science work. This is probably true.

Whatever the explanation of the difficulty is the preliminary college year must mean more than a year of actual work in many cases. But we believe the medical school should stand rigidly for that and insist on this amount of work whatever time it may take.

Below is the list of the colleges which sent favorable replies to our circular. Many of the colleges addressed sent no replies at all, but these are mostly institutions from which in reality but little could be expected. The list of the Commissioners of Education includes many "universities" which are but little better than academies. On the whole, a very fair proportion of answers were received.

STATE UNIVERSITIES.

Illinois.
Iowa.
Kansas.
Maine.
Michigan.
Missouri.
Montana.
Nebraska.
North Carolina.
North Dakota.
Oklahoma.
Oregon.
Virginia.
Wisconsin.
Wyoming.

TECHNICAL SCHOOLS.

Agricultural College of Utah.
Agricultural and Mechanical College of North Carolina.
Agricultural College of Connecticut.
Massachusetts Institute of Technology.
Rennselaer Polytechnic Institute.
School of Mines of South Dakota, Rapid City.
Throop Polytechnic Institute.

OTHER COLLEGIATE INSTITUTIONS.

Alfred University.
Catholic University of America.
Chicago University.
Cincinnati University.
Colgate University.
Colorado University.
Columbia University.
De Pauw University.
Drake University.
James Millikin University.
Johns Hopkins University.
Lawrence University.
Lehigh University.
New York University.
Northwestern University.
Notre Dame University.
Ohio University.
Ohio Wesleyan University.
Purdue University.
Rochester University.
Stanford University.
Susquehanna University.
Virginia Union University.
Washington University.
Washington and Lee University.
Western University of Pennsylvania.
Wooster University.
Adelphi College.
Adrian College.
Amherst College.
Augustana College.
Beaver College.
Berea College.
Bethany College.
Blackburn College.
Bridgewater College.
Brigham Young College.
Buena Vista College.
Center College.
Clarksburg College.
Coe College.
Dickinson College.
Earlham College.
Emporia College.
Fairmont College.
Geneva College.
Greenville College.
Hedding College.
Hillsdale College.
Hobart College.
Huron College.
Illinois College.
Kenyon College.
Lake Forest College.
Lenox College.
Macalister College.
McKendree College.
Milton College.
Olivet College.
Ouachita College.
Parker College.
Penn College.
Philomath College.
Randolph Macon College.
Richmond College.
Ripon College.
Rockford College.
Simpson College.
State College of Washington.
St. Johns College.
Union College (Nebraska).
Ursinus College.
Wabash College.
Whitworth College.
Woman's College of Baltimore.

The following named larger institutions do not appear to be able to arrange for the courses as outlined:

Alabama State University.
Bowdoin College.
Bryn Mawr College.
Buchtel College.
Carleton College.
Cornell University.
Dennison University.
Florida State University.
Hamilton College.
Hampden Sidney College.
Iowa College.
Lafayette College.
Oberlin College.
Princeton University.
Rose Polytechnic Institute.
Smith College.
Stevens Institute of Technology.
Syracuse University.
Trinity College.
Tufts College.
Union College.
Vanderbilt University.
Vassar College.
Wellesley College.
Wells College.
Williams College.
Worcester Polytechnic Institute.
Yale University.

Charles R. Bardeen,
G. A. Piersol,
J. H. Long,
Committee.

The Chairman:—I think the thanks of the conference are due this committee for the splendid piece of work they have done. They undertook an enormous task, one which required a great deal of time. What will you do with the report?

Dr. Victor C. Vaughan, Michigan:—I move that the report be received with approval.

Dr. Wathen:—I second the motion.

Dr. B. D. Myers, Indiana:—As a suggestion toward solving this question, it seems to me it would be feasible, instead of requiring four years' Latin in high school work, as required for entrance, two years of Latin and two years of German should be required by the colleges, giving three subjects during each year, and one year in physics, chemistry and biology.

Prof. Thomas F. Holgate, Evanston:—I think the question raised by the gentleman who has just taken his seat is rather pertinent, so far as the colleges are concerned. The requirement of the medical council of this interim year is a very important one, so far as the colleges are concerned, but it does not affect the colleges for the great majority of students; it only affects those students who come into college with their minds fully made up as to the study of medicine. A young man coming into college with his mind made up to study medicine can shape his course so as to meet this preliminary year in one year or in two years, as may fit the conditions of his college. I think there are very few of the colleges in the country where it will be made possible for a man to carry these four studies, as outlined in the report, in one year. I think if the answers are carefully scrutinized it will be understood from them that a college would offer no objection to a man doing this, and the curriculum is sufficiently flexible to meet it, but it is doubtful if it is possible for a college student to so arrange his program as to actually carry the work out in the one year. If the medical council will prescribe its four-year course, and then will put below it a preliminary year, which is defined in the terms of the committee's report, that to be superimposed on a four-year high school course, then it seems to me as feasible, and a man may have to take two years in his college to meet the requirements of this preliminary year. The possibility of putting in twenty-five hours of work in one year for the ordinary freshman of 17, 18 or 19 years of age is a difficult one. It is not easily handled.

The Chairman:—How would it be if German were left out and simply biology and physics given?

Professor Holgate:—The question of German is not determined, nor has the last speaker indicated that the work may be done in a high school. A man may go to college with a fair reading knowledge of French or German, and at the end not figure in the year's course at all. If the medical council would prescribe that the student must enter a medical college with certain specific preliminary requirements—in other words, he must enter after graduation from a high school, showing a certificate that he has included certain specific studies, some of which perhaps he can not get in a high school, but will have to get in college. The ordinary graduate from a high school presents fifteen units of credit. If the medical college demands twenty units, and includes in that twenty, four units of the subjects here suggested, the extra four units will have to come from the colleges, and it will take one or two years more to show the need to secure these units. It would be well to show clearly what subjects should be included in the unit of physics, of chemistry, etc., so that the medical schools can at once build on these units, knowing that the student has covered certain topics. To say that a student has a year of chemistry may mean one thing; to say that he has a year of biology in a college means practically nothing, the way the work is carried on throughout the country. If the medical schools will define their units, as the report indictates, say in chemistry or biology, which a man may get in one year, then it will be all right.

The Chairman:—Possibly a short explanation is in order at this time. In Great Britain, where they have a five-year medical course, the first year of the course is devoted to chemistry, physics and biology. These can be taken in a medical school or in a school of liberal arts. In France, Germany and Austria, where a five-year course is required, the first year of that five-year medical course is devoted to chemistry, physics and biology. The object in this country is to raise standards as soon as possible, to those of the other great powers. At present we are very much behind, and it has been the object of the committee to see how this can be worked out, and I am sure the members of the committee will be glad to have any suggestions that may be made by any delegate. I should like to see this committee continue, if they are willing to continue their work, during the coming year.

Dr. George H. Price, Tennessee:—It is very evident from the report which has been read here this morning that something is wrong. Medical institutions have been reported as having been given twenty or even greater percentages of failures before state examining boards. It means that the medical colleges have not required their students on entrance to come up to the published requirements, or that these requirements have been enforced in a perfunctory way. However, if to a four years' medical course in all institutions throughout the country, with a minimum fixed preliminary requirement of a four years' high school education, we add on another one or two years, as has been indicated by the report of the committee, it will put beyond the reach of a large number of young men the possibility of entering medical colleges at all. I do not know how it is in all sections of the country, but I know how it is with us. A large number of men have made their own way; have passed through high school and have made enough money to attend a medical college. Now, if we impose on such men an additional one year in some recognized institution, we may work a hardship.

Dr. William H. Wathen, Kentucky:—From what has been said to-day, two-thirds, at least, of the colleges deemed worthy of recognition at this time can not practically comply with this so-called preliminary biologic course and exist. Of course, it is commendable in large universities to urge this, for the reason that it has been the fashion of late years for the academic department to recognize the work of the medical department. I think we should move slowly in this matter, and if we should adopt this and the state boards should enforce it, as outlined to-day, it will simply put out of existence three-fourths of the medical colleges of the United States.

Dr. Victor C. Vaughan, Michigan:—According to the report made by the secretary, about forty-five medical schools have decided of themselves, without any special pressure from this Council or anybody else, to have from one to two years of college work before they admit to a medical college. The duty of this committee (and the members have done their work admirably) was simply to point out what should be included in the preliminary years. We are not trying necessarily to force the colleges to adopt one or two years, or anything of that kind. Forty-five colleges have decided that after 1910 they will require from one to three years. This committee was asked to pick out what subjects should be taught, and they have done so, and what they believe to be necessary to the proper teaching of modern medicine; it matters not whether it takes one or two years to get it.

High schools differ very much in the kind of courses they give, as well as in the thoroughness of the courses they give. In Michigan, for instance, a student can get an excellent reading knowledge of either French or German in his high school course, and he can take two years or three years of French or German if he wants to. If he did that he would not need to take extra French. Two years in a high school is as good as one in a university, and sometimes is as good as two in a university. I think there has been a misunderstanding. The idea on part of the committee was to point out the things necessary for the study of medicine.

I want to impress one other thing, namely, you can not teach modern medicine to a man who has not had these preliminaries. (Applause.) You can not teach the use of the microscope, the use of the ophthalmoscope and all these things to a man who knows nothing about physics. You can not teach physics to a man who does not know trigonometry. There is not a thing mentioned in the report that is not absolutely necessary for a man who is going to get the best out of medicine. He must know his chemistry, otherwise he can not build on rock; he is building on sand, and the reason why we have had so much quack medicine forced on us is largely because we do not know anything about chemistry. Was it necessary for Sollmann to report that alcoholic solutions of pepsin were no good? Any freshman student who knows his chemistry knows that alcohol destroys ferment.

I think the report of the committee was excellent. They are only urging that twenty-five hours be taken in the proposed college course, so you can arrange the course at five hours a week or less. Those subjects should be taught to every student.

Dr. John M. Dodson, Chicago:—I should like to make a plea for the young men. This is hardly pertinent to the report of the committee, but nevertheless it has a bearing on what has been said. It seems to me that we do not need to make a plea for the young men who are unfitted to enter medical colleges. What we need to do is to look after those medical colleges who are accepting young men that are unfit to enter medicine. These medical colleges are committing a crime, in my judgment, in permitting such men to enter. My sympathies go out to the young man who has gone into medicine in that way ignorantly, inadvisedly, who will wake up in four or five years to the fact that he is handicapped in the race; that he has entered a profession for which he is unfitted and can not make a living at it, and when he wakes up to that fact he is in much more serious straits than the members of any other profession. His time, money and best years of his life have been spent in a medical college, and he is not prepared to meet the exacting demands of the profession which he has entered. The lawyer can turn his attention to commercial pursuits and make a good income in doing commercial work. The minister can utilize the training he has received, but the medical man can not do that, unless he has been adequately prepared. Suppose twenty or thirty medical colleges should go out of existence through consolidation or because of increased requirements, would it hurt anybody except a few individual interests that are involved? We do not need 160 medical colleges in the United States. If we have 44 or 50 we shall have a great abundance to do the right kind of work, in my judgment.

Dr. George H. Price, Tennessee:—There seems to be a slight misunderstanding of my attitude in regard to this matter. I am firmly convinced in my own mind that a good preliminary education is one of the essentials to the study of medicine. But if you have these colleges live up to that, it is all right; if they do not live up to it, it will be all wrong. The point I want to make is this: If we put on five years now to the medical course, it will not be a great while before we put on more. The time will come when only those institutions which have an academic department, in addition to the medical department, can be recognized as giving the necessary training.

The Chairman:—I would like to entertain a motion that this committee be continued and instructed to bring in a further report next year. I think it is important to have a further report if this committee is willing to do so.

Dr. B. D. Myers, Indiana:—I move that the committee be continued and instructed to report at the next annual conference.

Seconded and carried.

On motion, the conference then adjourned until 2 p. m.

(*To be continued.*)

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-Second Annual Session, held at Washington, D. C., May 7-9, 1907.

(*Continued from page 1713.*)

Tuberculosis in Infancy.

Dr. L. E. Holt, New York, studied 67 cases of pulmonary tuberculosis in infants, in 80 per cent. the tubercle bacillus being found in the sputum. In 21 of the cases one or other parent was tuberculous, and in 6 a tuberculous person was in the house. Intestinal lesions were surprisingly few. In 42 consecutive cases of tuberculous meningitis, tubercle bacilli were found in the cerebrospinal fluid.

Hemorrhagic Diathesis in Bright's Disease.

Dr. David Riesman, Philadelphia, reported two cases of this affection, in men of 30 and 55, one bleeding from the mouth and skin, the other from mouth and bowels. He regarded toxemia as the cause of the hemorrhagic tendency. Autopsy was held in one, marked nephritis being found.

Secondary Carcinoma with Recurrence in Unusual Sites.

Dr. George L. Peabody, New York, reported this case occurring in a woman who four years previously had had removed a carcinoma of the right breast. Metastases were found in the thyroid, one suprarenal, both kidneys, one lung, in the wall of an old cerebellar cyst, and in one trunk of the cauda equina. Microscopically, there was diffuse infiltration of pia, of pons, medulla and cord. Only one similar case was found in the literature, that reported last year by McCarthy.

Dr. S. Solis-Cohen, Philadelphia, who saw the case reported by McCarthy, called attention to the diagnostic value in that instance of dyspnea which persisted in the absence of local conditions to explain it.

Action of Intestinal Antiseptics.

Dr. J. D. Steele, Philadelphia, with bismuth salicylate reduced the amount of bacteria in the feces of three normal individuals. With betanaphthol the same result was obtained in two normal persons, but in one with gastrointestinal disturbance the bacteria were increased. In diseased intestines the self-resistant action appears to be diminished, and antiseptics may have an effect opposite to that intended. He believes that regulation of the amount and character of the food is the best method of checking bacterial growth in the intestinal tract.

Dr. Lewis A. Connor, New York, said that unless drugs exercise a selective action on bacteria they may do harm by destroying those which are needed in the intestine, as well as the harmful varieties.

Hygiene in Hospital Wards.

Dr. D. L. Edsall, Philadelphia, has studied particularly the infections of adults in hospital wards. He finds that nurses in one hospital in Philadelphia show nine times the morbidity of typhoid fever as compared with the average citizen, and that patients in the hospital are 2.5 times more apt to contract typhoid than if they were not in the hospital. He has seen increase of symptoms in typhoid patients from the use of infected milk, and as the result of putting patients with other conditions, as diarrhea, in the wards with them. He showed by charts that groups of hemorrhages and also of perforation occurred in the hospital, at times weeks apart. To prevent these secondary infections, he has instituted certain measures. All milk for typhoid and seriously ill persons, unless certified, should be pasteurized. A special diet nurse is placed in each ward, she handling no contaminated objects. Patients' mouths are specially cleansed. Arrangements are being made for the daily sterilization of bedpans, urinals, etc.

Dr. Victor C. Vaughan, Ann Arbor, said that the report on typhoid fever in the Spanish-American War shows that 60 per cent. of the cases were due to contact. The laity and the profession both insist on the rôle played by the fly in the transmission of the disease, but the report emphasizes the great importance of actual contact.

Dr. George M. Kober, Washington, said it must be remembered that nurses and internes are usually of the age when most susceptible to typhoid. What is true of the value of Pasteurization of milk in hospitals is also true of the general supply. Few milk epidemics are reported, except in England and America, because in other countries relatively little raw milk is consumed.

Dr. William H. Park, New York, said that in one scarlet-fever ward 40 per cent. of the patients developed otitis media, nearly every one due to the same bacterium; investigation showed that the nurse used the same cup for every patient. In another instance a typhoid epidemic occurred among the nurses and internes who used the milk and oysters from the same storage place that was used for the patient's supply.

Dr. E. G. Janeway, New York, emphasized the necessity for better care of nurses, who are specially exposed to diseases. Overwork, bad food, etc., render them more susceptible to infections with which they daily come in contact. In one hospital erysipelas in the smallpox ward ceased when the building was thoroughly cleaned and painted.

Dr. A. C. Abbott, Philadelphia, spoke of a hospital interne who contracted diphtheria and was isolated until the usual negative cultures were obtained. He returned after a week's vacation, contracted coryza, and in three days one could almost track him in the ward by diphtheria cases, and the organisms were found in his nose and throat.

Dr. S. Solis-Cohen, Philadelphia, has attempted to isolate patients in different hospital wards in the way of putting all typhoids in one, pneumonia cases in another and erysipelas in a third. When this was not practicable he found that those with one disease were apt to contract the other. Patients who can transmit disease should not be put in general hospital wards.

Antitoxin and Postdiphtheritic Paralysis.

Drs. M. J. Rosenau and J. F. Anderson, Washington, detailed experiments with guinea-pigs showing the beneficial action of antitoxin in modifying diphtheritic paralysis and saving life. Early administration is the great point, but if this be not possible then larger doses should be given later. They saw no beneficial results from the use of antitoxin after paralysis appeared.

Effects of Egg-White and Its Split Products on Animals.

Drs. Victor C. Vaughan and May Wheeler, Ann Arbor, presented the results of experiments showing that the non-poisonous portion of egg-white is capable of sensitizing animals to unbroken egg-white. This is along the same line as the immunity induced to the typhoid and colon bacilli by the non-poisonous portions obtained from the substance. They believe that when this portion of egg-white is injected it acts on body cells and causes them to elaborate a special ferment which, when activated by a second injection, splits up the egg-white with the resultant effect of the poisonous portion. This it is believed occurs also with the typhoid or colon bacillus and accounts for the disastrous effect of the later injection of living organisms. They suspect that the non-poisonous portion of egg-white is made up of two parts.

SYMPOSIUM ON THE OPSONINS IN MEDICINE.

The Experimental Basis of the Opsonic Phenomenon.

Dr. E. L. Opie, New York, said that it is probable that all bacteria are susceptible to this action, though some seem refractory. He has found that saprophytes require the action of serum for phagocytosis. After fatal injections of staphylococci into the peritoneal cavity there collects a fluid which can not be opsonized. This suggests that inert substances may prevent the opsonic power of sera. The presence or absence of opsonins is no index of infection.

The Opsonins in Tuberculosis.

Dr. Edward R. Baldwin, Saranac Lake, said that the method is not sufficiently perfected to guide the administration of tuberculin in pulmonary tuberculosis.

Opsonic Index in Certain Acute Infectious Diseases.

Dr. Ludvig Hektoen, Chicago, considered the course of the opsonic index in typhoid fever, pneumonia, diphtheria and erysipelas. Indications are that in scarlet fever, also studied, the patient is from the first subject to the influence of the streptococcus, the opsonin of which appears to be the specific opsonin in this disease. In a series of cases of acute otitis the pseudo-diphtheria bacillus was found in 72 per cent. of cases with an opsonin specific for that bacillus. From this it appears evident that such bacilli are pathogenic. It is believed that typhoid and paratyphoid opsonins are distinct bodies and both are distinct from agglutinins. Relapses were all accomplished by a fall in the opsonic index. In general, the opsonins possess a high degree of specificity.

Summary of the Studies on Opsonins Carried Out at the Rockefeller Institute.

Dr. E. R. Schorer, New York, finds that normal individuals are subject to great variations in the opsonic index, the limits in a series of tests on ten persons being 0.7 and 1.5. Cases of erysipelas were particularly studied, the opsonic index being constantly neither higher nor lower than normal. Further, there was no relation between this and the clinical phenomena of the disease. The treatment of 50 cases by vaccines produced no constant modification of the disease or of the index. The duration of the treated cases was in general that of a series treated by antistreptococcic serum.

Summary of the Studies on Opsonins Carried Out at the Johns Hopkins Hospital.

Drs. L. F. Barker and Rufus Cole, Baltimore, first spoke of experimental work regarding the nature of opsonins. In rabbits they could produce no increase in the index to staphylococcus, but could to the typhoid bacillus. Fifteen cases of gonorrheal arthritis were followed throughout their entire course, the general impression being that the patients were somewhat bettered by the treatment. In cases of bone, joint and glandular tuberculosis the impression also was that they did very well. As to the accuracy of the opsonic index as a guide to the administration of vaccines, it appears to possess very little value as an indication.

Summary of the Studies on Opsonins Carried Out by the New York State Board of Health.

Dr. W. H. Park finds a considerable specificity of the normal opsonins. He showed that a very false impression may be gained if the opsonic index be taken only every two or three days. The difficulties of obtaining an accurate index are great. Even Wright himself admits that the careful observation of the clinical features of a disease is as good as an indication for vaccination as is the opsonic index. In some cases of furunclosis treatment did good; in gonorrheal vaginitis it was of no essential value.

Dr. N. B. Potter showed lantern slides illustrating first the sources of error in connection with the index, and second the effect of vaccine treatment in some cases. The sources of error include normal oscillation, source of the corpuscles, thickness of emulsion and counting. Nothwithstanding these, the results of treatment thereby controlled certainly point to a promising future for the use of vaccines.

Dr. C. E. North detailed the results of a test whereby ten different laboratories made estimations of the same sera. The results varied considerably, the limits being something like 50 per cent.

(*To be continued.*)

AMERICAN GYNECOLOGICAL SOCIETY.

Thirty-second Annual Meeting, held at Washington, D. C., May 7-9, 1907.

(*Continued from page 1708.*)

A New Method of Version.

Dr. A. F. A. King, Washington, D. C., spoke of the correction of transverse presentations by the hitherto unrecognized factor of thigh pressure on the abdomen, induced either (1) by posture, or (2) by manipulating the lower limbs. The former, he said, is Nature's method of preventing and correcting cross-presentations; and in primitive races was daily exercised by the squatting posture during defecation, etc. Squatting is not a symmetrical proceeding; the two thighs do not press equally. One foot is flat on the ground and in advance; the other, in the rear, rests also on its toes. The thigh of the front foot will press high up on the breech end of the fetus; the thigh of the rear foot will press low down on the head, forcing it from the iliac fossa into the pelvic brim, as was illustrated by diagrams.

The Superiority of Primary Over Secondary Cesarean Section.

Dr. Edward Reynolds, Boston, spoke of primary operations being determined in advance of labor and performed at an elected date, or with the advent of the first pains. Secondary operations may be performed as soon as a test in labor has shown that the natural powers are likely to fail, and before serious exhaustion sets in. Late operations are considered in the light of a last resort. Late sections are already discredited, while secondary sections are still the most frequent class. He gave the statistics of primary, secondary and late sections of the last ten years. Primary section is a very safe operation, while secondary section is only moderately safe. Late section is attended with a high mortality. In general, the mortality is roughly proportionate to the amount of labor endured before operation. Decision before labor is a matter of great moment. The doubtful cases are constantly narrowing and should be done away with. Accurate prediction of expected difficulty requires: Estimation of the shape and relation of the pelvis (measurements alone are entirely unreliable); of the probable muscular character of labor; of the size and ossification of the head. Methods of estimation of the maternal obstacles requires knowledge of the maternal powers (these can be foretold with considerable accuracy); and of the mechanical character of the head. He emphasized the value and importance of obtaining a previous history in multiparæ.

He submitted the following classification: (a) Undoubted Cesarean section cases; (b) cases clearly capable of delivery without Cesarean section; (c) doubtful cases. As to the treatment, in class (a) he would resort to primary section; in class (b), labor and the intrapelvic operations. In class (c) a final examination under ether at the date of election, and the method finally decided on and decision adhered to. The predetermination of methods is work for experts only. Lastly, he pointed out that a more friendly relation between the specialist and the general practitioner is desirable.

Pubiotomy.

Dr. Henry D. Fry, Washington, stated that pubiotomy is a satisfactory operation, so far as the operation itself goes, for enlarging the pelvic girdle in moderate degrees of pelvic contraction. It is easy to perform, and can be employed in simple flat pelves with a conjugata vera of 7 or 7½ centimeters. Separation of the severed bone for 4 or 5 cm. is usually sufficient to enable easy extraction with forceps. The principal objection to the operation is the difficulty encountered in the after-treatment. The pelvis must be immobilized and the patient kept in the dorsal position several weeks. Maternity institutions can overcome the objection to a large degree by the use of a special bed, as the hammock suspension bed, the Bradford frame, an ordinary hospital stretcher or a pelvic sling suspended from the ceiling and attached to a compound pulley. Ordinarily, after pubiotomy the evacuations of the bladder and bowels are attended with discomfort, and it is a hard task for the nurse to keep the parts clean. In consequence, therefore, of the unsatisfactory convalescence after pubiotomy, the operation will obtain in this country a limited field of usefulness as an elective operation.

The indications for pubiotomy may be stated as follows: A living child and some contraindication to Cesarean section. The usual conditions presented are: A moderate degree of pelvic contraction, which has been unrecognized generally, ineffectual efforts employed to deliver with high forceps, the women exhausted and infection probably started. If the child be dead, craniotomy; if alive, pubiotomy, in spite of the objections raised against it.

Induced Labor and Delivery by Abdominal Section.

Dr. Edward P. Davis, Philadelphia, said that among obstetric operations there is none which in selected cases gives better results than induction of labor. This is especially true in disproportion between mother and child, whether caused by pelvic contraction, excessive size of fetus or prolonged pregnancy. Private patients are especially benefited by this operation, as they usually come under the care of the obstetricians early, and give him a better opportunity to study their cases than do hospital patients. Private patients who have passed through a disastrous first confinement are often safely delivered in subsequent labor by the induction of labor. Experience, however, and the study of statiscies show that the induction of labor is not without serious disadvantages; it is a process uncertain in duration, often exposing the patient to considerable loss of rest and to prolonged suffering.

He strongly urges the importance of conducting cases of induced labor in such a manner that the patient shall be in favorable condition for a major operation, if necessary. He does not believe it is justifiable during induced labor to make efforts at delivery by forceps or version unless the conditions are such as to make it reasonably certain that these operations will be immediately successful. If engagement of the head does not develop during induced labor the use of forceps is a dangerous procedure. If the operator is sure of the size and contour of the pelvis, and reasonably certain of the comparative size of the fetus, version, where the head does not engage, is the safer operation. It is his practice to decline celiohysterotomy in all cases where forceps or version has been tried. In severely septic cases, the child being dead and unsuccessful efforts having been made at delivery, he believes that the Porro operation will give the best results. In cases where forceps or version has been tried without success, if the child is living, he believes that the consultant should again try whichever of these procedures he thinks best, utilizing Walcher's position if advisable; failing in these, craniotomy should be done. As to pubiotomy, a sufficient number of cases have been published to show that the operation is not without its dangers and disadvantages. All things considered, and especially when the fetal mortality is considered, the claims of abdominal section for safe delivery of mother and child can not be disregarded. He does not believe that at the present time a dogmatic opinion can be formed concerning any one method of delivery.

DISCUSSION.

(The papers of Drs. Reynolds, Fry and Davis were discussed together.)

Dr. Egbert H. Grandin, New York, said the conclusions and arguments advanced by Dr. Reynolds are in accord with those which he presented in a thesis read before the society seventeen years ago entitled "A Plea for the Elective Cesarean Section." He contended then that this operation is ideal, and although seventeen years have elapsed since he has not seen fit to change his position. As to pubiotomy, he would advise it in preference to symphyseotomy, although he has not done the former operation. He has, however, performed symphyseotomy twice, with living mothers and living children, and with no subsequent disability on the part of the women.

Dr. Lapthorn Smith, Montreal, condemned pubiotomy. Last summer he performed two Cesarean sections, and can testify to the surprising ease with which the operation was done in both cases.

Dr. James Clifton Edgar, New York, is uncertain as to where to draw the line between the antepartum cases and the early intrapartum cases. If the women are not allowed to stay in labor quite so long, instead of a mortality of 3 per cent., as reported by Dr. Reynolds, it will approach 1 per cent. in the antepartum cases. Where Cesarean section is undertaken in the latter part of pregnancy, there is difficulty in securing good drainage. Pubiotomy does not appeal to him, although he has never done it. He has, however, done six symphyseotomies.

Dr. Robert A. Murray, New York, thinks that eventually in the vast majority of cases obstetricians will gradually come to the point where they will let women go to labor prepared to do a Cesarean section, and not interfere with high forceps or version, or any other method that will produce traumatism of the cervix and possibly cause infection which will defeat the result to be gained from a clean Cesarean section.

Dr. Robert L. Dickinson, Brooklyn, N. Y., said that the only case of Cesarean section he lost was a young woman who suffered from toxemia throughout her pregnancy. She was operated on at the beginning of labor, but died from a lack of resistance after an easy section. He thinks it is unobstetrical to insert a bougie into the uterus, as it may loosen the placenta and carry infection.

Ovarian Pregnancy.

Dr. J. Clarence Webster, Chicago, showed a specimen of ovarian pregnancy. The case is almost identical with the one he reported three years ago, although more interesting, in that the embryo is in position in the specimen. The thickness of the ovarian tissue averages about half an inch, except the placental area, where it is thicker. There are several hemorrhages in the ovarian tissue, especially in the position of the placenta.

Hermaphroditism (?) Uterus and Tubes Removed from a Male.

Dr. Webster also presented another specimen. The patient from whom the specimen was removed is a man, 33 years of age, who was admitted to the hospital with symptoms of acute peritonitis. He had had for many years an irreducible scrotal hernia, and it was supposed there was strangulation. An incision was made in the left inguinal region. No hernia was found, but a structure which looked like an adult uterus, tubes and ovaries. The uterus was removed, and what appeared to be a cervix. It was adherent around the inguinal ring. The abdomen was opened rapidly, the patient being practically moribund by that time. The incision was closed, and nothing more was done. Subsequently the patient died. The specimen at first seemed like the adult female genitalia, but careful dissection and microscopic study disclosed both uterus and tubes, and what appeared to be ovaries were testicles. They occupied exactly the same position as the ovaries in the female. The mucosa resembled that which is found in the adult female. Microscopic examination showed the glands were complex. The tubes had the characteristics of those of an adult female, except the fimbræ were not so complex. There were fewer fimbriæ, but the relationship to the testicles was exactly the same. On one side there was more marked ovarian or testicular fimbria. On examination of the broad ligaments he found on one side a cyst. Both round ligaments were present, but on the side on which the cysts existed the round ligament was flattened out and thin. On careful dissection of the broad ligaments there was a marked tube, about 4 millimeters in diameter, slightly convoluted, extending from the upper inner portion of the broad ligament toward the cervix. It was quite firm and had the consistence of a pipe-stem. He pointed out the Wolffian duct and the vas deferens, also the cervix and prostate. The patient was the father of twin children.

DISCUSSION.

Dr. E. W. Cushing, Boston, narrated the case of a man operated on for hernia. A uterus was found in the hernial sac.

Dr. Thomas S. Cullen, Baltimore, said that some years ago in Baltimore there was found at autopsy in a child a complete set of both female and male pelvic organs.

(To be continued.)

ST. LOUIS MEDICAL SOCIETY.

Regular Meeting, held March 16, 1907.

Summary of Federal Quarantine Work.

Dr. S. B. Grubbs, passed assistant surgeon, U. S. P. H. & M.-H. S., said that our federal quarantine service is conducted by the United States Public Health and Marine-Hospital Service under the law passed in 1893, at the time cholera was spreading in Europe, and the danger of its getting a foothold in this country was imminent. By this law the surgeon general is authorized to protect the public health by establishing quarantine stations at seaports where the state or local authorities have not provided them, and to require state quarantines to impose all the restrictions required at the government stations. It prescribes the present system of consular bills of health with the precautions taken in ports of departure by the consuls or United States medical officers stationed there, and the official discharge from quarantine now in use.

The precautions taken in 1893 were very efficacious, as a cholera epidemic was avoided and the number of cases occurring on vessels bound for the United States was much lessened by the efforts of the medical officers stationed abroad. This was strikingly shown at Naples, where vessels sailing under United States regulations had no cholera aboard, while vessels sailing at the same time for South America had many cases.

Cholera and plague are constant menaces, requiring increasing vigilance, especially on our western coast and our island possessions in the Pacific, but yellow fever still remains the great quarantine problem, although the acceptance of the doctrine of mosquito transmission has enormously simplified the work.

All the South Atlantic and gulf ports have quarantine stations, the majority now belonging to the federal government. These are in isolated positions, and a policy of strict nonintercourse is maintained during the summer. The stations are all equipped with complete disinfecting plants, including steam chambers, sulphur furnace, formaldehyd generators, etc.; for until four years ago a sterilization of the vessel and contents was attempted. Now fumigation by burning sulphur in all inclosed parts of the vessel to kill mosquitoes is sufficient if yellow fever is the only disease feared. The exact details of inspection, disinfection and general procedure will differ slightly at different stations. The regular work as practiced at gulf quarantine station from 1902 to 1905 is described.

Quarantine measures against yellow fever are instituted on land only after the disease has gained a foothold, and then the federal government confines its efforts to preventing the spread from one state to the other, unless requested by the state authorities to take more active measures.

The fundamental facts of mosquito transmission are:

1. Yellow fever is transmitted only by the *Stegomyia fasciata*.
2. A yellow fever patient can infect the mosquito only in the first three days of his sickness.
3. The mosquito must have been infected at least twelve days before he can transmit the infection.

The indications to suppress an epidemic, therefore, are:

1. To locate all cases of the disease as early as possible, and protect them from the stegomyia.
3. To destroy infected stegomyia.
3. To prevent stegomyia from breeding.

To these may be added as an important corollary: Instruct the public in mosquito transmission, to gain their confidence and cooperation.

The general plan of the campaign comprises a central headquarters for the medical officer in command and his staff, from which all general orders are issued and to which reports are made; a well-screened central hospital to which as many cases as possible are sent; a medical officer in charge of each city ward. As soon as possible a sanitary survey is gotten up in each ward, the exact condition of each house being recorded in convenient form, and inspection maintained, especially to find all cases of fever as early as possible.

To destroy the stegomyia, squads fumigate systematically with sulphur, pyrethrum powder or camphor phenol. Where there is a case one room is first fumigated and screened carefully, the patient is moved into it, and then the rest of the house, and as many as possible of the surrounding houses fumigated, to kill any mosquitoes that may have bitten this case before it was put under a bar.

To prevent the mosquitoes from breeding, advantage of the fact is taken that stegomyia breed only about houses. The screening, oiling and salting squads find all stagnant water about each house, and either empty, screen, oil or salt it, according to its use, so that in every case no mosquitoes can deposit eggs.

Outside of the infected places, but in infectible territory, measures must be taken not only to prevent the disease from coming in, but also to satisfy the people and so allay panic. The most approved plan is to establish a sanitary station a few miles out on every railroad, river or other line of communication leading from the infected point, and to run "shuttle trains" to the stations, where regular trains are made up, with fresh crews in charge. Passengers that may possibly have been exposed to infection must remain in detention camps a time sufficient to cover the incubation period of the disease, or be sent through in screened coaches to non-infectible territory willing to receive them. Besides, all trains in infectible territory must be carefully inspected to the end, that by a complicated system of certificates, the fact that each passenger has not been exposed to infection for five days can be assured, be he from north or south. This train inspection work can be much simplified, and to a large extent abolished, as soon as the people are better educated in the matter, and recognize that the stegomyia is not a traveler either by wing or on cars, and that a mosquito bar renders a case of yellow fever absolutely harmless. Non-infectible localities should not bar out refugees, as yellow fever can not spread without the presence of the *Stegomyia fasciata.*

Medical Inspection of Public Schools.

Dr. George Tuttle said that the prophylaxis of disease is the great modern advance in the science of medicine. Medical inspection of schools began in Boston in 1894. Chicago and New York soon followed. In St. Louis an unofficial inspection was made for about three months in 1898 by the Medical Society of the City Hospital Alumni, the object being to try to have the city authorities introduce it. During this period 1,601 cases were found; 76 of the infectious diseases, 787 of lesions of the oral or respiratory tract, 37 of the ear, 387 of the eye, 45 of the skin, and 274 of a miscellaneous nature, such as headaches, gastric or intestinal troubles, anemia, adenitis and the like.

Medical inspection should look not only for the so-called infectious diseases, but for defective eyesight, for diseases involving the nasal, pharyngeal, oral and auditory tracts, as common colds, enlarged tonsils, adenoids, bronchitis or even tuberculosis. Various skin lesions should be watched for, as ringworm, lice, itch, contagious impetigo and other rashes. Occasionally cardiac cases will be found. Lately the question of defective teeth has been taken up. Deformities of the bones and joint diseases, with spinal curvatures from faulty positions at the desks should be investigated. Malnutrition and anemia bring up the question of insufficient feeding at home, and the advisability of the city furnishing hot lunches. Chorea, neuralgias and headaches will often be found due to too close application at school. Separate schools for the defective child seem one of the growing needs of our modern civilization, and have been successfully introduced in New York.

The inspectors should have charge of the ventilation, heating, lighting and sanitation of the buildings, as well as the oversight of the health of the scholars and teachers. They should also be responsible for the efficient vaccination of their wards.

Therapeutics

Whooping Cough.

Yeo, in *Merck's Archives,* recommends the following treatment in whooping cough:

℞.	Pulveris belladonnæ rad	gr. iss		09
	Quininæ sulphatis	gr. viii		52
	Sachari	ʒss	2	

M. Ft. chartulæ No. x. Sig.: One powder three times a day.

The same author recommends the following spray for children over 6 years of age:

℞.	Cocainæ hydrochloridi	gr. x		65
	Potassii chloratis	gr. iii		19
	Aquæ q. s. ad	℥i	30	

M. Sig.: To be sprayed into the throat twice a day.

[The physician should apply this spray personally and should not write a prescription.—Ed.]

He also recommends the following combination for use as an insufflation, introducing it into the larynx by means of a glass tube curved at one end:

℞.	Pulveris belladonnæ			
	Bismuthi salicylatis, āā	gr. lxxv	4	85
	Quininæ sulphatis	gr. xv	1	

Sig.: A few grains to be used as an insufflation into the larynx daily.

Potter, in his "Text-Book of Materia Medica, Pharmacology and Therapeutics," recommends the following for infants in the convulsive stage:

℞.	Chlorali hydrati	ʒi	4
	Potassii bromidi	ʒii	8
	Syrupi pruni virginianæ		
	Aquæ, āā, q. s. ad	℥i	30

M. Sig.: One teaspoonful thrice daily.

For older children, Bedford, quoted by Potter, recommends:

℞.	Bromoformi	m. xvi	1
	Glycerini	℥iss	45
	Tincturæ cardamomi comp.		
	Alcohol, āā	ʒii	8

M. Sig.: A teaspoonful at commencement of the paroxysm.

Migraine.

The treatment of migraine depends on the underlying cause of the malady. All excesses in diet and sexual indulgence must be avoided. Neurasthenic patients must be ordered to take a rest or a vacation. If the kidneys fail to excrete a sufficient quantity of urinary solids daily, potassium acetate or citrate should be given in doses of from 5 to 10 grains (0.32-0.65) three times a day. The patient should be ordered to drink water copiously. When the liver shows symptoms of inactivity Hare, in "Practice of Medicine," states that its function should be stimulated by administration of calomel, blue mass or podophyllin. Such patients, he states, do well if given massa hydrargyri (blue mass) in doses of from 5 to 10 grains (0.32-0.65) every week, followed by a saline purge.

In gouty patients, Yeo, in "Clinical Therapeutics," advises avoidance of dietetic excesses, including malt liquors and wines. He states that regular exercise in the open air is advisable. This authority states that as a preventive of attacks in gouty patients a pill of aloes and hyoscyamus with massa hydrargyri at bedtime, and a dose of Carlsbad salts in a tumblerful of hot water the next morning.

℞.	Extracti aloes		
	Extracti hyoscyami, āā	gr. i	06
	Massæ hydrargyri	gr. ii	12

M. ft pilula No. i. Sig.: One such pill at bedtime.

The dose of each ingredient, of course, must be suited to the individual patient.

Hare states that if the patient is gouty, and in addition suffers from the condition commonly designated "uricacidemia," the salicylates are of particular value. He recommends salicylate of strontium in doses of from 5 to 10 grains (0.32 to 0.65) three times a day. In the migraine of rheumatic persons salicylic acid is of great service, often entirely curing the disease. As this remedy is irritant to the stomach, if in pills or capsules it must be taken with plenty of water or milk, and should follow rather than precede meals. It may be given in a solution of glycerin and water, or its taste may be disguised by the use of syrup of orange or syrup of ginger. The following formula may be used:

℞. Acidi salicylici ....ʒii 8
Tincturæ lavandulæ comp
Glycerini, āā ....fʒss 15
Aquæ dest. q. s. ad........................fʒviii 240
M. Sig.: A tablespoonful every two hours. Or:
℞. Acidi salicylici ....ʒii 8
Glycerini ....fʒss 15
Syrupi aurantii ....fʒiv 120
Aquæ dest q. s. ad........................fʒviii 240
M. Sig.: A tablespoonful every two hours.

Syrupus zingiberi may be substituted for the syrupus aurantii in the above prescriptions.

In some cases the use of salol in doses of from 5 to 10 grains (0.32 to 0.65) a day as an intestinal antiseptic is of advantage.

Migraine is frequently caused by errors of refraction, and in these cases carefully fitted glasses should be provided. If the nasal mucous membrane is hypertrophied, or if other abnormalities exist in the nose, they should be treated.

For the relief of the attack a brisk saline cathartic should be given with the idea of ridding the system of poisonous material. This may be followed in from half an hour to an hour by administration of 2 grains (0.13) of caffein with 10 grains (0.65) of sodium bromid. In some cases a small dose of acetphenetidin (phenacetin) or acetanilid should be added. Hare states that in some cases a dose of 10, 15 or 20 drops (0.6, 0.92, 1.25) of the tincture of gelsemium with 1 grain of an active extract of cannabis indica gives the greatest relief. There is some difficulty, however, in obtaining an active preparation of this drug, the variations in strength being notorious. It has been shown recently that the extract is inert.

Application along the course of the affected nerve of cologne water containing from 5 to 10 grains (0.32 to 0.65) to the ounce (30 c.c.) may give much relief; but the patient should lie down in a darkened room to obtain the greatest effect from these remedies.

Mineral Acids.

Herman B. Sheffield, in the *New York Med. Jour.*, declares that insufficient attention is being paid to the medical properties of mineral acids in the treatment of diseases of children. These acids advantageously replace bitter tonics and act specifically on the alimentary canal and osseous system. Children like the taste of these acids if they are well diluted in sweetened water or in combination with raspberry or orange syrup and water.

Medicolegal

Law for Cases of Alleged Malpractice—Expert Testimony—Results.

The Supreme Court of Minnesota reverses, in the case of Staloch, administrator, vs. Holm and another, physicians and surgeons, a judgment obtained by the plaintiff for $1,000 damages for alleged malpractice.

The court says that the question presented here was whether the evidence justified the verdict by showing negligence of the defendants (1) in performing the operation at all, and (2) in the manner of its performance. The testimony must be construed as favorably to the plaintiff as reasonably might be.

The patient, an apparently strong, healthy man, 21 years of age, working with a steam threshing outfit, stepped on the covering over the cylinder of a separator about to stop. A board slipped. His right foot went down in front of the revolving cylinder. It seems that considerable flesh was mangled, crushed and shredded; that the wound was large, lacerated, ragged and oozing; that it was "ground full of chaff, dirt and seeds;" and that bones and tissues were "gouged out." The young man was taken to a nearby house and Dr. Schmitt, one of the defendants, immediately sent for. The physician arrived; was at once able to tell that an operation would be necessary, but did not decide on it then. It was at least an hour, he said, before he commenced to actually operate. This he did, according to his testimony, a little before 1 o'clock and completed it before 2, remaining for some hours afterward and administering stimulants. Shortly after he left the patient died. The evidence of the plaintiff tended to show that the patient died of shock; the evidence of the defendants, that he died from the effect of a bubble of air or fat, or of a clot of blood which found its way to and stopped the action of the heart. No postmortem examination was made.

SURGEON BOUND ONLY BY FACTS KNOWABLE AT THE TIME OF OPERATION.

The court says that it was not significant whether, as the plaintiff's case tended to show and the defendants' case to deny, the operator subsequently made damaging admissions concerning the propriety of the operation, in view of his after-acquired knowledge. His negligence was to be determined by reference to pertinent facts then in existence, of which he knew or should have known in the exercise of due care, when the operation was performed. It would be a work of supererogation to cite authorities for so obvious and necessary a principle, or for this specific application of a general rule. There is an apt and neglected analogy in the rule restricting proof of the presence or absence of probable cause for instituting an original judicial proceeding complained of in an action for malicious prosecution to known or knowable facts in existence at the time of the commencement of that original proceeding.

Shortly before the trial a priest of the local Catholic parish and a physician, who had been employed to get evidence for the plaintiff, and who was a competitor of the defendants, exhumed the body of the deceased, with which the amputated part of the leg had been buried. But while the presence of the parish priest rebutted any inference of bad faith in the disinterment, it might well be questioned whether the production of only part of the bones in controversy, and of only parts of those parts because of their mutilation during the exhumation, justified the admission in evidence of the parts offered.

BEST JUDGMENT ORDINARILY NO DEFENSE FOR NEGLIGENCE.

The principles of law applicable to such a state of facts are clear and well settled. In an ordinary action for negligence, that a man has acted according to his best judgment is no defense. The standard of careful conduct is not the opinion of the individual, but is the conduct of an ordinarily prudent man under the circumstances. In the leading (English) case of Vaughn vs. Menlove, 3 Bing (N. S.) 468, 474, Tindall, C. J., said that to hold otherwise "would leave so vague a line as to afford no rule at all; the degree of judgment belonging to each individual being infinitely various." With respect to matters resting on pure theory, judgment, and opinion, however, there is a generally recognized variation from this sound general principle.

MALPRACTICE MAY BE AN EXCEPTION.

Cases of malpractice may be within the exception. A physician entitled to practice his profession, possessing the requisite qualifications, and applying his skill and judgment with due care, is not ordinarily liable for damages consequent on an honest mistake or an error of judgment in making a diagnosis, in prescribing treatment, or in determining on an operation, where there is reasonable doubt as to the nature of the physical conditions involved or as to what should have been done, in accordance with recognized authority and good current practice. The many authorities to this effect will be found collected in great number in 22 Am. & Eng. Enc. of Law (2d Ed.) 804, note 5, in note to Whitesell vs. Hill, 37 L. R. A. at page 834, and in note to Gillette vs. Tucker, 93 Am. St. Rep., at page 659. Later cases than are there cited are in accord. The court then quotes from McKenzie vs. Carman, 92 N. Y. Supp. 1063, reported in the Medicolegal Department of The Journal of June 3, 1905, page 1807, and cites Wood vs. Wyeth, 94 N. Y. Supp. 360, reported in the Medicolegal Department of The Journal of Aug. 26, 1905, page 654.

The exception does not, however, the court goes on to say, apply to all that a physician or surgeon may do in the practice of his profession. There is often a fundamental difference in malpractice cases between mere errors of judgment and negligence in previously collecting data essential to a proper conclusion or in consequent conduct in the subsequent selection and use of instrumentalities with which the medical man may execute his judgment. In some matters, medicine is a science; in others, an art. Generally the exception governs cases in which it is a science; the rule, cases in which it is an art.

If, for example, a physician certifies that a man is insane without having made an examination, his negligence is of fact and not at all of science. But "a medical man is not bound to form a right judgement (as to sanity) so as to be liable to an action if he does not." Crompton, J., in Hall vs. Semple, 3 F. & F. 337; Williams vs. Le Bar, 141 Pa. 149. When the physician is actually operating he is employing surgery as an art, and if, for example, he use an old rusty saw (Young vs. Fullerton, reported in McClelland on Civil Malpractice, 253), or if he operate on the wrong arm (Sullivan vs. McGraw, 118 Mich. 39), or sew up a sponge in an abdomen he has opened (Gillett vs. Tucker, 67 Ohio St. 106), his wrong concerns physical facts, and has fairly been held to be governed by ordinary principles of negligence.

Where, however, due diligence and skill have been employed in ascertaining the essential preliminary information for an opinion whether a surgical operation should be performed or not, the formation of the judgment in accordance with appropriate scientific knowledge, in a case of reasonable doubt, is within the exception. It may be that Bennison vs. Walbank, 38 Minn. 313, is inconsistent with the conclusion here reached. No question as to this exception to the rule, however, was adverted to in that decision.

One reasonable justification for this exception in many cases is the elementary principle that when a man acts according to his best judgment in an emergency but fails to act judiciously, he is not chargeable with negligence. The act or omission, if faulty, may be called a mistake, but not carelessness. See Brown vs. French, 104 Pa. 604. Physicians, in the nature of things, are sought for and must act in emergencies, and if a surgeon waits too long before undertaking a necessary amputation, he must be held to have known the probable consequences of such delay, and may be held liable for the resulting damage. Du Bois vs. Decker, 130 N. Y. 325, Martin vs. Courtney, 75 Minn. 255.

PECULIAR JUDGMENT REQUIRED OF SURGEON.

Another justification for the exception lies in the nature of the undertaking. Most professional men are retained or employed in order that they may give the benefit of their peculiar and individual judgment and skill. A lawyer, for example, does not contract to win a lawsuit, but to give his best opinion and ability. He has never been held to liability in damages for a failure to determine disputed questions of law in accordance with their final decision by courts of appeal. It would be just as unreasonable to hold a physician responsible for an honest error of judgment on so uncertain problems as are presented in surgery and medicine. Indeed, the peculiarities of the subject matter with which medical men deal constitute another abundant justification for the exception. Those peculiarities concern, in the first place, the constitution of the human mind and body, and, in the second place, the nature of his science itself.

On the human subject-matter with which physicians have to do the remarks of Woodward, J., in McCandless vs. McWha, 25 Pa. 951, have become classical. Smothers vs. Hanks, 34 Iowa, 286. Judge Upton has, however, improved them: "The surgeon does not deal with inanimate or insensate matter like the stone mason or bricklayer, who can choose his materials and adjust them according to mathematical lines, but he has a suffering human being to treat, a nervous system to tranquilize, and an excited will to regulate and control. Where a surgeon undertakes to treat a fractured limb, he has not only to apply the known facts and theoretical knowledge of his science, but he may have to contend with very many powerful and hidden influences, such as want of vital force, habit of life, hereditary disease, the state of the climate. These or the mental state of his patient may often render the management of a surgical case difficult, doubtful and dangerous, and may have greater influence in the result than all the surgeon may be able to accomplish, even with the best skill and care." Williams vs. Poppleton, 3 Ore. 139, 147.

Physicians and surgeons deal with progressive inductive science. On two historic occasions the greatest surgeons in our country met in conference to decide whether or not they should operate on the person of a President of the United States. Their conclusion was the final human judgment. They were not responsible in law, either human or divine, for the ultimate decree of Nature. The same tragedy is enacted in a less conspicuous way every day in every part of the country. The same principles of justice apply. Shall it be held that in such cases, where there is a fundamental difference among physicians as to what conclusion their science applied to knowable facts would lead to, then what they with their knowledge, training and experience are unable to decide, and what, in the nature of human limitations, is not susceptible of certain determination, shall be autocratically adjudged by twelve men in a box, or by one on the bench, or by a larger number in an appellate court, none of whom are likely to have the fitness or capacity to deal with more than the elements of the controversy? All the court can properly do if an action for negligence should be brought in such a case would be to direct a verdict for the physician.

UNCERTAINTY OF TESTIMONY, ESPECIALLY OF EXPERTS.

A final and practical reason for the exception to the ordinary rule in negligence cases is the inherent and inevitable uncertainty of available testimony. The basis of the proof of negligence and of the hypothetical questions to the plaintiff's experts is naturally the narrative of the family or friends of the patient. Their testimony must ordinarily be unsatisfactory because of the presence of natural bias, the absence of technical knowledge essential to proper observation, and often the want of opportunity for actual perception, as will presently appear in this case.

This is not necessarily, however, the greatest of the surgeon's tribulations. He is confronted by other uncertainties in testimony greater than those of the human constitution, however fearfully and wonderfully we may be made or act, and greater than those of physical science, however elusive it may be. He is faced by the eccentricities of medical experts. The court has no inclination to share in the prevalent and intemperate denunciation of their unreliability and venality. But if every verdict mulcting a reputable physician in damages must be sustained if any of his professional brethren can be induced to swear that, assuming the testimony of the family and friends of the patient to be true, the physician had made a mistake of judgment or had been guilty of unscientific practice, then the profession would be one which "unmerciful disaster follows fast and follows faster."

The imminent possibilities of injustice to individuals, and the difficulties of maintaining a uniformity of decisions in malpractice cases, led Judge Manly, in a case which has not attracted the attention it deserves (Woodward vs. Hancock, 52 N. C. 384), to say: "What amounts to reasonable skill and care belongs to a class of questions which are said to be compounded of law and of fact. In this class stands reasonable time, due diligence, legal provocation, probable cause, and the like. A division of the question in such cases between the court and jury is now considered and settled; and, therefore, where there is a state of facts conceded or proved, it becomes the duty of the court to draw the conclusion as a matter of law. If there be a conflict of testimony presenting different views of the case it is in like manner the court's duty on these views to draw proper conclusions."

However this may be, the court is of opinion that in this case in accordance with the rule that it is not for the court, but for the jury, to infer or not to infer negligence from the facts as well as to determine what the facts are, the defendants were entitled to have had a verdict directed in their favor on the record as presented to this court on this appeal.

SURGEON IN ATTENDANCE ONLY JUDGE OF PROPRIETY OF DOUBTFUL OPERATION.

But that the defendants should have prevailed on the merits, if the case had been governed by ordinary principles of negligence, was not the only consideration here. The determining point in the expert testimony was its certain result in these two propositions, namely: 1, Standard medical authorities and approved current practice recognize that there is a class of cases which justify a primary operation during a period of shock; 2, whether the present was or was not within that class depended on the judgment of the surgeon who had examined all the conditions of the patient which were involved. A brief summary of those conditions will serve to demonstrate how absolutely the question presented was one of judgment only. It requires no technical knowledge to perceive from the record in this case that the attending physician was compelled to take some immediate action; and that in determining whether he should operate or not he was called on to exercise his judgment with reference to many complications. A just conclusion would have had reference, among other things, to circumstances like the character of the fracture; the extent and condition of the wound; the exposure of marrow and nerve ends; the destruction of means of nourishment of the bone; the apparent present and probable future vitality of the extremity, the presence and cause of hemorrhage; the danger of blood poisoning at the time of his arrival, and of future infection, with reference to the length of previous exposure; the character and quantity of foreign matter in the wound, and the extent to which it had been "ground into the tissues;" the degree and specific causes of existing shock; the apparent ability of the patient to resist shock, determined, inter alia (among other things), by observation of his skin, color, respiration, pulse, temperature and reaction on stimulants administered; the probable degree of shock which would have been produced by causes then existing if no operation had been performed or by adequate cleansing of the wound, or by an operation. This enumeration serves also to emphasize the propriety of holding that the liability of a physician for negligence in determining to operate in view of these considerations is governed by the exception to the general rules of negligence, and not by those rules which deny the validity of the defense that the individual exercised his best judgment, and to emphasize also grave doubt whether a jury is a competent tribunal to determine so complicated and technical an inquiry, and whether biased lay observation of a patient's condition should be regarded as an adequate basis for expert testimony.

The record, then showed that the immediate amputation might, under conditions of the general character of those here present, have been in accord with proper scientific practice; that the operating physician made an uncriticised investigation into the conditions of his patient affecting the propriety of the operation; that the existence of the necessary conditions for a justified operation rested on opinion; that the defendant in the exercise of his best judgment concluded they existed; and that thereon, in the exercise of due care, he undertook to operate. Therefore, he can not be held responsible in damages even if his judgment was erroneous. That, however, the court is not prepared to say was shown by sufficient evidence to take the case on that point to the jury.

AMPUTATING TIBIA A SECOND TIME NOT NEGLIGENCE.

The second claim of negligence rested on the demonstrated fact that the defendant made two amputations of the tibia. He had testified, before the bones showing this fact were produced, that he had operated once on the tibia and twice on the fibula because on the latter he had found a "greenstick fracture" above his first cut. This evident confusion was not significant in itself nor in view of an examination of the bones produced. The effect of the expert testimony, including that of one of the plaintiff's own witnesses, was that in the effort of the surgeon to leave as much of the leg as possible, and at the same time to get as good a flap as possible, it may be consistent with good surgery after one cutting has been made "to saw off a little more." The expert testimony did not show that the second cutting was a proximate cause of the result; but rather that "the mere fact of sawing an extra section of bone, which is done in a half a minute, does not materially affect the shock." and that "even the amputation of the limb where the patient is under the influence of an anesthetic increases the shock but very little." The only negligence of which this administrator could complain was negligence which caused death.

FATAL RESULT NO EVIDENCE OF NEGLIGENCE.

The fact that the patient died immediately after the operation was in the view here taken not significant. In Haire vs. Reese, 7 Phila. (Pa.) 292, Judge Thayer said: "No presumption of the absence of proper skill and attention arises from the mere fact that the patient does not recover. . . . God forbid that the law should apply a rule so rigorous and unjust as that to the relations and responsibilities arising out of this noble and humane profession." In Ewing vs. Goode (C. C.) 78 Fed. 442, Judge (now Secretary) Taft said: "A physician is not a warrantor of cures. If the maxim res ipsa loquitur (the matter speaks for itself) were applicable, . . . and a failure to cure were held to be evidence, however slight, of negligence on the part of the physician or surgeon causing the bad result, few would be courageous enough to practice the healing art; for they would have to assume financial liability for nearly all the 'ills that flesh is heir to.'" If apart from the fact of death there is no liability—and that is the conclusion in this case—that fact does not create it.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

May 11.

1 Disturbance of Vision Due to Exaggeration of Binocular Association. P. Janet, Paris.
2 *Appendicitis in Infants and Children. J. F. Erdmann, New York.
3 *Pityriasis Rosea. F. Wise, New York.
4 *Insufficiency of the Gastric Muscle. M. Gross, New York.
5 *Vulvovaginitis in Children, with Special Reference to the Gonorrheal Variety and Its Complications. H. B. Sheffield, New York.
6 *Is an Herpetic Origin of Pleurisy Possible? W. H. Birchmore, Brooklyn.
7 Uterus of the Opossum. J. P. Furniss, Selma, Ala.
8 *Treatment of Stuttering. S. W. Scripture, New York.

2. **Appendicitis in Infants and Children.**—Erdmann says that the diagnosis of appendicitis is more difficult in children than in adults, on account of the absence of a good history, and the complication with gastrointestinal complaints. He discards the idea that the eating of meats is one cause of appendicitis because he finds appendicitis occurring in milk eating infants. The rapidity of intoxication of the child due to the spreading of the peritoneal invasion, and the marked lessening of resistance in the infant are evident. The appendix has not descended to its normal position until the third or fourth year, and is often found under the costal arch, so that the point of pain and tumor is much higher than in the adult, being located in the loin. There are many gastrointestinal symptoms, the child vomits and the temperature is elevated, while he wards off the examining hand by protecting the abdomen. Rectal palpation and blood examination give little aid in diagnosis. Concretions have been found by the author in the appendix. Pinworms have also been found in ten cases. Floating kidney has been present in several. Erdmann is a firm believer in early operation, with a small incision. The bowels should move the day after operation. The patient is allowed to roll, and sits up in bed by the third or fourth day.

3. **Pityriasis Rosea.**—Wise reports several cases that were mistaken for cutaneous syphilis and gives the points of differential diagnosis between the two diseases.

4. **Insufficiency of Gastric Muscle.**—Gross says that insufficiency or atony of the stomach is a relatively frequent affection. The prognosis is favorable when the condition is recognized early. The *vis medicatrix naturæ*, aided by irrigations, or douches, and hydropathic measures, is the best method of treatment.

5. **Vulvovaginitis in Children.**—Sheffield classes vulvovaginitis in children as catarrhal, due to a lack of cleanliness or chemical irritation; traumatic, due to masturbation, mechani-

cal injury or indecent violence; and parasitic, due to oxyurides, saphrophytes or pathogenic bacteria, generally gonococci.

6. **Herpetic Origin of Pleurisy.**—Birchmore reports a case, in which there had been repeated attacks of herpes in different locations, synchronous with pains of the chest in which no physical examination had been made. An attack occurred, in which the pleurisy signs were localized over a limited area, but no effusion occurred. Over the area of pain there appeared a series of herpetic vesicles. The author brings up the question of whether or not rheumatism and pleurisy may be caused in some instances by a condition of the system that also produces ordinary herpes, the external lesion alternating with the lung or joint condition.

8. **Treatment of Stuttering.**—Scripture describes a psychologic and phonetic method for curing stuttering. Control must be restored to each set of vocal organs. Breathing exercises first teach control of the diaphragm and thoracic muscles. Control of the larynx is then taught and of the tongue and lips in articulation. The patient is next taught the letters phonetically, and educated to produce any one of them at will. Finally reading becomes automatic. For conversation the patient must first learn to seize hold of the thought he wishes to express and not to lose it on account of his embarrassment. He describes objects slowly and finally reaches perfect conversation.

Boston Medical and Surgical Journal.

May 9.

9 *Gastroenteric Obstruction in Early Infancy. T. M. Rotch and F. T. Murphy, Boston.
10 The Tuberculosis Problem of the Middlesex North District, Massachusetts. T. F. Harrington and C. E. Simpson, Lowell, Mass.
11 *Treatment of Prostatic Hypertrophy. (To be continued.) J. H. Cunningham, Jr., Boston.
12 Hospitals for Children. R. W. Hastings, Boston.
13 Diagnosis of Dilatation of the Duodenum. H. A. Christian, Boston.
14 *Abdominal Tumor Weighing Eighty-three Pounds. F. W. Johnson, Boston.

9. **Gastroenteric Obstruction in Infants.**—Rotch and Murphy discuss the general diagnosis and treatment and report two cases of pyloric stenosis and one of volvulus that were treated successfully by laparotomy.

11. **Treatment of Prostatic Hypertrophy.**—Cunningham discusses the various methods of treatment employed based on the mortality, and reports 24 cases of median perineal prostatectomy.

14. **Large Abdominal Tumor.**—In the case reported by Johnson, occurring in a woman 59 years of age, weighing about 160 pounds, there was a fibroid of the uterus weighing 14½ pounds, and an ovarian cystoma weighing 68½ pounds. The sac of the cystoma weighed 28½ pounds, the fluid 40 pounds.

New York Medical Journal.

May 11.

15 Chronic Muscular Diseases of the Heart and Their Treatment. T. Schott, Bad Nauheim, Germany.
16 Treatment of Bone Deformity of the Thorax and Spine in Scoliosis by Plaster Jackets. M. Hoke and C. R. Andrews, Atlanta, Ga.
17 *Artificial Supports for the Viscera. J. M. Taylor, Philadelphia.
18 Appendicitis in Pregnancy. H. N. Vineberg, New York.
19 Two Cases of Traumatic Cataract, with Operation. D. Webster, New York.
20 Relation Between Disease of the Tonsil and Enlargement of the Glands of the Neck. J. T. Campbell, Chicago.
21 *Use of Baths in Treatment of Leprosy. H. T. Hollmann, Kalaupapa, Hawaii.
22 Unrecognized Diphtheria in Children. I. Friesner, New York.
23 Danger of Fire in Formaldehyd Disinfection. C. H. LaWall, Philadelphia.

17. **Supports of Viscera.**—Taylor describes abdominal and pelvic belts devised by Dr. Morris Longstreth, which have yielded good results in the treatment of visceral ptoses.

21. **Baths in Leprosy.**—Hollmann has found baths, especially medicated baths, useful in the treatment of leprosy, particularly in the case of persons suffering from ulcerated tubercles and thickened lifeless skin, or in whom there is neuritis, lymphadenitis or the lepra itch. The medicated baths used are the alkaline bath, sodium bicarbonate or borax, one pound to the bath; astringent baths, alum one-half pound to the bath; potassium sulphate baths, one-half pound to the bath. The bath which has proven most beneficial is a warm or hot medicated bath, made by adding to a bath of water (30 to 40 gallons) an infusion of eucalyptus leaves (4 gallons).

The bath should be given twice daily; the water in the morning should be at a temperature of from 95 to 104 F. Enough water should be used to immerse the body (30 to 40 gallons). The patient should remain in the bath at least fifteen minutes. During the immersion active friction should be kept up on all parts of the body. Immediately after bathing the patient should be thoroughly rubbed with a towel, coarse enough to cause exercise to the skin. This should be followed with an ointment composed of:

℞. Olei eucalypti
Ung. sulphuris, āā....................ʒiv 15
Lanolini ....℥ii 60
M. Ft. ungt.

This ointment should be thoroughly rubbed into the skin, while all excess should be removed.

The evening bath should be at a temperature of 105 F., and should be gradually raised as high as can be safely borne, about 110 F. After this hot bath the patient should be wrapped in a warm blanket and allowed to remain thus covered for ten minutes. This causes the sweat glands to act freely, thus removing waste material from an already diseased body. The rubbing with a coarse towel and the use of the ointment should then follow. This hot eucalyptus bath assures the patient a good night's sleep, a thing most highly valued by a leper suffering from neuritic pains.

Lancet-Clinic, Cincinnati.

May 11.

24 Résumé of the Field of Roentgenology. H. P. Wells, St. Louis.
25 Case of Aneurism of the Thoracic Aorta. M. A. Brown, Cincinnati.
26 Successful Obliteration of Hemangioma Cavernosum of Upper Lip and Inner Side of Left Cheek. F. Reder, St. Louis.

Medical Fortnightly, St. Louis.

May 10.

27 Treatment of Some Forms of Cerebral Disorders. G. B. Hassin, Chicago.
28 Utility of Distended and Dried Specimens of Visceral Anatomy. B. Robinson, Chicago.

St. Louis Medical Review.

May 4.

29 Synopsis of the Work in Various Departments in the City Dispensary During 1906. H. J. Scherck, St. Louis.
30 *Résumé of Federal Quarantine Work. S. B. Grubbs, St. Louis.
31 Medical Inspection of Public Schools. G. M. Tuttle, St. Louis.
32 Inspection of School Children, with Special Reference to Ear, Nose and Throat. C. Wyche, St. Louis.

30.—See abstract in The Journal, May 25, 1907, page 1810

Surgery, Gynecology and Obstetrics, Chicago.

April.

33 *Neurologic Surgery. J. B. Murphy, Chicago.
34 Pyosalpinx and Other Chronic Pelvic Infections Treated by Laparotomy. F. H. Martin, Chicago.
35 Non-operative Treatment of Pelvic Infections. T. J. Watkins, Chicago.
36 Vaginal Drainage for Pelvic Pus. H. T. Byford, Chicago.
37 *Rupture of Urinary Bladder. F. A. Besley, Chicago.
38 *The Cobbler Stitch in Visceral Anastomosis. G. Crile, Cleveland.
39 Small Portable Microscope for Bedside Blood Counting. H. C. Hollister, Chicago.
40 *Management of the Adipose Layer in Suturing. R. T. Morris, New York.

33.—This paper was published in abstract in The Journal, March 2, 1907, page 765.

37. **Rupture of Urinary Bladder.**—Besley presents a report and an analysis of twenty-three cases of rupture of the urinary bladder collected from the records of the Cook County Hospital.

38. **Cobbler Stitch in Visceral Anastomosis.**—Crile says that the cobbler stitch is applicable to any form of anastomosis, even in cases of edematous bowel. Since using this method he has not had a fatality in fifty-one anastomoses of various viscera for chronic diseases.

40. **Management of Adipose Layer in Suturing.**—Morris describes the method which he has employed for many years in his abdominal work as follows: 1. A continuous suture of very small catgut for the peritoneum, in order to cause the least degree of irritation which would lead to plastic exudation and subsequent peritoneal adhesions. 2. A continuous

suture of small or large catgut for the posterior and anterior sheaths of the abdominal muscles, allowing atmospheric pressure to close out dead spaces evenly in the muscle tissue. 3. A continuous catgut suture through the skin only, carefully avoiding the adipose layer. If the adipose faces of the wound are pressed snugly together before the last knot is tied they will adhere so firmly and evenly that it will be difficult to separate them twenty-four hours later, if for any reason it becomes necessary to reopen the abdominal incision.

Buffalo Medical Journal.

April.

41 *Intestinal Resection and Anastomosis. W. L. Wallace, Syracuse, N. Y.
42 *Leucocytosis in Surgical Infections. C. O. Boswell, Rochester, N. Y.
43 Version or High Forceps, Which and When? W. M. Brown, Rochester, N. Y.

41. **Intestinal Resection.**—Wallace describes a method of lateral intestinal anastomosis in which an artificial appliance is used, which he has found exceedingly safe and rapid of execution.

42. **Leucocytosis in Surgical Infection.**—Boswell's findings with reference to the clinical value of leucocytosis in surgical infection correspond with those of other investigators.

Louisville Monthly Journal of Medicine and Surgery.

April.

44 Sympathetic Ophthalmia. T. C. Evans, Louisville.
45 *Remedies. B. C. Frazier. Louisville.
46 *Malignant Tumors of the Kidney in Children. A. M. Cartledge and C. Thompson, Louisville.
47 Mechanical and Chemical Effect of Milk on the Human. A. E. Guc, Detroit.

45. **Remedies.**—Frazier claims that doctors are largely to blame for the great amount of drugs on the market, and urges that a halt should be made in the general prescribing of proprietary remedies.

46. **Tumor of Kidney.**—Cartledge and Thompson report a case of adenosarcoma of the kidney occurring in a boy about twelve months old.

West Virginia Medical Journal, Wheeling.

April.

48 *The Uterine Curette. C. Ogden, Clarksburg.
49 Chronic Uterine Hemorrhages, Their Causes and Clinical Significance. G. Ackermann, Wheeling.
50 *New Methods of Skin Grafting. J. E. Cannaday, Hansford.
51 Stokes-Adams Disease and Experimental Heart Block. J. T. Thornton, Wheeling.
52 *Cases of Pemphigus. J. B. Woodville, Fayette.
53 Gallstone. W. F. Waugh, Chicago.
54 Case of Prospothoracopagus. W. H. Sharp, Parkersburg.
55 *Arterio-arterial Anastomosis by Telescoping a Branch into a Trunk. W. W. Golden, Elkins.
56 What Mental Conditions Make a Testator Incapable of Making a Will. C. O. Henry, Fairmont.
57 *Infection from Oat Straw. J. L. Dickey, Wheeling.
58 Alcohol. R. M. McMillen, Wheeling.

48. **Uterine Curette.**—Ogden cautions against the indiscriminate use of the uterine curette, which, he says, has but a limited place at best.

50. **Skin Grafting.**—All the practical points in this communication are covered in articles by Dr. Cannaday on the same subject, which appeared in The Journal, June 2, 1906, page 1681, and in *The West Virginia Medical Journal*, April, 1907.

52. **Pemphigus.**—Woodville reports two typical cases, one occurring in an adult, the other in an infant. The latter case was probably one of pemphigus neonatorum.

55. **Arterio-Arterial Anastomosis.**—Golden describes a most interesting case, in which the circulation of the arm was cut off as the result of an injury. The axillary and brachial arteries were found anomalous. The subscapular branch was of a size almost equal to that of the axillary. The posterior circumflex was very small and sprang from a point very close to the origin of the former. There was no anterior circumflex. Immediately after giving off the posterior circumflex the axillary was much diminished in size, and continued of this size as the brachial to the junction of the upper and middle thirds of the arm, where it bifurcated into the radial and ulnar. The following procedure was resorted to: The posterior circumflex was dissected out for a sufficient distance, its distal end ligated permanently and its proximal end clamped temporarily between the fingers of an assistant. A small slit was then made in the brachial at a point within easy reach of the cut end of the posterior circumflex. A fine silk thread was passed through one lip of the cut edge of the latter. The ends of this thread were passed into the lumen of the brachial through the slit, and by means of needles brought through its wall from within outward, a short distance below the slit. Traction on the threads and manipulation soon telescoped the posterior circumflex into the brachial. One of the threads was then made to pass through a few fibers of the coracobrachialis externally, and the other through some loose cellular tissue internally, and the two tied, thus adding security against leakage. A dressing and splints were then applied. An examination of the extremity on the completion of the anastomosis showed the presence of arterial blood all through it.

In a few days the general condition of the patient became gravely septic. It soon became evident that the boy was suffering from an acute infective osteomyelitis affecting the fractured ends of the humerus. The arm was removed but the patient died a few hours afterward. Just before the member was severed a hasty examination was made of the parts concerned in the anastomosis. Everything was found in good condition, and there was no trace of leakage. The telescoped branch was pulled out and found bleeding.

57. **Infection from Oat Straw.**—Dickey reports the case of a man who was struck in the eyes by a splinter of oat straw. The splinter penetrated the cornea, passing into the anterior chamber. In spite of vigorous treatment, infection took place, and about two weeks after the accident the eye was enucleated.

Interstate Medical Journal, St. Louis.

April.

59 *Hemangioma Cavernosum of Upper Lip and Inner Side of Left Cheek. F. Reder. St. Louis.
60 Non-union or Vicious Union of Fractures. M. R. Barker, Chicago.
61 Operations on Stomach. W. Bartlett, St. Louis.
62 Infant Mortality and Its Cause in Manila, P. I. E. C. Shattuck, Manila.
63 Antibacterial Sera. O. H. Brown, St. Louis.

59. **Hemangioma Cavernosum.**—Reder tried ligating the tumor, but the bleeding was so severe that he was forced to desist. He then tried injecting boiling water into the tumor mass and in about three months the entire mass, originally as large as a hen's egg, had disappeared.

The Northwestern Lancet, Minneapolis.

April 15.

64 *Cardiovascular Regulations During and After Operation. H. W. Cook, Minneapolis.
65 Functional and Cardiac Neuroses. W. A. Jones, Minneapolis.
66 Pulmonary Tuberculosis. L. F. Schmauss, Mankato, Minn.
67 *Prescribing Alcohol. J. A. Crosby, Minneapolis.

64. **Cardiovascular Regulations.**—Cook emphasizes the importance of giving more attention to the general condition of patients previous to operation, and while the strain and shock of operative manipulation last. He discusses the value, during these periods, of blood pressure observations, especially when controlled by other signs and symptoms. He says that blood pressure observations afford the earliest and surest indication of oncoming shock or excessive hemorrhage during operation, and that if consecutive observations are made, as a matter of routine, fewer cases of profound shock will develop under surgical manipulation.

67. **Prescribing Alcohol.**—Crosby states his belief that the evil results of the prescription of alcohol are incalculably greater than any possible negative good that is derived from its use.

Cleveland Medical Journal.

April.

68 *Therapeutic Application of the Theories of Immunity. J. B. McGee, Cleveland.
69 *Bacteriologic Comparison of Milk Served in Bottles and by the Dip Method. H. O. Way, Cleveland.
70 Biographic Notes on Percival Potts. C. L. Cummer.

68. **Theories of Immunity.**—McGee reviews very briefly the present status of serum therapy.

69. **Serving Milk in Bottles and by the Dip Method.**—Way examined forty specimens of milk obtained from various dealers in Cleveland, and convinced himself that the results obtained support the theory that milk served by dipping from the can contains a greater number of bacteria than that handled in

bottles. Also that this excess can be accounted for in part by contamination from dust or organic matter, which drops into the can when it is opened to serve customers. On the other hand, the bottling of milk is also open to objections, but this method of serving milk is to be preferred to the dip method because it is possible to enforce careful washing and sterilization, thus reducing to a minimum the objections to bottled milk.

The Canada Lancet, Toronto.

April.

71 The Combined Scleroses. G. W. Howland, Toronto.
72 *Acute or Spontaneous Hemorrhages in the New-Born. H. T. Machell, Toronto.
73 *Therapeutics of Chronic Heart Disease. F. J. Wethered, Brompton, England.
74 *Suggestion in the Treatment of Anal Fistula. E. A. Hall, Victoria. B. C.
75 Sciatica. W. C. Abbott, Chicago.
76 Angioneurotic Edema Complicating Erythema Multiforme. N. E. Aronstam, Detroit.

72. **Spontaneous Hemorrhages in New-born Infants.**—Machell reports 14 cases with 7 fatalities. With 2 exceptions the bleeding began before the end of the third day; in 6 it began on the second day; in one on the third day, and in 2 before the end of the first day. In all the cases the bleeding began in a gradual manner. In none of the cases was it confined to one side. It came from the umbilicus, stomach, bowels, skin, mouth, muscle, scalp, etc. In none of the cases was there any evidence of sepsis in either mother or child; no history of syphilis in the parents, or of hemophilia. The treatment employed varied, consisting in the main of the administration of calcium chlorid, adrenalin solution and gelatin, hence the results obtained can not be ascribed to the treatment employed.

73. **Therapeutics of Chronic Heart Disease.**—Wethered discusses the means which may be employed in cases of chronic heart disease.

74. **Treatment of Anal Fistula.**—After cutting through the sphincters and curetting all granulation tissue, Hall leaves the rectal mucous membrane intact, while the parts are given rest by the section of the muscles. The mucous membrane protects the raw surfaces and also serves to retain dressings in position. The postoperative attendance also is much simplified.

American Journal of Orthopedic Surgery, Philadelphia.

April.

77 *Operative Procedure to Increase Flexibility in Cases of Lateral Curvature of the Spine. P. Le Breton, Buffalo, N. Y.
78 Mechanics of Lateral Curvature. H. O. Feiss, Cleveland.
79 *Treatment of Lateral Curvature of the Spine. F. E. Peckham, Providence, R. I.
80 *Plaster-of-Paris, W. G. Stern, Cleveland.
81 Genu Valgum Adolescentium. J. T. Watkins, San Francisco.
82 Infantile Paralysis. J. T. Watkins, San Francisco.
83 *Resection of the Knee with the Object of Obtaining a Movable Joint. G. G. Davis, Philadelphia.
84 *Case of Congenital Anterior Dislocation of the Hip. E. W. Ryerson, Chicago.
85 *Cases of Congenital Dislocation of the Hip. G. B. Packard, Denver, Colo.
86 *Case of Congenital Deformity of the Wrist. F. E. Peckham, Providence, R. I.
87 *Simple Apparatus for the Application of Plaster Jackets in Dorsal Recumbency. E. W. Ryerson, Chicago.
88 Exostosis in the Plantar Portion of the Os Calcis. E. H. Bradford, Boston.
89 Carriage for Stretcher Frame. J. C. Schnapps, Butte, Mont.
90 *Tuberculosis of the Skeleton. R. J. Terry and N. Allison, St. Louis.

77. **Increasing Flexibility in Scoliosis.**—The method employed by Le Breton may be described briefly as follows: An incision is made over the deep spinal muscles in the apex or angle of the dorsal curve, where there is the greatest resistance to passive motion. A section of muscle about three inches long is removed by cross cuts until three ribs are bared from their angles to the spinous processes. By blunt dissection these ribs are freed from the pleura, and sections removed from each by the Gigli wire saw from their angles to the beginning of the transverse processes of the vertebræ. The transverse processes are then cleared of muscular and ligamentous fibers by the knife. In doing this the anterior costo-transverse ligaments are cut, two or more, if within reach. The wound is sutured and a plaster corrective jacket put on after some method similar to Lovett's. The jacket can be replaced in a few days by another, which will induce further correction. The operation has for its object a partial restoration of flexibility, by section of some of the ribs close to the spine, section of a portion of the erector spinæ group in the apex of the curve, and division of some of the ligaments.

79. **Treatment of Scoliosis.**—Peckham obtains excellent results from the purely gymnastic treatment of scoliosis. The exercises are limited to the symmetrical ones, but Peckham insists that these be done with precision and accuracy. This and frequent attendance make for success.

80. **Plaster-of-Paris.**—Stern made a very careful study of the effects of various substances on the rate of setting of plaster-of-Paris and the subsequent strength and durability of the cast. He says that the orthopedic surgeon should select for his use a pure, well made and well kept unadulterated brand of plaster-of-Paris. Such a plaster will set in about seven minutes, which is fast enough for all ordinary work and yields a cast of the highest strength and durability. The use of starch crinoline bandages as the support in the application of the plaster does not interfere materially with either its rate of setting or its tensile strength. The various forms of wire gauze bandages yield a cast of increased tensile strength and, therefore, a lighter cast. Portland cement, when used with plaster-of-Paris in amounts varying from 10 to 20 per cent., yields a cast of superior hardness, strength and durability. It is especially adapted for use about the foot, ankle and thigh in the Lorenz operation.

Moisture disintegrates, softens and dissolves plaster casts. The water proofing of plaster casts by gauging the plaster bandages in a solution of sodium silicate is impractical. The finished cast should be thoroughly coated with sodium silicate solution after hardening. The hardening of plaster models, shells, corsets, etc., can readily be accomplished by dipping or painting them with hot alum solution. The addition or use of any accelerator yields a soft and friable set, and the cast is of insufficient tensile strength and resistance to abrasion to possess the lasting qualities demanded by the majority of orthopedic procedures.

The use of quick-setting dental impression plaster is also condemned for the same reasons. The regular slow-setting dental plasters are pure and unadulterated, and when kept in clean, dry containers, present the ideal material for orthopedic casts; they can be wound into bandages with starch, crinoline or wire gauze, and when especially heavy wear is expected, can be mixed advantageously with from 10 to 20 per cent. of Portland cement.

83. **Resection of Knee.**—Davis reports the case of a woman aged 23, who had a bony ankylosis of the knee at an angle of 130 degrees. Davis performed an operation and put on an appliance, with the result that nine months after the operation the joint could be extended and flexed at a right angle. The patient is able to walk without any support whatever.

84. **Congenital Anterior Dislocation of Hip.**—Ryerson records this case solely for the purpose of putting it on record. Only seven or eight similar cases have thus far been recorded.

85. **Congenital Dislocation of Hip.**—Packard reports 8 cases of congenital dislocation of the hip, 6 unilateral and one double. These 8 hips were operated on and the result was 4 anatomic replacements, 2 anterior transpositions and 2 with results uncertain.

86. **Congenital Deformity of Wrist Joints.**—In the case reported by Peckham the ulna extended backward and the space which should have been occupied by the ulna was filled with a thickened fibrous tissue. This was dissected out and the parts were restored to their normal position.

87. **Apparatus for Application of Plaster Jackets.**—The apparatus described by Ryerson is a modification of the Metzger-Goldthwaite apparatus. It is very cheap, costing about $2.

90. **Tuberculosis of Skeleton.**—Terry and Allison present the results of a study of the location of tuberculous foci in relation to posture. They compiled a record of 22,233 cases of tuberculous bone and joint disease. In 39.1 per cent. the localization was in the spine; in 31.4 per cent. in the hip, and the remaining 29.5 per cent. was divided among the knee, ankle, elbow, wrist and shoulder in the order named, the knee being involved in 1,827 cases and the ankle in 919 cases. The authors conclude that the structure and mechanism of the joints of the lower limbs and spine in adaptation to the erect pos-

ture, the relative instability of the body in this position, and the disposition of the weight to be carried, all combined to render the growing regions of the bones in question specially liable to injury.

Pennsylvania Medical Journal, Athens.

April.

91 Kinship of Medicine and Law from a Legal Standpoint. A. G. Dewalt, Allentown.
92 *Stenosis of the Pylorus. G. S. Dickinson, Erie.
93 *Differential Diagnosis and Treatment of Pyloric Stenosis. J. A. Lichty, Pittsburg.
94 Hyperchlorhydria and Its Treatment. H. D. Jump and H. K. Hill, Philadelphia.
95 *Gastroptosis with Special Reference to Treatment. J. J. Gilbride, Philadelphia.
96 Clinical Results from Examination of Feces After Intestinal Test Diet. C. R. Jones, Pittsburg.
97 Value and Safety of Surgical Exploration in the Abdominal Complications of Typhoid. J. B. Roberts, Philadelphia.
98 *Value of Skiagraphy in Surgery of the Nose. W. G. B. Harland and H. K. Pancoast, Philadelphia.
99 Relation of the Lymph Glands of the Mediastinum to Disease and Their Value in Early Diagnosis. W. S. Newcomet, Philadelphia.
100 The Recent Epidemic of Typhoid in Scranton. S. G. Dixon, Ardmore.
101 Early Diagnosis of Tuberculosis. J. W. Boyce, Pittsburg.
102 Roentgen Diagnosis in Tuberculosis. R. H. Boggs, Pittsburg.
103 Administrative Control of Tuberculosis. J. W. Edwards, Pittsburg.

92, 93, 95.—See abstract in The Journal, Oct. 20, 1906, page 1322.

98.—See abstract in The Journal, Oct. 6, 1906, page 1131.

Kansas University Science Bulletin, Lawrence.

March.

104 Heredity in Micro-organisms. M. A. Barber, Lawrence.

Albany Medical Annals.

April.

105 Typhoid in the Hudson River Valley. F. J. Mann, Poughkeepsie, N. Y.
106 Is Well Water a Cause of Typhoid? D. J. Hoyt, Poughkeepsie, N. Y.
107 Milk as a Causative Factor in Typhoid. L. H. Marks, Poughkeepsie, N. Y.
108 Laboratory Diagnosis in Typhoid. E. G. Littell, Poughkeepsie, N. Y.
109 The Fight Against Typhoid. J. H. M. A. von Tiling, Poughkeepsie, N. Y.

Mississippi Medical Monthly, Vicksburg.

April.

110 Difficulties in the Diagnosis of Our Commoner Forms of Fever in Their Earlier Stages. L. L. Sutherland, Rosedale.
111 Appendicitis. J. A. Crisler, Memphis, Tenn.
112 Hepatitis. J. F. McCaleb, McCaleb Station.

Journal of Outdoor Life, Trudeau, N. Y.

April.

113 The Struggle for Health. J. A. Miller, New York.
114 The Matter of Diet. A. W. Baird, New York.
115 Maryland's Onward March in Regard to Tuberculosis. H. B. Jacobs, Baltimore.
116 Novel and Successful Method of Self Rule Applied to Colorado Health Seekers. J. R. Cowen, Edgewater, Colo.
117 Discussion of Climate. S. A. Fisk.

Maryland Medical Journal, Baltimore.

April.

118 Histoplasmosis—a Fatal Disorder Found in Central America. S. T. Darling, Panama.

New Orleans Medical and Surgical Journal.

April.

119 Operative Surgery of the Spine and Cord. W. S. Bickham, New Orleans.
120 Menorrhagia and the Microscope. P. Michinard, New Orleans.
121 Case of Round Ligament Simulating Inguinal Hernia. E. T. Newell, St. Joseph, La.
122 Constipation Produced by Lacerations of Posterior Vaginal Wall. E. D. Martin, New Orleans.
123 Epistaxis as Symptom of Bright's Disease. A. McShane, New Orleans.
124 Sacroiliac Disease. E. S. Hatch, New Orleans.
125 Diabetes and Obesity, Causation and Treatment. A. Lorand, Carlsbad, Austria.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

April 27.

1 *Value of Blood Examination. H. B. Shaw.
2 *Maniacal Chorea. J. M. Finny.
3 *Value of an Abnormal Rise in the Average Level of the Diaphragm as a Guide to the Volume of Blood in Active Circulation. T. S. Wilson.
4 *Possibility of Actinomycotic Infection by the Vagina. H. E. S. Thompson.
5 *Plea for the Use of Oatmeal in the Dietary of Children. C. Watson.
6 Treatment of Tuberculosis by Marine Climates. W. Ewart.
7 Lesions of Spinal and Cranial Nerves Experimentally Produced by Toxins. D. Orr and R. G. Rows.
8 Regeneration of Nerves with Regard to Surgical Treatment of Certain Paralyses. B. Kilvington.

1. **Value of Blood Examination.**—Shaw emphasizes the absolute necessity of resorting to blood examination, not only in doubtful cases, but as a matter of routine. He says that the value of positive findings can in no way be belittled by the frequent occurrence of negative ones.

2. **Maniacal Chorea.**—The prominent features presented in the case reported by Finny were rheumatic pains in the legs for a fortnight, on which chorea supervened, and a mitral systolic murmur lasting up to the death of the patient. The pulse was quiet and regular until shortly before death, when it rose gradually to 140. The temperature was normal or subnormal until the day before death, when it reached 103.4 F. The choreic movements were slight for about forty-eight hours, and then became very violent. The psychic phenomena were prominent, out of all proportion to the motor. There were occasional spells of temporary mental calm. Medicinal treatment failed to have any effect on the course of the disease. The second case was without any history of rheumatism or heart disease. After 14 days of chorea, insanity and hallucinations of hearing and sight set in. The patient died in a week.

3. **Abnormal Rise in Level of Diaphragm.**—The object of Wilson's paper is to bring forward evidence in favor of the following propositions: 1. When, from any cause, the total volume of the blood in circulation is materially diminished, the total bulk of the intrathoracic viscera is correspondingly diminished by the relative emptiness of the thoracic blood vessels, especially those of the lungs. This diminution in the bulk of the intrathoracic contents shows itself by an elevation of the diaphragm, which has to be maintained at a higher average level than the normal in order to adjust the cubic content of the thorax to the altered volume of its contained viscera. 2. Such a rise of the diaphragm may frequently be detected clinically, and, when present, is of value in diagnosis, and affords important indication for treatment.

4. **Actinomycotic Infection of Vagina.**—Thompson summarizes two cases of this kind which he found reported in the literature.

5. **Oatmeal for Children.**—Some investigations made by Watson appear to show that an excessive oatmeal diet, in the form of porridge and milk, has a markedly stimulating effect on the thyroid gland of young animals. He thinks that there is no reason to doubt that a more moderate and more physiologic use of the same food would be followed by a stimulation in a degree which would be wholly beneficial. Further, he says that in these facts may be found the explanation of the value of oatmeal in the dietary of young children.

The Lancet, London.

April 27.

9 *The Outlook of the Medical Profession: Scientific, Social, Financial. J. G. Glover.
10 The Lymphatic System of the Cecum and Appendix. J. K. Jamieson.
11 *Goiters Removed Under Cocain Anesthesia. J. L. Thomas.
12 Seven Cases of General Peritonitis Treated by Operation. B. M. Bone.
13 *Treatment of Chronic Suppuration of the Middle Ear without Removal of the Drum Membrane and Ossicles. C. J. Heath.
14 Therapeutic Applications of Arsenic. J. Snowman.
15 Balneologic Treatment of Urinary Diseases. O. Kraus.
16 *Two Cases of Snakebite with Suggestion for Treatment. W. H. Haw.
17 Case of Poisoning by Coal Gas. J. Reid.
18 Case of Desquamative Erythema. A. Nobbs.

9. **Outlook of the Medical Profession.**—Glover says that, considering all things, the outlook of the medical profession is a fairly good one. He discusses briefly a few of the obstacles that by some are said to injure the outlook of medical practice as a calling. These obstacles are: 1, The growth of specialism; 2, the prevention of disease; 3, the license of unqualified practice; 4, the completion of certificated midwives, and 5, the abuse of medical charity.

11. **Goiters Removed Under Cocain Anesthesia.**—Thomas has removed 55 goiters, including four exophthalmic goiters, under local anesthesia (1 per cent. cocain solution). and one goiter

without any anesthesia, without any mortality. Of 17 thyroidectomies, including five for exophthalmic goiters, done under general anesthesia, three resulted fatally, one from sepsis, one from hyperthyroidism, and one from respiratory complications.

13. **Peritonitis Treated by Operation.**—The chief points in the treatment of the cases reported by Bone were: 1, Removal of the cause; 2, removal of the pus so far as possible by means of dry aseptic gauze swabs; 3, free drainage with tube and gauze wicks and plain strands of gauze; 4, care to be as gentle as possible in all manipulations; and 5, counteracting shock by all means possible. Strychnin and brandy were administered before and after the operation. Gastric lavage was employed before and after operation in cases in which vomiting was present. Large quantities of saline solution were administered after operation by rectum every four hours, sometimes with brandy added. Nothing was allowed by the mouth for the first twenty-four hours after operation except a teaspoonful of albumin water every half hour, and not this if any sickness was present. One-sixth of a grain of calomel was administered at once after operation and 1/6 of a grain every fourth hour until 1½ grains had been given. Turpentine enemata were used with the rectal tube passed high up to relieve flatus and distension. And, last, but by no means to my mind the least important, the patients were placed in the Fowler position by means of a bolster beneath the knees and a back-rest, the bolster being retained in position by two bandages tied to the bed head on either side.

16. **Treatment of Snakebite.**—Haw suggests that if the circulation be brought to a standstill at the seat of infection, it might be possible, if this is done early enough, to prevent any venom from entering the body. The poison would be imprisoned, as it were, and could be dealt with by permanganate of potash and incisions. Haw suggests, therefore, that in cases seen early enough the parts be frozen with ethyl chlorid during the making of the incisions and the rubbing in of permanganate of potash.

British Journal of Children's Diseases, London.

April.

19 *Epilepsy in Childhood; Its Relation to Other Diseases. G. S. Keeling.
20 Cure of Chronic Coryza of Scrofulous Children at La Bourboule. E. F. Christian.
21 Acquirement of Speech in Children. A. H. Gerrard.

19. **Epilepsy in Childhood.**—Keeling considers epilepsy in childhood as related to other diseases in the following aspects: Pathologic, etiologic, symptomatic and familial. A large number of cases is reported. He summarizes his findings as follows:

> 1. The pathology of epilepsy appears to resemble in some respects that of cerebral diplegia, chorea, paralysis agitans, neurasthenia, myoclonus and migraine. 2. Etiologically, rickets is an important factor in the causation of epilepsy. 3. A variety of epilepsy, which may be termed toxic epilepsy, is chiefly gastrointestinal in origin. 4. Reflex epilepsy is apparently rare; peripheral irritation probably plays a very small part in the production of the fits. 5. The effect of measles on epilepsy is uncertain. 6. Chorea is very rarely found associated with epilepsy. 7. Infantile paralyses, especially the congenital forms, are closely related to epilepsy. 8. An injury or a fright is frequently the exciting cause of a fit. Instrumental delivery may be followed by paresis with subsequent epilepsy. 9. Enuresis is an occasional sequela of epilepsy. 10. The disease known as night terrors is probably a mild form of epilepsy. 11. The three affections most frequently found in the family history of epileptics are epilepsy, migraine and alcoholism. 12. Migraine appears to be very closely allied to epilepsy, both in the family history and symptomatically. 13. The differential diagnosis between Ménière's disease and epilepsy is occasionally difficult.

Journal of Tropical Medicine and Hygiene, London.

April 15.

22 Psycho-physical Aspects of Climate. W. F. Tyler.

Bristol Medico-Chirurgical Journal.

March.

23 Prognosis. P. H. Pye-Smith.
24 Cerebrospinal Fever (Epidemic Cerebrospinal Meningitis). D. S. Davies and I. W. Hall.
25 Operations for Deflections and Spurs of Nasal Septum, with Special Reference to Submucous Resection. P. W. Williams.
26 *Two Cases of Ruptured Intestine. H. F. Mole.
27 *Case of Splenomegalic Cirrhosis in Child of Seven Years. E. C. Williams.
28 *Acquired Angioma of the Liver. A. L. Sheppard.
29 Sanatorium Treatment of Tuberculosis. D. J. Chowry Muthu.
30 Styracol. C. Reinhardt.

26. **Rupture of Intestine.**—Mole reports two cases of rupture of the intestine in which a successful operation was done. One patient was struck in the epigastric region. A laparotomy was done four hours after the accident and a large tear was found in the upper part of the jejunum, involving nearly one-half of the circumference of the bowel, but being placed obliquely to its long axis just beyond the duodeno-jejunal junction. The tear was closed with interrupted Halsted stitches and a few supporting Lembert stitches. The second patient was pinned against some railway sleepers by the arm of a crane. In this case the laparotomy was done six hours after the accident. The jejunum was completely torn through transversely in its whole circumference, and including two or three inches of its mesentery. The bowel was united with Lembert sutures. Both patients made speedy recoveries.

27. **Splenomegalic Cirrhosis.**—Williams presents the concluding notes on a case of this kind that occurred in a boy 7 years of age.

28. **Acquired Angioma of Liver.**—Sheppard reports very fully a case of acquired angioma of the liver, occurring in a man 50 years of age. The disease was of one year's duration, with an acute stage of about five months. There was complete absence of any past history of liver trouble, although there was a distinct alcoholic history.

Australasian Medical Gazette, Sydney.

March 20.

31 Insanity in Relation to Crime. J. Steell.
32 Echinococcus Alveolaris. E. A. Johnson.
33 Puerperal Infection: Thrombosis: Ligation of Right Ovarian Vein. Recovery. A. A. Lendon.
34 Case of Lymphatic Leukemia in a Little Girl. F. S. Tange.

Intercolonial Medical Journal of Australasia, Melbourne.

March.

35 Value of Roentgen Rays in the Diagnosis of Visceral Diseases. L. H. Harris.
36 Electricity as a Therapeutic Agent. S. S. Argyle.
37 Complications of Typhoid. A. V. M. Anderson.
38 *Two Cases of Gunshot Wound of the Upper Abdomen. W. Moore and H. H. Turnbull.
39 *Primary Suture of the Median Nerve—Subsequent Transplantation of Sciatic Nerve of Dog. R. A. Stirling.
40 *Interstitial Nephritis in Children. E. A. Mackay.
41 Iodism and the Peculiar Effects of Iodids. E. B. Allan.

38. **Gunshot Wound of Upper Abdomen.**—Moore reports two cases, one a gunshot wound of the right lobe of the liver, and the other a gunshot wound of the abdomen. Both patients were operated on successfully.

39. **Primary Suture of Median Nerve.**—In Stirling's case, there was a complete section of the median nerve with a hiatus of three inches between the divided ends. Attempts made to unite the ends of the nerve with strands of catgut proved futile. About three weeks after the accident the wound was reopened and the sciatic nerve of a small dog was grafted on the freshened ends of the median nerve. Twelve months after the operation the patient was able to bend and grip anything with the last three fingers of the hand; the arm was strong and could be moved very freely. The sensory functions were only partially restored.

40. **Interstitial Nephritis in Children.**—Mackay performed a decapsulation of the kidney on a 6-year-old girl, who was markedly rachitic. There was immediate relief from dangerous symptoms, but no statement can be made yet as to the ultimate effects of the operation.

Revue de Chirurgie, Paris.

Last indexed, page 979.

42 (XXVII, No. 1, pp. 1-160.) *Treatment of Impermeable, Non-cancerous Strictures of the Esophagus. (Rétrécissements infranch. non canc. de l'esophage.) F. Gross and L. Sencert.
43 Paraduodenal Hernias. (Hernies paraduodénales.) Vautrin.
44 Failure of Preventive Injection of Antitetanus Serum in Two Cases. (Tétanos.) F. Terrier and S. Mercadé.
45 *Extirpation of Large Aneurism of Common Carotid Artery. (Anévrismes supérieurs de la carotide primitive.) X. Delore.
46 *Dislocation of the Malar Bone. (Luxations de l'os malaire.) J. Okinczyc and G. Kiiss.

42. **Treatment of Impermeable, Non-Cancerous Stenosis of Esophagus.**—Gross and Sencert expatiate on the great progress that has been realized with direct visual inspection of lesions in the esophagus since the introduction of the esophagoscope. They give an illustrated description of a case of congenital stenosis in a lad of twelve, cured by internal esoph-

agotomy under visual inspection. The child had always been capricious in his diet, sometimes eating solid food like the rest of the family and at other times refusing all but fluid food. He was always very particular about chewing, and was undersized and feeble. An acute gastric disturbance caused aggravation of the symptoms, and an obstacle was found in the esophagus about 20 cm. from the teeth. The esophagoscope revealed at the third sitting under chloroform a valve-like membrane almost closing the lumen. A small instrument was specially constructed for the case, a hollow tube with an olive tip carrying a small concealed triangular knife which was made to protrude by turning a thumbscrew in the handle. Three slashes were cut in the crescent-shaped membrane and it retracted, leaving the lumen nearly the normal size. Four views of the membrane are given, before, during and after the operation, showing the precision and efficiency of the intervention under control of the esophagoscope. In another case a chronic spasmodic contraction of the esophagus was conquered by a single local application of cocain to the point of constriction. At once all disturbances ceased and no recurrence is known to date. Visual inspection showed the walls of the esophagus entirely normal. In five other cases of cicatricial stenosis of the esophagus progressive dilatation proved successful, all under direct visual control. In two others all attempts to introduce a sound proved futile and the stenosis was finally cured by introducing laminaria tents at the constricted point, progressively increasing their size. In two others, linear electrolysis relieved absolutely impermeable stenosis. All these cases are described in detail with illustrations of the endoscopic findings. The results were a complete cure in all but the last-mentioned case in which the attempts at dilatation were made without endoscopy, with fatal perforation as the result.

The esophagoscope reveals the orifice whose eccentric position is generally the cause of the failure to introduce the sound readily. Under direct visual inspection it is an easy matter to locate the opening and to dilate it with sounds. Endoscopy is not necessary after the opening has been dilated even a very little. In case of very rebellious constriction a laminaria tent can be introduced and left for twenty-four hours. It can then be withdrawn by the long string attached to it; the constriction is then generally so dilated that sounds can be used thereafter. If not, a second tent can be introduced, and so on. The patients do not find the tents painful. In exceptional cases electrolysis may be required, but it should be done only under visual inspection and very superficially as it is intended only as a preliminary to progressive dilatation with sounds. If the esophagoscope reveals a diverticulum or friable and fragile mucosa, rendering direct intervention dangerous, it is best to make an opening into the stomach and dilate the stricture in the esophagus from below. In case this is impracticable for any reason, the authors suggest that it might be possible to make an opening in the stomach, on the anterior aspect, 2 cm. below the cardia, through which the esophagoscope might be introduced and the stenosis inspected from below and treated as indicated. This technic has been found perfectly practicable on the cadaver, but has not yet been found necessary in the clinic. External esophagotomy and similar measures should not be considered until after repeated failure of all the above measures.

45. **Extirpation of Aneurism of Common Carotid.**—Delore's patient was a woman of 36 who had suffered from the aneurism for nearly eight years. There were no signs or history of syphilis, but the aneurism had gradually grown to be as large as the head of the fetus at term. The tumor did not pulsate and there was no expansion, but a murmur could be heard on all sides. There was some doubt as to the diagnosis, and it was thought that the mass was a very vascular sarcoma. Operation showed the tumor to be a fusiform aneurism of the common carotid. The artery was cut between two ligatures, and in attempting to enucleate the aneurism the sac was ruptured. On opening the sac widely, a jet of blood was seen coming from a vessel which proved to be the superior thyroid; on clamping this the hemorrhage ceased. The sac was extirpated. There was no shock or nervous symptoms, and the patient was in perfect health when seen again four months afterward. The specimen showed absolutely smooth walls without clots or fibrinous deposits. In 10 cases on record the mortality of extirpation of the sac was 10 per cent. He reviews the arguments against and in favor of extirpation.

46. **Luxation of the Malar Bone.**—The prognosis depends mainly on the concomitant lesions of the maxillary sinus. The asymmetry is slight. The dislocation seems to be irreducible. Attempts at reduction may even aggravate the lesions in the maxillary sinus. The main thing in treatment is to ward off infection of the sinus by persevering disinfection of the nasal fossæ.

Semaine Médicale, Paris.

47 (XXVII, No. 16, pp. 181-192.) *Sudden Death in Children. (La mort subite chez les enfants.) L. Cheinisse.
48 (No. 17, pp. 193-204.) *Roentgen Treatment of Syringomyelia. (Radiothérapie de la syr.) E. Beaujard and J. Lhermitte.

47. **Sudden Death in Children.**—Cheinisse protests against the assumption that a hypertrophied thymus is a frequent factor in the sudden deaths of children. He reviews the international literature on the subject of "thymic death" and shows that in many cases listed under this heading the thymus was not enlarged. Also that in many cases the sudden death was not accompanied by any signs of asphyxia—on the contrary, the children seemed to be quietly sleeping when found dead. Vibert found the thymus gland enlarged in 4 out of 15 cases of sudden death in children in which the symptoms indicated what is generally called "thymic death." Segadelli and Distefano ascribe the sudden death to a nervous reflex, and Lancereaux affirms that in the majority of instances of sudden or rapid death in children it is due to reflex inhibition of the respiratory or circulatory centers. Cheinisse adds that the cases in which a series of sudden deaths of this kind occur in a family is sufficient testimony as to the true nature of the phenomenon, namely, that it is the manifestation of an actual neuropathic taint. A number of such family series are on record, and consanguinity and alcoholism in the parents are frequent findings. Cullerre called attention fifteen years ago to sudden death in adults as a manifestation of a neuropathic inheritance. Cheinisse remarks further that owing to the present vogue of the thymic death theory, if the thymus is found enlarged, no search is made for further lesions. Rehn and others, however, published last year reports of cases of sudden or rapid death in children with eczema and autopsy revealed unsuspected serious lesions in the heart, as mentioned in THE JOURNAL, vol. xlvi, 1906, page 1806. Syphilis also may be the cause of sudden death soon after birth, as also tuberculosis, chronic intoxications, difficult labor and pathologic conditions in the mother, as Cheinisse illustrates by citations from recent literature.

48. **Roentgen Treatment of Syringomyelia.**—Beaujard and Lhermitte say that Roentgen treatment has entirely modified the clinical history of syringomyelia and totally transformed the prognosis. Raymond, Gramegna, Béclère and others have reported 6 cases in which Roentgen treatment was applied, and the present article adds 4 more to the list. The rays are applied to the spine and medulla oblongata, and the syringomyelic phenomena gradually subside. The motor disturbances feel the favorable influence first, the abnormal attitude of the hands is corrected, and the patient can use his muscles with practically normal strength, although well-established muscular atrophy is but little influenced. Trophic disturbances in skin and bones are arrested, he asserts, and muscles in incipient atrophy regain their normal strength and aspect. The return of sensibility in the skin, and the chronology of the restoration of the sensation of heat, contact and pain throw light on the nature of the affection. One patient personally observed was a young man free from pathologic antecedents until the first symptoms of syringomyelia developed four years before. Treatment was commenced in May, 1906, and the spine was exposed to the Roentgen rays; the dose was 3 H units, of 7 to 9 penetrating power, and the tube was 15 cm. from the skin. The exposure was generally repeated once a week, a total of 26 sittings in all. Treatment was suspended from time to time to avoid dermatitis. There

was no reaction on the part of the skin at any time beyond slight reddening. The rays were applied at a little distance each side of the median line of the spine, and again on the opposite side of the median line, thus giving the spinal cord a double exposure while the skin received only a single exposure on each side. In 1907 five additional sittings were given to cure the persisting facial hemianesthesia, exposing the larger part of the médulla. The sensory bulbar disturbances vanished by the fourth exposure with no by-effects except slight alopecia of the part exposed. Study of the sensory disturbances will indicate the exact regions in the spine that require treatment although the adjacent sound regions should be included. The exposures should be made as uniform as possible by covering with lead the parts that have been or are to be exposed.

Archiv f. Gynækologie, Berlin.

Last indexed, page 1305.

49 (LXXXI, No. 2, pp. 271-492.) Interstitial Corpus Luteum. (Interstitielle Eierstocksdrüse.) J. Wallart.
50 Reflex Reciprocal Relations Between Mammary Glands and Uterus, and Important Rôle of Reflex Influences in General, for both Physiology and Pathology of the Gravid and Nongravid Uterus. (Reflectorische Wechselbeziehung zwischen den Brustdrüsen und dem Ut., etc.) E. M. Kurdinowski.
51 Case of Inoculation Carcinoma. (Impfcarc.) E. Zurhelle.
52 Behavior of Uterine Decidua in Ectopic Pregnancy. (Zur Frage nach der Entstehung des unteren Uterinsegmentes.) W. H. Schultze.
53 Adenomyoma of the Fundus of Uterus with Tuberculosis. (Adenomyoma corporis uteri mit Tub.) D. Grünbaum.
54 Anatomic Findings in Case of Pregnancy in Accessory Cornu. (Nebenhornschwangerschaft.) A. R. Limnell.
55 Principles for Introduction of Universal Nomenclature for Obstetrics. (Grundlinien zur Einführung allgemein gültiger Benennungen, etc.) C. Hennig.
56 Formations Resembling Ova in Ovarian Tumors. ("Eiähnliche" Bildungen in Ovarialtumoren.) A. Blau.
57 Estimation of Transverse Diameter of Pelvic Inlet According to Löhlein, tested in 74 Cases. (Schätzung der Transversa.) M. Steinbrecher.
58 *Deliveries Under Scopolamin-Morphin. (Scop.-Morph.-Wirkung bei Geburten.) W. Steffen.

58. **Scopolamin-Morphin Anesthesia for Childbirth.**—Steffen reviews the history of the use of scopolamin-morphin in obstetrics, and especially its application at Leopold's clinic. In 1903 it was tried by Leopold, but his unfavorable experiences in 20 cases caused him to abandon it. Since then Gauss' report of the results in 500 cases encouraged further trials, and it has been used now by Leopold in 300 cases out of a total of 1,335 deliveries during the last half of 1906. The final verdict of his experiences is as follows: "1, The method does not accomplish the desired results; 2, it can not be regarded as harmless for mother and child, and 3, it is not to be recommended for use in private practice, as the by-effects which are liable to develop make it necessary that medical aid can be summoned at any moment." The anesthesia in 20 cases induced by-effects such as weakness of the labor pains in 4 cases, making version necessary in 1 and forceps in 3 cases; in 5 there was no abdominal straining; in 3 vomiting occurred several times, beginning after the first dose; in 1 there was tormenting nausea; in 4 spots or darkness before the eyes; in 7 noticeable agitation; in 7 confusion amounting to delirium; in 7 increased sensitiveness; in 1 twitching in the limbs, and in 3 moderate postpartum hemorrhage from atony. In 5 cases the children were scarcely breathing and in 4 were in asphyxia. In some cases labor was unmistakably prolonged by the action of the anesthetics. Steffen refers to Toth's report of a death after 0.0003 gm. (1/200 grain) scopolamin, and to Hocheiser's case in which a severe attack of angina pectoris followed administration of 0.0005 gm. (1/120 grain) scopolamin to a woman with latent mitral stenosis, holding the patient at the brink of the grave for seven hours. Gauss states that he had to tie the hands of the patient in 7 cases, and that he kept one patient in the "twilight" scopolamin doze for 57 hours, giving a total dosage of 0.00375 gm. (⅛ grain) scopolamin and 0.03 gm. (½ grain) morphin. The details of the 20 cases presenting unfavorable features at Leopold's clinic are given. The dosage in 4 was 0.0003 gm. scopolamin and 0.01 gm. morphin; in 2 less than 0.00075 gm. scopolamin and 0.01 gm. morphin, and in 6 from 0.00075 gm. scopolamin and 0.01 gm. morphin to 0.00135 gm. scopolamin and 0.02 gm. morphin in 13 hours. The largest amount of scopolamin was thus 1/48 of a grain as the total dosage.

Berliner klinische Wochenschrift.

59 (XLIV, No. 10, pp. 265-296.) *Hysterical Insanity. (Hyst. Irresein.) Raecke.
60 Route of Infections in Lymphatics. (Gang. von Inf. in den Lymphbahnen.) F. Weleminsky.
61 *Retropharyngeal Tumors. (Retroph. Geschwülste.) M. Litthauer.
62 *Steam Sterilizer for Catheters. (Dampfsterilisator.) A. Bloch.
63 Physiotherapy of Tabes Dorsalis. (Physikal. Behandlung.) E. Tobias and E. Kindler. Concluded.
64 Sleeping Sickness. (Schlafkrankheit.) K. Kutscher.

59. **Hysterical Insanity.**—Raecke writes from Siemerling's clinic for nervous and mental diseases at Kiel describing the various forms of hysterical insanity. He groups them in three classes: 1. The form with excitement and stupor; delirium and somnambulism may be superadded. In this class belong the cases of continuous sleep—or rather lethargy—after a fright. 2. The form with depression, including attacks of distress, frightened delirium, stupor and "twilight" conditions, with occasional paranoid episodes and ideas of persecution, on a permanent basis of melancholia and hypochondria. Hysteria after an accident with emotional stress is particularly liable to assume this form. 3. The paranoiac type of compound hysterical insanity, which is built up mainly out of accumulated deliriums, imagined episodes, somnambulistic "twilight" conditions, eventually with the development of a dual personality. A systematized insane idea gradually develops in the majority of such cases, but it is amenable to criticism to a certain extent. A sudden outbreak of extensive ideas of persecution may occur in exceptional cases. The prognosis of hysterical insanity is always favorable. It never terminates in imbecility, but the duration of the affection and the liability to relapse are beyond all calculation. Only comparatively few cases of hysterical insanity come to the asylums, but these patients form an average of about 5 per cent. of the inmates in the larger cities. The previous history is the main reliance for diagnosis. Hysterical antecedents, the first appearance of the symptoms of the psychosis after great emotional stress, the regular return of the excitement at stated times, are all important for the diagnosis. The physical manifestations of hysteria are comparatively unimportant. During the psychosis it is well to note whether or not the symptoms can be readily influenced and if they subside under the influence of external happenings and whether or not they tend to superficiality, with lively interest in the surroundings and an evident desire to attract attention, with pronounced tendency to ennui, and with permanent integrity of the vegetative functions. In treatment the usual measures for hysteria are indicated, change of environment, rest and boredom, aided by a little suggestion. Hysteria in itself does not relieve the individual of responsibility for crime. The question in each case is to determine whether or not severe psychic disturbances existed at the time of the deed. The excitement of a lawsuit and, still more the injury from arrest and medicolegal examination, may first start a hysterical psychosis. Two cases of this form of insanity are described, affecting previously apparently healthy young men, in the navy. The rope at the head of the hammock became unfastened in one case, throwing the sailor to the floor; in the other a coal basket dropped while coaling, some of the coal hitting the sailor's brow. In neither case was the injury to the head serious, but the fright developed the psychosis and in the second case it returned later several times under emotional stress.

61. **Retropharyngeal Tumors.**—Litthauer adds 3 new cases from the literature to the 31 collected by Hellendall and summarizes the details. He then reports 2 from his own experience. In the first the tumor subsided under potassium iodid, while in the second case a fibrosarcoma measuring 5x6.5x9 cm. was successfully removed from a woman of 34. The tumor had been developing for 4 years, and its removal did not cure the existing paralysis of certain branches of the vagus and sympathetic nerves.

62. **Apparatus for Sterilizing Catheters.**—The advantages of the simple little apparatus of which an illustrated description is given, are said to be that several catheters can be sterilized at once without their sticking to each other and without their coming in contact with the boiling water. Only two or three

minutes are required for the sterilization. The catheters remain in the sterilizer until needed. The apparatus is convenient for the physician's office and also for patients to use at home.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 1642.

65 (XXXI, No. 11, pp. 305-328.) Origin of Membrane Encapsulating Hematocele. (Hämatokelenmembran.) C. Maennel.
66 *Eclampsia with 200 Convulsions. , Recovery. (Eklampsie.) F. Engelmann.
67 (No. 12, pp. 329-352.) *Treatment of Placenta Prævia in General Practice. (Plac. praevia.) J. Füth.
68 To Prevent Leaving Sponges in Abdomen. (Zurücklassen von Kompressen.) L. Wechsberg.
69 Adhesion of Walls of Vagina or Uterine Cervix. (Conglutinatio vag. und orificii uteri.) I. Berczeller.
70 (No. 13, pp. 353-376.) Injury of the Cervical vertebræ in Difficult Breech Delivery. (Verletzungen der kindl. Halswirbelsäule.) J. Hofbauer.
71 Two Further Cases of Pregnancy After Küster's Operation for Inversion. (Grav. nach K. Inversionsop.) A. Keilmann.
72 (No. 14, pp. 377-400.) *Relations Between Fetal Heart Sounds and Sex. Intrauterine Breathing. (Beziehungen der föt. Herztöne zum Geschlecht., etc.) O. Büttner.
73 *Etiology of Ectopic Pregnancy. (Extraut.-Schwangerschaft.) F. Weisswange.
74 *Ovarian Carcinoma and Pregnancy. (Ov.-Karz. und Grav.) G. Zickel.

66. **Eclampsia with Recovery After 200 Convulsions.**—Engelmann's patient was a primipara of 22 with about 40 convulsions during or soon after delivery. About 500 c.c. of blood was withdrawn by venesection and 1,000 c.c. of salt solution injected, with 500 c.c. by the rectum. The convulsions ceased for four and a half days and then returned with extreme violence, 155 in 28 hours, with intervals of only 4 or 5 minutes. Withdrawal of 550 c.c. of blood, with rectal injection and retention of from 8 to 10 liters of salt solution, followed 4 hours later by withdrawal of 200 c.c. of blood with intravenous infusion of 1,500 c.c. of salt solution, when the patient was apparently moribund, was followed by cessation of the convulsions, improvement of the pulse and rapid recovery. Water was given copiously by the mouth and in repeated small rectal injections. The freezing point of the urine ranged from 0.94 C., 1.1, 1.3, 1.45 and 1.3, but on the day the patient was apparently moribund it had returned to 0.9. These findings show the precision of cryoscopy as an index of the functional capacity of the kidneys. The albumin findings were altogether unreliable, ranging from 4 per cent. the first day to traces later as the convulsions returned. A hot bath did not seem to do much good. This and the anuria observed in eclampsia suggest that Nature strives to retain water to dilute the toxins present in the organism. The case illustrates the benefits of systematic, copious flushing of the body with water as a means of treating severe eclampsia.

67. **Treatment of Placenta Prævia in General Practice.**—Füth has collected the records of 726 cases of placenta prævia occurring in the Coblentz district. These experiences all speak in favor of inducing delivery at once as soon as the diagnosis of placenta prævia is made, at least in private practice. Only 56 of the 726 mothers were primiparæ. The majority had borne from 2 to 6 children, and several had had as many as 15. In 5 instances placenta prævia had been observed at previous births, and in 6 the afterbirth was expelled before the child. The mortality was 20 per cent., mainly due to the long interval allowed to elapse between the first signs of hemorrhage and the delivery. Time was wasted on tamponing the hemorrhages as they appeared, leaving the woman weaker and less resistant each time, while the tampon proved a dangerous source of infection in many cases. In addition to these perils delivery finally occurred before medical aid could be summoned in 51 cases, with 16 deaths. All the women who succumbed to placenta prævia in the total 726 cases had had hemorrhage at one or more times before delivery, and all but 3 had applied for medical aid on account of these hemorrhages. The details of these fatal cases are tabulated, and Füth thinks that they speak strongly in favor of the assumption that the fatal result might have been averted if delivery had been induced after the first hemorrhage. In 10 cases in which he was called in consultation he acted on these principles, advising immediate delivery as soon as the diagnosis of placenta prævia had been established. As the woman could not be left without medical supervision after introduction of the metreurynter or combined version, these were never done until evening, so that the physician could have the night free for watching over the patient afterward. In 6 out of 7 cases everything had reached a favorable termination by the next morning. In one case spasmodic contraction of the os required an incision in the constricting ring before the uterus could be emptied.

72. **Relations Between Fetal Heart Sounds and Sex.**—Büttner has examined 63 pregnant women to note the character of the fetal heart sounds and their frequency. The average beat was 137.3 a minute in case of boys (32 women with 1,258 examinations), and in case of girls it was 141.4 a minute (31 women, with 1,259 examinations). If the beat is above 145 or lower than 135 the guess at the sex is liable to be correct in 65 per cent. of the cases. The fetal heart beat seems to grow slower during the last month of pregnancy. It is less frequent with comparatively small placenta than with a large placenta, and the placenta is, as a rule, smaller with boys than with girls, according to his experience. He has several times witnessed an unmistakable rising and falling of the abdominal wall of the pregnant woman in the region over the back of the fetus. This rhythmical rising and falling was in a tempo entirely distinct from the maternal respiration or pulse, and Füth remarks that it would be hard to convince any one who had observed it as he has, that it is not the result of intrauterine fetal breathing.

73. **Etiology of Extrauterine Pregnancy.**—Weisswange points out that gonorrheal infection is a frequent source of changes in the tubes which render ectopic pregnancy possible. Cases in which this occurs are listed as extrauterine pregnancy, and the underlying gonorrhea is overlooked. The wider his experience and the more extensive his studies on the subject, the greater the part he ascribes to gonorrhea in gynecologic affections.

74. **Pregnancy with Ovarian Carcinoma.**—Zickel's patient was a woman of 21 and the tumor was exceptionally malignant, as it recurred and proved rapidly fatal in less than four months. The possibility of a malignant tumor had scarcely been considered at the first operation, on account of the youth and the unusually healthful appearance of the patient. The tumor in the right ovary compressed the ureter completely, and an attempt was made through the vagina to restore the ovary to its normal place. During this maneuver the tumor ruptured and was removed. The left adnexa were left undisturbed, and pregnancy continued to term. The recurrence of the cancer at such an early date is ascribed to the rupture, spreading the contents of the growth throughout the abdominal cavity. Zickel warns that such attempts at reduction would better be avoided, even with the most apparently innocent growths, and ovariotomy be done without delay.

Mitteilungen a. d. Grenzgebieten d. Med und Chir., Jena.

Last indexed, page 1307.

75 (XVII, Nos. 3-4, pp. 249-532.) Histology of Appendicitis. (Wurmfortsatzentzündung.) R. Noll.
76 Pathology and Treatment of Appendicitis. (Blinddarmerkrankungen.) A. Albu.
77 *Pathology of Cysts of the Pancreas and Pancreatic Diabetes. (Pankreascyste und Pankreas Diabetes.) G. Grund.
78 *Bilateral Pneumothorax and the Independence of the Respiration in the Lungs in Respect to Pressure Conditions. (Doppelseitiger Pneumothorax.) D. Hellin.
79 *Gastrointestinal Hemorrhages After Extirpation of Spleen. (Kasuistik der isolierten Schussverletzungen der Milz.) V. Lieblein.
80 Resection of Thyroid and Pregnancy in Relation to Tetany and Nephritis. (Exp. Beiträge zur Frage der Epithelkörper-Funktion.) L. Caro.
81 *Hysteria in Surgery. (Hyst. in der Chir.) W. Kausch.

77. **Pancreatic Cyst and Pancreatic Diabetes.**—Grund reports a case of pancreatic cyst in a woman of 25. Several months before the first symptoms were observed the patient, then six months pregnant, slipped on the ice and another person tripped and fell on her abdomen. After a period of abdominal pains and vomiting all symptoms subsided, and a healthy child was delivered at term. A month later pain and vomiting recurred with icterus, with intervals of good health, with the gradual development of mild diabetes. About a year after the trauma a pancreatic cyst was operated on. The icterus subsided at once and permanently, but the diabetes persisted and within a few months assumed a comparatively severe

form. The metabolic findings are tabulated as recorded during the various phases of the case; they show that the functions of the pancreas in respect to the digestive processes were not essentially altered. Grund accepts this as evidence that the sugar-destroying and the digestive functions of the pancreas are quite independent of each other.

78. **Non-Fatal Bilateral Pneumothorax.**—Hellin reviews a number of cases from the literature in which bilateral pneumothorax existed and yet the patients recovered or survived for some time. He says that surgeons have adapted their intervention to the teachings of physiology, but the fact that an individual can survive with pneumothorax on each side upsets the teachings of physiology, and shows that surgery must take the lead and amend the teachings of physiology. He found in his experiments that when the opening into the pleura was made very gradually and only slowly enlarged, the animals survived with no apparent injury. But when he made a wide opening into the thorax suddenly, they almost invariably succumbed. Dogs are most sensitive in this respect, more so than man, but by gradual intervention the harmlessness of bilateral pneumothorax was abundantly established.

79. **Gastrointestinal Hemorrhage After Splenectomy.**—Lieblein protests against the assumption that removal of the spleen is always a simple and harmless operation. In two cases he has had occasion to observe severe gastrointestinal hemorrhage consequent on the splenectomy. In the first case the patient was a young man with a bullet wound in the spleen without injury of other organs—an attempt at suicide. On suspicion of injury of the stomach the abdomen was opened, but no damage was found except in the spleen, which was constantly bleeding and was extirpated. The patient rapidly recovered after the operation, but the next day began to vomit, and for six days vomited blood, with seven or eight melenic stools a day. The abdomen was not painful and there was no dulness. The patient was kept alive only by saline transfusion and camphor injections. After the seventh day the threatening symptoms subsided, but a week later convalescence was disturbed by thrombosis of the right femoral vein, which subsided in two weeks. In the second case a man was kicked by a horse and the spleen was found seriously injured and was removed. Gastrointestinal hemorrhages appeared the fourth day after the accident and operation, and they soon proved fatal. Busse published last year a list of ninety-six cases of postoperative gastrointestinal hemorrhage collected from the literature, but none was after splenectomy. Laing's case is the only one of which Lieblein knows, aside from his two cases, in which splenectomy was followed by this complication. But these cases are enough, he says, to warrant hesitation before removing the spleen. When the pedicle of the spleen is ligated the ligature should be applied close to the hilus to avoid including the branches of the splenic artery passing to the stomach—especially the vasa brevia. He urges suture of the spleen whenever possible rather than extirpation, and trusts that the technic of suture of this organ may soon be improved, suggesting Senn's technic described in The Journal, 1903, vol. xli, page 1241, or Payr's method of supporting the suture with perforated absorbable magnesium plates or by interposition of omentum. The blood findings in his cases after the splenectomy are described.

81. **Hysteria in Surgery.**—Kausch is professor of surgery, but was trained as a neurologist and served as assistant at the Strasburg neurologic clinic before devoting his energies to surgery. He thinks that this special training renders him peculiarly qualified to discuss the subject of hysteria as it affects surgery. He gives a large number of instances of visceral hysteria from his own and others' experience, devoting special attention to hysterical ileus. In ten cases an operation was performed and in fifteen operation was refused. He includes in the list only the cases with fecal vomiting. The general condition did not correspond with the severity of the ileus symptoms, as a rule. The duration of the ileus varied widely, from two days to six years being the range. Two of the patients were men and one a boy. The age was generally between 20 and 25, but the list includes one woman of 51. He thinks that there are reasons for assuming that antiperistalsis has something to do with the explanation of hysteric ileus, as also spasmodic contraction of the intestine and localized paralysis. Antiperistalsis would explain the vomiting of actual scybala, while spasm and paralysis can explain at most the vomiting of fluid intestinal content. In case of antiperistalsis the abdomen is sunken, while with spasm or paralysis it is distended, as a rule. He is convinced that careful, tranquil observation will always differentiate the hysterical form, watching the patient closely, using the stomach sound and, in case of signs of fistula between stomach and colon, trying insufflation of the intestines. A fistula which allows large scybala to pass would also allow the passage of water and air. Operative treatment of hysterical ileus or appendicitis does little if any good. Other hysterical affections reviewed are those simulating organic trouble in the liver, kidneys, ovaries, vagina, uterus, etc. He believes in the possibility of true hysterical polyuria, and the French have described a number of cases of hysterical anuria or ischuria, but he thinks that the supposed prolonged anuria is generally due to some trick on the part of the patient. Close supervision and catheterization at unexpected times will generally reveal the deception. Anuria can not continue long without signs of uremia. Cases are known in which the patients drank their urine, which might explain some of the cases of supposed anuria and urine vomiting on record. Spasmodic contraction of the sphincter of the urethra may be so complete as to prevent the passage of a sound, but generally the catheter can readily be introduced. Hysterical patients are particularly prone to retention of urine, but the physician should refrain from catheterizing them. If left alone and unwatched the bladder usually is evacuated sooner or later, and if not, the patient will soon get relief in a hot bath. In Bardol's case the retention persisted for months. Operations for the relief of splanchnoptosis seldom benefit hysterical patients except when there are symptoms from direct traction on certain organs. Kausch discusses further hysteria simulating organic affections of the brain, ear, spinal cord, throat, lungs, etc. In hysterical hemoptysis the blood issues from the mouth, nose or throat, generally from intentionally produced injuries. He has little belief in true hysterical hemorrhages, but admits that there are unmistakable cases on record of pseudo-phthisis, pseudo-meningitis and pseudo-epilepsy in hysterical individuals.

Virchow's Archiv, Berlin.

Last indexed 1468.

82 (CLXXXVII, No. 3, pp. 351-533.) Plasmosomic Bodies and Metachromatic Stain for Protoplasm of Mononuclear Leucocytes in Blood and in Blood-forming Organs. (Plasmosomische Körper, etc.) A. Ferrata.
83 Histologic Study of Organs in Case of Fat Tissue Necrosis. (Organe bei Fettgewebsnekrose.) O. Berner.
84 2 Cases of Varicose Cavernous Tumors of Interauricular Septum. (Var.-kav. Geschwülste des septum atriorum.) G. Weber.
85 Anatomy and Embryology of Dual Ureter Formation. (Ureterverdoppelung.) R. Meyer.
86 Experimental Changes in the Liver Induced from the Gastrointestinal Canal and the Changes Found Therewith in Other Abdominal Organs. (Veränderungen der Leber.) L. d'Amato.
87 Aberrant Mesodermal Tumors at Lower End of Urogenital Apparatus. (Heterotope mes. Geschwülste, etc.) J. G. Mönckeberg.
88 Influence on Structure of Pulp of Tooth of Severing the Nerve. (Nervendurchschneidung und Zahnpulpa.) Brubacher.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed page 1556.

89 (LXI, Nos. 5-6, pp. 389-540.) Cause of Relief in Affections of Respiratory or Circulatory Organs on Change from Reclining to Sitting Posture. (Ursachen der Orthopnoe.) L. Hofbauer.
90 Case of Diffuse Lymphadenoid Metaplasia of Bone Marrow. (Lymphad. Metaplasie des Knochenmarkes.) H. Rubinstein.
91 *Pathogenesis of Pernicious Anemia, with Special Regard to Bothriocephalus Anemia. (Pathogenese der perniziösen Anämie.) T. W. Tallqvist.
92 Dicrotic Pulse with Aortic and Mitral Insufficiency. (Dikrotie bei Aorten- und Mitralinsufficienz.) R. Geigel.

91. **Pathogenesis of Pernicious Anemia.**—Tallqvist has found in the sexually perfect segment of a tenia—the *Bothriocephalus latus*—a lipoid substance with powerful hemolytic properties. This substance is not excreted; does not induce the production of an antibody; resists boiling, and resists the action of the protolytic ferments. When one of these segments becomes disintegrated this hemolytic substance is liberated,

and this is sufficient to explain the anemia observed in consequence of the presence of this parasite. No other tapeworm has this hemolytic substance. He also announces that substances which appear to be closely allied to this lipoid substance in this form of tenia are normally present in certain organs in man, especially in the mucosa of certain sections of the digestive tract and some of its glands. He thinks it probable that these substances can become so altered in quality or quantity under certain conditions that the lipoid substances become pathologic and induce direct hemolysis, leading to the clinical picture of cryptogenic pernicious anemia, in the absence of any gastrointestinal parasite.

Gazzetta degli Ospedali, Milan.

Last indexed, page 183.

93 (XXVII, Nos. 144-147, pp. 1513-1560.) *Pulsation of the Wall of the Thorax with Pleural Effusions. (Empiema pulsante.) S. Livierato.
94 *Saturated Solution of Bichlorid of Mercury for Local Injection in Syphilis. (Sublimato corr. in soluzione satura nella sifilide.) Puglisi Sante.
95 Tardy Consequences of Appendicitis. (Conseguenze dell' app.) D. Biondi.
96 *Blood Pressure in the Tuberculous. (Pressione sanguigna nella tub. polmonare.) G. Boschi.
97 *Syphilitic Gastralgia. (Gastralgia sifilitica.) G. L. Piola.
98 Sardinian Fermented Milk. (Miciuratu in Sardegna.) A. Bianco.
99 (Nos. 150-153, pp. 1577-1624.) *Operative Treatment of Accumulations of Fluid in the Fallopian Tubes. (Trat. op. delle raccolte tubarie.) B. Formiggini.
100 *Suspension of Kidney by Rib. (Nuovo metodo di nefropessi.) G. Monzardo.
101 *Salomon's Test for Gastric Cancer. (Prova di Salomon.) F. De Marchis.
102 Harmlessness of Paraganglin by the Mouth. (Inocuita della paraganglina per via gastrica.) N. De Paoli.
103 Electricity in Treatment of Heart Disease. (L'elettricita nella terapia delle malattie di cuore.) G. Galli.
104 Quantitative Relations Between Uric Acid in Urine and Leucocytes in Blood. (Acido urico urinario e leuc. del sangue.) G. Spadaro.
105 *Antibodies in Blood in Case of Echinococcus Cysts. (Cisti da echinococco.) Ghedini.
106 Organized Ferments of the Intestine. (Ricerche sui fermenti org. dell' intestino.) C. Molon and G. Tanfani.
107 Passage of Mercury from Mother to Fetus. (Passaggio del merc.) A. Conti and P. F. Zuccola.

93. **Pulsation of the Wall of the Thorax with Accumulations in the Pleura.**—Livierato reports two cases of pulsating empyema and summarizes sixty-four other cases found in the literature. He ascribes the pulsation to the accumulation of fluid in the pleura under considerable pressure.

94. **Injection of a Saturated Solution of Corrosive Sublimate in Syphilis.**—Sante reports four cases of tardy local manifestations of syphilis in which ordinary mercurial treatment seemed to produce no effect. He then made a single injection of three-quarters of a Pravaz syringeful of a saturated solution of corrosive sublimate. After suspension of all treatment then for three or four days, he resumed the ordinary injections and rapid recovery was then evident. Corrosive sublimate dissolves in water in a proportion of 1 to 16, and the saturated solution was thus sixty times his usual dosage. He added a little sodium chlorid to the solution, and made the injection in the buttocks. No by-effects were observed and he urges others to interpose this single strong injection in cases that do not respond to the ordinary technic.

96. **Blood Pressure in Tuberculosis.**—Boschi found the blood pressure lower than normal in 71 per cent. of the tuberculous patients examined; tension above normal was never noted in any instance.

97. **Syphilitic Gastralgia.**—Piola's patient suffered from atrocious pain in the stomach for about a year and all the diagnostic tests failed to reveal anything abnormal in the stomach, anatomic or functional, except the pains. No measures gave relief until mercury was tentatively tried. In order to exclude the influence of suggestion, the patient was told that before commencing a new system of local treatment his general system needed toning up for two weeks, but his pains would persist. He had had a mild syphilitic infection ten years before. To his surprise he found the pains were much relieved by the end of the third day of mercurial treatment, and he was soon completely cured.

99. **Operative Treatment of Salpingitis.**—Formiggini reviews the literature on this subject and describes two cases treated by lateral laparotomy and by suturing the pus pocket to the skin after evacuation. The uterus was curetted at the same time, and the salpingitis and endometritis both rapidly healed. He thinks that this is the ideal technic in cases with extensive adhesions. He waits until the acute phase is past before attempting operative intervention.

100. **Fixation of Kidney by Rib.**—Monzardo incises to expose the last rib and mobilizes the periosteum of the middle third of the rib. He then cuts the rib across, following a very slanting line, the upper end above and on the inner aspect of the rib. The half of the rib still connected with its articulation is then slit lengthwise up to 4 cm. of its attachment and the upper half is excised. This leaves a long, narrow strip of rib, and this strip is passed through the cortical substance of the kidney just below the capsule. The protruding end is fastened to the other half of the rib, which was left intact. The slanting end of this intact half of the rib offers a support to the bone protruding from the kidney, so that it can easily be tied in place and soon heals firmly. The results in two cases in which this technic was followed have been extremely satisfactory.

101. **Salomon's Test for Cancer of the Stomach.**—De Marchis describes the findings in 22 cases of various stomach affections in which this test was applied. (Its technic was described in The Journal, 1903, vol. xli, page 694.) He found the findings corroborative of other reliable tests and that they were always confirmed by the clinical course of the cases.

105. **Antibodies in Echinococcus Affections.**—Ghedini states that in a case examined the blood serum showed unmistakable evidence of the presence of antibodies. The hemolytic blood test is, therefore, able to differentiate an echinococcus affection in dubious cases if further experience confirms the testimony in the case described. The patient was a lad of 13 with a large echinococcus cyst in the liver.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Practical Medicine Series, Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. III. The Eye, Ear, Nose and Throat. Edited by C. A. Wood, C.M., M.D., D.C.L., A. H. Andrews, M.D., and G. P. Head, M.D. Series 1907. Cloth. Pp. 353. Price, $1.50. Chicago: The Year Book Publishers.

Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, A.M., M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Northwestern University Medical School, Chicago. Illustrated. Cloth. Pp. 1328. Price, $5.50 net. Philadelphia and New York: Lea Bros. & Co., 1907.

Thirty-Seventh Report of the Central Free Dispensary of West Chicago, at Rush Medical College. For the Period of Four Years, Extending from Jan. 1, 1903, to Dec. 31, 1906. With the Charter and By-Laws. Located in Senn Hall of Rush Medical College, 757 W. Harrison Street. Paper. Pp. 29.

Essentials of Histology. Descriptive and Practical. For the Use of Students. By E. A. Schäfer, Sc.D., F.R.S., Professor of Physiology in the University of Edinburgh. Seventh Edition. Cloth. Pp. 507. Price, $3.50 net. Philadelphia and New York: Lea Bros. & Co., 1907.

A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M.D., LL.D., Clinical Professor of Otology in the Medico-Chirurgical College, etc. Illustrated. Cloth. Pp. 556. Price, $2.50 net. Philadelphia and London: W. B. Saunders Co., 1907.

Dermatologische Vorträge für Praktiker, Heft 18. Kokkogene Hautleiden. (Furunkel, Erysipel, etc.) von Dr. S. Jessner. Paper. Pp. 102. Price, 1.8 mk. Würzburg: A. Stubers Verlag (Curt Kabitzsch), 1907.

Ulceration of the Cornea. By Angus Macnab, B.A., B.Sc., etc., Chief Clinical Assistant, Royal London Ophthalmic Hospital. Cloth. Pp. 196. Price, $2.00 net. New York: William Wood & Co., 1907.

Worry the Disease of the Age. By C. W. Saleeby, M.D., F.R.S., 7din. Cloth. Pp. 311. Price, $1.35 net. New York: Frederick Stokes Co., 1907.

Special Report On the Occasion of the Seventh Anniversary of the Groszmann School, Watchung Crest, Plainfield, New Jersey. Paper. Pp. 20.

Studies from the Zoological Laboratory of the University of Nebraska. No. 70. Iconographia Parasitorum Hominis. By Henry B. Ward. Paper.

Nugae Medicinae. By John Godfrey, surgeon, P. H. & M.-H. S. Cloth. Pp. 192. Detroit: Richmond & Backus Co., 1907.

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Addresses

THE FINAL TRIUMPH OF SCIENTIFIC MEDICINE.*

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CHICAGO.

> "That is to be wise to see not merely that which lies before your feet, but to foresee even those things which are in the womb of futurity."—Terentius.

Nations as well as individuals have their own peculiarities, their customs and habits, their own way of thinking and acting. The most characteristic feature of the American people in the eyes of the old world is the intense concern for the present and a relative disregard for the past and little concern for the future. The typical American concentrates his energies and devotes his time to accomplish what he has undertaken in the shortest possible space of time. We are a nation of intense workers, with little time for after- or forethought. Our country is new, its resources immense and only partially developed, and the possibilities for individual and corporate efforts unlimited. This intense activity, individual, corporate and national, has made our country what it is to-day—the most prosperous in the world, but the time is coming, and it is not far distant, when we shall have reason to regret the lack of after- and forethought.

As a nation and as individuals we have become too intently addicted to the precepts:

> "To-day comes only once, and never again returns."
> —Schopenhauer.

and

> "To-day is ours, we have it here. . . . To the Gods belong to-morrow."—Cowley.

This strenuous life, this intense application to what lies at our feet, is by no means limited to our wide-awake, energetic business men; it has likewise involved the professions, and most especially so the medical. There is no other country, with perhaps the exception of Japan, in which the medical profession has made more rapid strides than in the United States. Without government support, state and private medical schools have been established throughout the country, many of which are on a par, if not superior, to the universities of the old world, which count their age by centuries. Largely through the influence of the medical profession excellent public and private hospitals have been erected in rapid succession in all of our cities for the care of the sick, rich and poor, which furnish an abundance of clinical material and ample facilities for scientific investigations and research work.

Through the munificence of men of wealth a number of laboratories have recently been built and richly endowed, where American talent will cultivate the field of science and contribute its rich harvests year after year to the common fund of knowledge. The great activity of our profession is best shown by the number of medical societies, the large attendance and interest displayed at their meetings. The reorganization of the American Medical Association and the societies, state and county, in affiliation with it, has been instrumental in uniting the medical profession throughout the entire country into one great army of scientific men, intent on maintaining the dignity of the noblest of all professions and to labor in harmony and unity in advancing and perfecting the science and art of medicine. National, sectional, political and social considerations play no part in this great medical community, as all its members have the same objects in view—the uplifting of their high calling and the noble desire to give their clients the best that the present state of our science can offer. It can be said without boasting that the American doctors spend more time and money in attending medical societies and postgraduate courses than those of any other country. We have reason to feel proud of the present status of American medical literature. Some of the very best text-books of to-day on medicine and surgery, and the different specialties, have been written by American authors. We take just pride in THE JOURNAL of the American Medical Association, which in a few years has reached a circulation of over 50,000, and which brings to the physicians every week the newest and the best in the way of current medical literature, to say nothing of the other 150 medical journals, good, mediocre and some of them which are consigned regularly to the waste basket. It is the mass of the regular profession rising in a body and demanding a higher standard of medical education which has been instrumental in forcing some of the lagging medical colleges to raise the requirements for admission, and to extend the time of attendance, and to make provision for the necessary amount of laboratory work and better clinical teaching. It was the mass of the medical profession which deprived the diploma of its power as a license to practice, and which, after many hard struggles, succeeded in instituting a board of medical examiners in each state of the Union, which decides, after a stringent examination, who shall and who shall not be permitted to practice. Those who have passed these examinations in any of our states know what they mean. Many a proud possessor of a diploma of a European university has found the gate of entrance very narrow, and some, to their utmost astonishment and sorrow, closed and securely locked. All these things have been accomplished in a remarkably short time and by the voice and extraordinary action of a hard-working united profession. We had little time to spend in looking backward and far into the future; we expended our vigor and energies on what was immediately before us, and in doing so met the pressing duties of the day;

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*The Jerome Cochran Lecture, delivered before the Medical Association of the State of Alabama, April 17, 1907.

much remains to be done, but we can now take a little respite and take a brief retrospective view of what our profession has accomplished in the way of preventive medicine, the crowning triumph of the science and art of medicine.

Confucius said: "Study the past if you would divine the future," and this maxim applies with special force to the subject of this address, "The Final Triumph of Scientific Medicine."

The final triumph of scientific medicine will be the victories of preventive medicine. We glory in what has been accomplished so far in the protection of mankind against disease, but it is a mere beginning, a skirmish preceding a long and continuous campaign, a succession of fierce battles, with the causes of infection and contagious disease, which will ultimately crown with victory the unremitting and unselfish toil of the most beneficent of all professions. The ancient physicians had little or no conception of prophylaxis; their time, talents and energies were devoted almost exclusively in devising ways and means of curing disease. They were imbued with the Shakespearian idea,

> "We can not hold mortality's strong hand,"

and were only too willing to admit the truth of the pessimistic precept,

> "The lot of man—to suffer and to die."—Pope.

They took it for granted that disease is a necessary evil—a curse to humanity, and grappled with it with such means and remedies as suggested themselves as being antagonistic to the morbid conditions wrought by disease. They were doctors, not sanitarians. From time immemorial the medical profession always has had the welfare and happiness of mankind at heart, but owing to a lack of knowledge concerning the nature and real causes of disease, very little could be expected in the way of prevention. For the same reason the battle with disease was fought in the dark, to the disadvantage of the physicians and the detriment of their patients, so much so that even as late as the time of Benjamin Rush, one of our most famous physicians and one of the signers of the Declaration of Independence, and our first surgeon-general, was led to admit, "We have not multiplied diseases, but we have made them more fatal." This honest confession of the leading physician of our country during the latter part of the eighteenth century, about the time of the birthday of our nation, shows how little had been accomplished up to that time in the way of successful treatment of disease, to say nothing of prophylaxis, which had received but little attention. The successful treatment of disease depends largely on a knowledge of its cause and nature, and preventive medicine almost entirely so. The comparatively new science of bacteriology is the foundation of preventive medicine. All other efforts in this direction were at haphazard and usually fruitless before the microbic origin of disease was made the basis of action.

Let us now consider very briefly to what extent humanity has been benefited by preventive medicine, the cherished child of the medical profession of to-day. I need not tell you that all that has been accomplished in this new field of medical thought and action is the very best proof of the unselfishness of the medical profession and of the humanitarian spirit which actuates the true physician. Doctors earn their daily bread by taking care of the sick, and consequently the lessening of disease by preventive measures necessarily reduces their income, but this does not prevent them from giving their time and energies in efforts to lessen the sum of human suffering by protecting their patrons against preventable diseases. In this respect the medical profession has no equal among other classes of men; it stands solitary and alone as an emblem of genuine charity and unselfishness. Prevention rather than cure has been for some time the aim of scientific progressive physicians. I will now enumerate a few of the preventable diseases and make mention of what has been so far accomplished in warding them off by appropriate treatment or sanitary precautions.

SMALLPOX.

More than a century ago smallpox, one of the most loathsome and fatal of the acute infections and contagious diseases, was shorn of its horrors by vaccination, a boon to humanity which we owe to the immortal Jenner. You are all familiar with the violent opposition which this, the surest of all prophylactic measures, has met at different times and in different localities by the educated and the ignorant, although its value as an absolute preventive against smallpox has been established long ago—a striking proof of the truth that

> "Nothing has tended more to retard the advancement of science than the disposition in vulgar minds to villify what they can not comprehend."—Johnson.

With what we know from a long and vast experience of the protective value of vaccination it does seem almost incredible to have now and then an outbreak and spread of smallpox in civilized communities, as compulsory vaccination properly performed ought to have eradicated this disease from the face of the earth half a century ago. Doubters of vaccination as a protective against smallpox ought to inform themselves of the terrible ravages this disease has wrought among the savage races and see the many scarred faces of the survivors. The history of vaccination is a fair sample of the way in which new innovations devised and promulgated for the good of the public are so often misunderstood and opposed.

HYDROPHOBIA.

We are still ignorant of the true nature of this, the most terrible of all diseases. We know it is a microbic disease, but its micro-organism has so far eluded detection. The period of incubation is about six weeks, and the disease is invariably fatal in from three to four days. Treatment is powerless, prevention almost a certainty with Pasteur's inoculations, if resorted to in time and administered by one who is familiar with the method. If Pasteur had done nothing else during his lifetime but to devise and teach his preventive treatment of hydrophobia he would still be one of the greatest benefactors of the human race. The many Pasteur institutes scattered all over the world will remain and continue their humane work until a just law will reach the innumerable miserable disease-spreading curs, and the owners of the comparatively few noble survivors of the canine race will give them the care and attention they need and deserve, when hydrophobia will become an unknown disease.

WOUND INFECTION.

We now come to the preventable diseases, the microbic origin and nature of which are well known. It is in this field of preventive medicine that the science of medicine has achieved during the last two decades the most marvelous results. It was during this short space of time that surgery has undergone a complete revolution by the discoveries which led to a solution of the mystery of wound infection and its prevention by aseptic precautions and antiseptic treatment of wounds already infected. The discovery of the microbic cause and real nature of inflammation was the first and greatest triumph of scientific medicine, and has contributed more to the prolongation of human life and mitigation of suffering than all previous medical knowledge which had accumulated from the time medicine was first practiced and taught. It raised surgery from a mechanical art to a science, and placed the study and practice of medicine on a rational foundation and unlocked the doors which up to that time had barred the progress of intelligent and effective sanitation. The two distinguished central figures which have inaugurated this new and enlightened era in medicine are Pasteur and Lister, the two men who, to my mind, have conferred a greater benefit on the human race than any other two mortals in the history of the world. These two scientists and investigators have built the foundation for the new temple of scientific medicine and surgery, and in the rearing of which enthusiastic scientists all over the world have taken an active part, the most notable among them being Koch, Ogston, Julius Rosenbach, Klebs, Metchnikoff, Kitasato, Welch, Donovan and Wright. The world is fond of hero worship, and the hero who has slain the largest number on the field of battle and has won the greatest victories is the one whose deeds are immortalized in the annals of history, and whose equestrian statues populate public halls and parks. Every schoolby is familiar with the history of Caesar, Hannibal and Napoleon, who in the childish mind figure as the greatest heroes of the past, but these heroes won their fame, their victories, their glory, by sacrificing thousands of lives and causing untold suffering and misery—and all for selfish ends. Peace has its heroes and its victories as well as war. The war with disease has been waged for thousands of years, is going on now and will not cease until scientific medicine has won its last victory. Our three greatest heroes in this bitter struggle between science and disease are Pasteur, Lister, and Koch, names eminently worthy of being placed highest in the world's hall of fame, for "Great is the victory without bloodshed." These heroes had no selfish motives in accomplishing what they did, as their lives were consecrated to the task of unraveling the mysteries of disease. Their victories were won in the silent laboratories in bloodless battles with the most stubborn and the most bitter enemy of man—disease. Those of you who have practiced your profession for more than thirty years can appreciate what these three pioneers and others who have been working in the same line have done for science and the good of humanity. The new science of bacteriology explained the mystery of wound infection and led the way to its prevention. Those of you who were engaged in the Civil War on either side must remember with horror the fate of the wounded. You tied the bleeding arteries with the well-waxed silk ligature and left one end hanging out of the wound in order to be eliminated later by suppuration and sloughing, a process which only too often gave rise to secondary hemorrhage. Few even of the simplest wounds healed by primary intention. Your hearts rejoiced when you found wounds bathed with so-called landable pus. You did not know then why so many of the wounds suppurated. You had ample opportunity to study the ravages of hospital gangrene, a disease which since then has disappeared from the face of the earth. You saw pyemia and septicemia in all their ghastly fatal forms. You did not know why that insidious disease, erysipelas, spread from patient to patient and from hospital to hospital. You knew that in all grave cases of gunshot wounds of the limbs the patient's chances of life were better if you performed primary amputation. How all this has been changed since the light of science has shed its rays on the battlefield! Under the aseptic treatment penetrating gunshot wounds of the large joints heal in most instances without any complications and with good functional results. Primary amputation is reserved for the few cases in which the injury is such that gangrene would necessarily follow. Military surgery has resolved itself largely into prophylaxis; the aseptic precautions have taken the place of amputating instruments. In civil practice the blessings of aseptic surgery are even more conspicuous. Aseptic surgery has opened the doors of all large cavities which are now invaded with impunity. It has enlarged the field of operative surgery, and in cases in which the diagnosis is doubtful the knife settles the doubt without endangering the life of the patient. Under aseptic precautions, with the absorbable animal ligature and a good supply of hemostatic forceps, the surgeon now undertakes the most difficult operations with confidence and with the satisfaction of knowing that he is master over the greatest dangers which face the patient---hemorrhage and infection.

PUERPERAL SEPSIS.

That much dreaded disease, puerperal fever, in the form of puerperal sepsis, thrombophlebitis and other local infective processes that so often darkened the lying-in room and claimed so many victims, has been almost completely banished from the list of postpartum complications, since physicians have learned to regard the parturient woman as a surgical case, and have taken the necessary precautions to protect her against infection during and after delivery. We can now understand why this dreaded visitor of the lying-in room was so often introduced by the attending physician or midwife by carrying the infection on the clothing, hands or instruments from house to house. To-day the parturient woman in the hands of the well-trained aseptic obstetrician is safe and may look forward to the impending ordeal with hope and not with fear. The aseptic technic has become the inseparable bond of union between obstetrics and surgery, the success of both arts being based on the same principles of precaution against infection.

TETANUS.

One of the most dreadful of all wound complications is tetanus. It is well known that this disease, so frequently fatal and attended by the most excruciating suffering, is very prone to follow insignificant injuries in which dust or soil is introduced into the wound, as these substances are the most common media which contain the tetanus bacillus or its most resisting spores. The mortality of this disease is appalling; in fact, it may be safely stated that the acute form has so far defied treatment, while the chronic form yields to time and appropriate medication. While the curative treatment so far has proved very unsatisfactory, we are in possession of a reliable prophylactic treatment by means of hypodermic injections of the antitetanic serum, another precious fruit of patient and persistent research work in the vast field of bacteriology. It was at first the ardent hope and sanguine expectation of the medical profession that this serum would prove curative in the treatment of tetanus, but this hope has been vanquished by a large experience. When I visited the experimental station of the Rudolphianum Hospital in Vienna a few years ago the man who had charge of the animals informed me that a number of the horses kept in the stables had contracted the disease and the serum treatment was promptly carried out, but all of the animals died. The same disappointing results have been recorded in the serum treatment of acute tetanus in man, regardless of the method by which the serum was administered. As a prophylactic the serum treatment has proved eminently successful, and in consequence practitioners who are in charge of patients whose injuries are such that there is a fair probability that tetanus might follow, resort to it in time, and usually succeed in preventing the disease—another great triumph for modern scientific medicine, as prevention is always vastly preferable to cure, and will be the motto of medicine in the future.

MALARIA.

These glimpses of modern surgery suffice to indicate in no hesitating or doubting way how deeply we are indebted to the founders of the new science of bacteriology for the marvelous growth of this branch of the healing art, but when we extend our inquiries a little further and explore the field of medicine we find that bacteriology has wrought wonders here, both in regard to the etiology and treatment of disease, and more especially in preventive medicine. For centuries the antimalarian action of Peruvian bark has been known by physicians and to a considerable extent by the public, and later that of its alkaloids. Nothing was known of the real cause of the disease until its parasite, the plasmodium malariæ, was discovered in the blood of malarial patients by Laveran. Persistent research on the part of many investigators finally traced the infection to certain species of mosquitoes, notably the anopheles. We now can understand what was impossible to explain before—that malaria is prevalent in localities inhabited by this species of mosquito, and during seasons when the mosquitoes are most numerous. We are now in possession of knowledge which enables us to resort to means and remedies calculated to eradicate this disease from mosquito-infected districts. The preventive treatment of malaria is now practiced on a large scale in German East Africa under the direction of Professor Koch. During my sojourn on the east coast of Africa last summer I had an excellent opportunity to observe and study the methods employed. Reasoning from an etiologic standpoint, two methods suggested themselves: (1) The removal or destruction of the carriers of the disease, the anopheles, as recommended by Ross, and (2) the destruction of the plasmodium parasite in the patient's blood by the quinin treatment, proposed by Manson and Koch. Both of these methods were practiced by Professor Ollwig, of Dar-es-Salaam, German East Africa. The war on the mosquito by draining pools of stagnant water and the employment of petroleum proved disappointing and failed in reducing to any appreciable extent the prevalence of malaria. By making blood examinations the persons not afflicted with malaria were next located and subjected to the prophylactic quinin treatment. This part of the work was done chiefly by trained female nurses. Quinin in doses of 15 grains was administered every ninth and tenth day and continued for two months. It was soon found that the time of treatment was not long enough, and it was then extended to two and a half to three months. The drug was administered early in the morning or late in the evening on an empty stomach. The natives, who were at first not in favor of the blood examinations and prophylactic medication, soon became convinced of their necessity and value and submitted themselves willingly to both. As the results were not as prompt as expected, the quinin days were increased to three, and while the two days' treatment left a smaller percentage in which the parasites could be found in the blood at the end of treatment, the three days' treatment improved the results materially, leaving only one-half of 1 per cent. of cases in which some parasites could be found in the blood at the end of treatment. The quinin was administered to adults in tablet form, to children in solution, and experience has shown that the administration in solution has had the best effects, and that way of administering the drug has since been employed exclusively. At present the usual treatment consists in administering every eighth or ninth day 15 grains of quinin in solution on an empty stomach, which is continued until the blood is free from plasmodia; that is, for two to three months. This prophylactic treatment corresponds with that recommended by Manson. Others have recommended smaller and more frequently administered doses. For myself, I am satisfied from my own personal experience in the most dangerous localities, including the east coast of Africa, Central America, Cuba and Porto Rico, that persons who have not suffered from malaria will create a partial, if not complete, immunity by taking daily a 5-grain dose of quinin with the juice of a lemon at least two weeks before exposure to infection and as long as they reside in a malarial district, or, if the residence is a prolonged one, until the drug has produced an immunity to malarial infection. The prophylactic quinin treatment not only protects the individuals thus treated against malaria, but if extended to all the human carriers of the plasmodium will deprive the anopheles of their supply and render them harmless. The future war against malaria will be conducted from two strategic points—mosquito destruction and prophylactic quinin treatment.

TYPHOID FEVER.

Typhoid fever is one of the acute infectious diseases most widely disseminated over the surface of the globe, and yet it must now be classed with the preventable diseases. The prevalence of this disease in a civilized community is a reflection on the civic authorities and more especially on those who are entrusted with the guardianship over the health of the people. Since the discovery of the bacillus of this disease by Eberth we know that infection takes place through the gastrointestinal canal by the ingestion of food and drink contaminated with the bacillus. Sterilization of food and water by heat is the surest safeguard against this disease. Water is the great medium of the bacillus of typhoid fever, outside of the body, and the disease will prevail more or less just as long as the crime of water pollution receives the sanction of governing bodies from the general government down to the officials of the most remote country village. With the present widespread water pollution

> "He who wants the water pure must go to the spring-head."

It behooves the medical profession to keep up the war against water pollution until our inland lakes and streams are as pure as the Creator made them, and it is then and only then that typhoid fever will lose its grasp on the human race. Until that is accomplished we must ever bear in mind the precept,

"Let the safety of the people be the supreme law."—Cicero.

CHOLERA.

Like typhoid fever, cholera is a water-born disease. From its original breeding-place in the sluggish filthy water of the Ganges River this dreadful scourge has from time to time made excursions to different parts of the world, usually along the routes of travel and commerce in the form of widely-spreading, devastating epidemics. Before Koch discovered the microbic cause of this disease in the shape of the comma bacillus physicians were almost powerless in preventing the spread of these epidemics, and much more so in stamping out the disease, which usually pursued its relentless course until the approach of winter arrested its further progress by the attending cold destroying its microbic cause.

The modern methods of sanitation, strict quarantine and proper attention to the water supply have succeeded in nipping such epidemics in the bud, "whilst bright-eyed Science watches round" (Gray), and we have reason to hope that in the near future coming generations will know cholera only by its name.

YELLOW FEVER.

You who live in the south have become, by sad experience, only too familiar with this frequent and much-dreaded visitor from the ports of Cuba, South and Central America. This scourge of the south has lost its power and you have little to fear from it in the future, since the black mask of this grim visitor has been torn from his face by bacteriologic research.

We have become familiar with the cause, nature and manner of spreading this disease and know how to prevent it. The first positive proof that the *Stegomyia calopus* was the carrier of the infecting agent of yellow fever was given when Carroll, in July, 1900, offered himself for a test experiment with a self-sacrifice worthy of the highest praise. He barely escaped, while Lazear, of the American Commission, and Myers, of Liverpool, lost their lives. You are all familiar with the carefully-conducted experiments of the late Dr. Reed, of the United States Army, which led to results which raised beyond all doubt the direct etiologic relationship between the stegomyia as the carrier of the infecting agent and yellow fever. With such knowledge as a basis for warfare, Colonel Gorgas has succeeded in stamping out the disease in the Canal Zone, and by doing so has furnished the most reliable assurance of the completion in the near future of the greatest task ever undertaken by a single nation—the Panama Canal. Without the intervention of preventive medicine the second attempt of this enormous undertaking would have ended as ignominiously and disastrously as the first. When this new waterway will be open for the commerce of the world it will not be the President of the United States, Congress or the engineers, but Colonel Gorgas who will be entitled to the greeting,

"Hail to the Chief who in triumph advances."—Scott.

as without his wise and effective sanitary intervention the completion of the canal would have remained an idle dream, as the prevalence of tropical diseases presented greater difficulties to the undertaking than the granite backbone of the American continent.

BUBONIC PLAGUE.

The tropics have their attractions as well as their dangers. They are without the great microbe-destroyer, the stern winter of the north, and many diseases which require a tropic soil and tropic heat for the germination and growth of their microbic cause have their geographic limits beyond which they lose their virulence. One of the much dreaded tropic diseases is bubonic plague, which has raged in the form of rapidly-spreading epidemics usually along the highways of travel. Three years ago, while in Bombay, India, I visited the plague hospital and had an opportunity to study thirty-eight cases in all stages of this loathsome disease. Later I visited the Plague Research Laboratory, in which Mr. Haffkine, a Russian scientist, has done such wonderful work in the field of prophylaxis, and who has rendered India such signal service since 1893, first by his prophylactic treatment of cholera by serum inoculations, and later by his discovery of a serum against the plague. In the absence of Mr. Haffkine, Lieut.-Col. W. B. Bannerman, I. M. S., who temporarily filled his place, showed me through the institution. The former residence of the Governor of Bombay at Parel, a beautiful suburb, has been converted into this research laboratory, and the former ballroom is now the place where the anti-plague serum is brewed, and halls and bedrooms where fashion reigned are now occupied by dozens of cages containing animals for experimental use. In a paper presented by Lieut.-Col. Bannerman to the Royal Society of Edinburgh, in 1902, he stated that the serum treatment, in the prevention of the bubonic plague, is reliable and specific in its results. The immunity thus obtained remains throughout the entire epidemic, and has been known to last two years; its exact maximum limits, however, remain undetermined. The culture and serum rooms in this laboratory contain hundreds of flasks filled with serum, protected against contamination by a cotton plug with ends burnt off. The prophylactic treatment consists in making a single hypodermatic injection of from 4 to 5 c.c. of the sterilized culture under the strictest aseptic precautions. All subjects thus treated during the epidemic escaped the disease, even in badly-infected districts. The experience with this serum has reached enormous dimensions and its absolute reliability can no longer be questioned. This favorable experience with Haffkine's serum against the plague in India was repeated in Zanzibar during the last visit of this epidemic. With stringent quarantine regulations and the prophylactic inoculations with Haffkine's serum bubonic plague has lost its terrors as an epidemic disease, and in the course of time will lose its foothold on the tropic soil.

MEDICINE IN THE FUTURE.

Enough has been said of the great victories achieved by scientific medicine in the recent past. Victory has followed victory, and many of the most dreaded diseases have become powerless in the conquest with preventive medicine. The wonderful results obtained by Behring's serum in the treatment of diphtheria is the surest indication that in the future crude drugs must give way to serotherapy in the successful treatment of all acute self-limited infectious diseases. The clientele of the physicians is growing smaller and smaller, but their glory as humanitarians and scientists is rising and will reach the zenith after coming generations of more erudite physicians have conquered and laid at their feet the two worst enemies of mankind—tuberculosis and cancer. We are confident that tuberculosis in all its forms will soon be forced to retreat, as we know its microbic cause and are familiar with its methods of warfare. We have learned by long experience that the most formidable weapons in fighting this disease are not drugs, but pure air, sunshine and nutritious, easily-digested food. Professor Wright's opsonin treatment, now on trial, holds out much promise and may prove to be what we have been seeking for for centuries—a specific against this disease. But what is vastly more desirable than a specific remedy is the prevention of the disease. We must meet this enemy openly and boldly, as

> "Surely the best way is to meet the enemy in the field, and not wait till he plunders us in our very bedchamber."—Goldsmith.

War, and a bitter war, must be made on the bacillus of tuberculosis and its spores scattered over nearly the entire inhabitable part of the globe. If we could kill or render harmless these germs, lurking everywhere, there would be no need for specifics for the disease. The army of consumptives in this country and elsewhere are sowing these seeds, which retain their vitality for an unknown period of time, and when through the air we breath and with our food and drink find their way into the body of persons susceptible to tuberculosis germinate, multiply and reproduce the disease. Preventive medicine must seek to remove these sources of infection by isolation of consumptives, as far as possible, and by disinfection of the sputum and infected excreta, and by sterilization of contaminated food and drink, and by a well-directed war against dust, so often the vehicle of the bacillus and its spores. The disease about which we know the least, the cause and nature of which have baffled the skill of an army of scientists for centuries to unravel, is cancer. This insidious, treacherous disease is on the increase, both in this country and Europe, and is becoming more and more virulent. It manifests a special predilection for the white races and chooses its victims from among the aged, whose sun of life is nearing the western horizon. In its approach it is stealthy, insidious, and only too often before the victim is aware of its presence it has gained a sure foothold from which it can not be removed by any known kind of medication and is beyond the reach of a successful surgical operation. Scientists had good reasons to suspect the microbic origin of cancer, but so far have failed in proving it. The geographic limitations of cancer, its microscopic structure and behavior in the tissues contravene the parasitic origin, and point rather to an erratic cell-growth of the nature of which we know very little, but future investigations from this standpoint may ultimately forge the key which will unlock the mysteries of this, the most stubborn and cruel of all chronic affections. When we once shall succeed in lifting the curtain which hides this foe we will make it more vulnerable to the attacks of the closed columns of the followers of the flag of preventive medicine and the hand-to-hand encounter of individual physicians and surgeons representing curative medicine and surgery.

Preventive medicine is the medicine of the future, and the final triumph of scientific medicine will be the suppression of disease. In this struggle with the causes of disease we need not only the earnest and united support of the medical profession in the front ranks of this movement, but the encouragement and financial aid of the governments, general, state, county, city and village. Sanitation on a large scale to be effective is very costly, but every dollar spent will bring good returns. Hygienic institutes must be established and maintained where young physicians can receive the necessary education and training to prepare themselves for the high and responsible office of sanitary or health commissioner in the different communities. One such institution centrally located and amply endowed would be a greater benefit to the people of the United States than all the Carnegie libraries and the supernumerary half-starved insignificant colleges and academies on which millions of dollars have been lavished and wasted by well-meaning men of wealth. Health officers should be above the mire of politics and should be appointed for their merit, without any regard to their political complexion, and should receive a salary commensurate with their service and social position and should hold their office as long as their work is effective and satisfactory to the community.

If these things were realized a new and much-needed specialty in medicine would be created—scientific sanitation. But to accomplish our final object in public sanitation, means must be provided for popular instruction in hygiene and sanitation in our schools and by popular lectures, in order to reach the mass of the people, and by doing so enlist their interest and secure their cooperation. Nothing would be of more far-reaching value to the laboring man than to be taught how to avoid disease and preserve his health. All great reforms must have a beginning in the household. If we can interest our governments, our people, our educators, and the public press in this great movement of abolishing preventable diseases, we may confidently expect the millennium in medicine in due time, and it will be inaugurated by the final triumph of scientific medicine:

> "Conquer we shall, but we must first contend
> 'Tis not the fight that crowns us, but the end."
> —Herrick.

THE MARCH OF SANITATION.*

WALTER WYMAN, M.D.
Surgeon General of the United States Public Health and Marine-Hospital Service.
WASHINGTON, D. C.

The invitation to deliver an address on this occasion was so great an honor that all other obligations and duties were set aside, and its acceptance seemed imperative. There was an element, also, of genuine pleasure in the thought of revisiting Charleston, so notable for its hospitality, its social and intellectual atmosphere, its beautiful location on the shore of the South Atlantic, and so crowded with historical events of the greatest interest and importance.

It is, indeed, a privilege to address an audience composed of the citizens of this city, the learned faculty of this time honored institution of learning, and this graduating class, now receiving the parchment certificates testifying to their faithful and successful devotion during long years of earnest study, and granting them the right to grapple with human ills, to administer to human suffering.

There is an added interest in the fact that the public service which I represent has in its membership a number of graduates—some eight or ten—of the Medical College of South Carolina. These, without exception, have reflected credit on the public service and their alma mater, and in numerous instances have made such noteworthy contributions to medical science, and have achieved such notable success on the battlefields of epidemics that they reflect more than credit, they add luster to their college and to their calling. To the faculty who trained them the public service is indebted. As a member of the medical profession, whose work is chiefly administrative and does not include the college instruction of students, I can not forbear an expression of the sentiments stirred within me as I face this faculty of instructors. These sentiments are of profound respect for the men who take the youthful aspirants and year after year impart to them the knowledge which fits them for their calling. All honor to the professors and instructors for their unremitting labor! And acknowledgment is due them from the public service when at its examination of candidates for admission it finds men, trained in this college, so thoroughly educated in the science of medicine that they become welcome additions to a public health service which endeavors to maintain the highest standard of professional excellence.

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*Address delivered at the Graduating Exercises of the Medical College of South Carolina, Charleston, S. C., April 24, 1907.

To the members of this newly graduated class congratulations are to be extended, and I desire to give expression to some thoughts growing out of a contemplation of their future activities.

These ideas may be somewhat different from those held in contemplation during student days, but sooner or later they will press to the front and demand consideration. They relate to the sanitary duties incumbent on the physician, growing out of his private practice; and to the civic duties of the physician as well.

When the practitioner, bending over the form of his patient in a private family, discovers that the disease is a contagious one, one of his first thoughts is to prevent other members of the family becoming afflicted with the same disease. He must not only fight the disease, but must fight the contagion. He must prevent the spread of the contagion not only in the one family, but must also prevent its conveyance to other families. He is interested, therefore, in efforts to suppress it altogether, either in the locality or in the city. This means laws and ordinances and their enforcement. And this leads naturally to a participation in the struggle for necessary laws and ordinances. And this further means a justifiable and proper personal interest, and exertion, in local politics to assure the passage of these laws and ordinances.

Next he discovers certain conditions in his own community which require sanitary attention, but which to be adequately met require also that similar conditions in neighboring localities or counties must be likewise met. And this brings him to an appreciation of the wider field of state surveillance in sanitary matters. It demonstrates to him the necessity of the state board of health, which may do for the several communities what no single one of the communities can or should be required to do, but which should be done in the interest of all.

Then, in studying the duties of the state, it will be found that there are fields which no one state can occupy, and that the national government has certain duties with regard to public health, which in the interest of all the states it must recognize, without a violation of the Constitution or infringment on the authority of the state or assumption of burdens which state pride should prevent being turned over to the general government.

A student of these relations will then go a step further and discover that the various nations of the earth have obligations with reference to one another on the same general lines.

The progress of sanitation and hygiene among the nations of the earth in the past five years has been marked and is encouraging. I shall not attempt to give a full list of the various national achievements in the interest of public health, but in England they have reduced the death rate in cities so that in London while the death rate in the latter part of the seventeenth century was 80 per 1,000, and was still 29 per 1,000 in about 1835, it now averages between 17 and 19.

There has been like success in other English cities. There has been great success in the purification of streams. Great advances have been made in tenement house reform. Typhus fever, once so deadly a scourge, has been practically eliminated. In Germany smallpox and typhoid fever have been practically made to disappear. During 1906, in the whole German Empire, there were but 26 cases of smallpox, with 5 deaths, and these cases were largely imported from neighboring countries. In Italy the government has waged a vigorous campaign for the eradication of malaria. Malarial marshes have been drained. Knowledge has been diffused regarding the use of mechanical protection against mosquitoes and the administration of quinin, and the deaths from malaria have been reduced in number from 15,147 in 1890 to 7,753 in the fiscal year of 1906. The extinction of malaria in Italy as an epidemic disease bids fair of accomplishment.

Other sanitary achievements have been recorded in Egypt, in certain portions of China, Japan and in the Philippines.

In the Western Hemisphere Mexico has made sanitary advancement, for which too little credit has been given, but which places that nation among the foremost in sanitary effort. Brazil has shown the effects of an awakening, and the sanitary improvements in Rio Janeiro are such as to excite the admiration of the world. The Central American republics are all showing interest in the matter of sanitation, and reports from the eight fruit ports in British Honduras, Spanish Honduras, Guatemala, Nicaragua, Costa Rica, and Colombia show an awakening of the national governments and the local governments to the necessity of sanitary measures which will eliminate mosquitoes and the yellow fever which they transmit.

In the United States the mystery of the spread of yellow fever has been solved, and the discovery verified by practical demonstration of our ability to suppress the disease, as in New Orleans and other places in the south in 1905.

President Roosevelt, who has always manifested the most encouraging interest in the work of the physician and sanitarian, has stated: "One of the most important items in the work done by our government in Cuba was the work of hygiene, the work of cleaning and disinfecting the cities so as to minimize the chance for yellow fever. This country has never had done for it better work, that is, work that reflected more honor on the country, or for humanity at large, than the work done for it in Cuba." He has expressed like sentiments of encouragement and appreciation of the achievements in the Canal Zone. Smallpox, through the combined efforts of the state and city boards of health and governmental supervision over the production of vaccine, and in spite of the fact that there can be no national compulsory law for vaccination such as is in force in Germany, is decidedly on the wane. A national pure food law has been enacted by Congress. The movement against tuberculosis on the part of the people, through various organizations, and on the part of the municipal, state and national governments, is being waged with vigor and noticeable effect. The hookworm disease in Porto Rico, which has only recently been discovered to be the cause of so much of the anemia and debility throughout the island, is being successfully attacked and suppressed through the efforts of the insular government.

The enormous extent in territory of the United States and the extraordinary length of its seacoast, both so far in excess of those of other nations, and its character as a republic, provide conditions requiring treatment of sanitary matters in a manner peculiar to itself, but there can be no doubt that the sentiment for sanitation and hygiene is fast becoming a dominant one.

Now the idea is taking root that these nations which are most active in sanitary and hygienic movements are really in some measure dependent on one another for complete success. This idea has found expression in the suggestion of a combined effort to eliminate the yellow fever from the Western Hemisphere, and in the declared necessity of eradicating the disease from all infected ports, requiring a combined or simultaneous effort of all the nations possessing infected ports.

It has found expression, also, in the international official conference at Venice in 1897, supplemented by a like conference in Paris in 1903, as a result of which treaties have been entered into between the principal governments of the world bearing on the treatment of plague and cholera to prevent their extension from one country to another.

Likewise, there was a sanitary convention, official in character, between the republics of the Western Hemisphere held in Washington in 1905. This convention prepared a treaty, almost identical as regards plague and cholera with the treaty following the Paris convention, but with the addition of certain agreements concerning the management of yellow fever in its threatened spread from one country to another. This treaty has been confirmed by nearly all the republics of America.

These international treaties with regard to the management of bubonic plague, cholera and yellow fever demonstrate that the nations of Europe and of America have banded themselves together in certain matters affecting the public health. But it will be observed that the agreements relate almost exclusively to quarantine, with only slight bearing on sanitation. Sanitation is of higher degree than quarantine, and hygiene is superior to both. The obligations of nations toward each other in matters of public health do not end with quarantine. It is morally wrong for any civilized nation to permit the existence within its borders at any place of such insanitary and unhygienic conditions as will favor the propagation of disease which may be carried by commerce or travel to other nations. This view finds some expression in the discussion on hygiene and sanitation at international medical congresses, and particularly in the International Congress of Hygiene and Demography which holds its sessions every three years, and which by act of Congress the President of the United States has been authorized to invite to hold its session in 1909 in the United States.

The idea of international sanitation as an advance on international quarantine was passed on favorably by the Third International Conference of American States, held in Rio Janeiro in 1906. Having been requested to suggest topics for the consideration of the committee on sanitation and quarantine of this conference, I submitted among other propositions the following: "Quarantine and quarantinable diseases, which heretofore have been the subjects of international conventions and agreements, should now be put to one side as having been duly considered and acted upon, and an advance should be made in international deliberations by the consideration of hygiene and sanitation. In other words, the deliberations of international sanitarians should be transferred from ships to the shore."

This suggestion was embodied in the resolutions passed by the Rio conference. These resolutions recommended to the countries represented: "The adoption of measures tending to obtain the sanitation of the cities, and especially of the ports, and to attain as far as possible to a better knowledge and a greater observance of hygienic and sanitary principles."

The resolutions also called on the several countries to instruct their delegates to the next international sanitary convention, which is to be held in Mexico in December, 1907, to "study and solve practical means of rendering effective" the above recommendation.

Thus we see that the subject of sanitation and hygiene has been made one of international official consideration among the republics of the Western Hemisphere. Whether it might not be made also a subject for consideration by the European and Oriental nations is a thought suggested not only by the movement in North and South America, but by the widespread agitation for universal peace or arbitration, disarmament or partial disarmament, and the search which seems to be evident in the proceedings of peace congresses for measures which may be recommended to The Hague tribunal for consideration; all of them, directly or indirectly, suggesting means for the full or partial abolition of war.

The national and international activities in the suppression of disease, in the establishment of sanitary and hygienic conditions, have gone so far that it would seem they might well be taken into account by those seeking a practicable means to divert the energies of nations from war. A plea for universal sanitation and hygiene could well be made on the ground that communicable diseases, which so frequently require national and international intervention, are primarily due to insanitary local conditions. International agreement, or even a declaration of policy, to ameliorate these local conditions so that no people should be allowed to live without sufficiency of pure air and light, pure water and food, good drainage and sewerage, in other words, except under the healthful environments of man, which are his inalienable right—such an agreement would furnish objective employment of national thought and energy and detract from the consideration of armament and war. The policy implied would be the substitution of one energy for another.

That I am not alone in this thought is shown by the following quotation from an editorial of very recent date, as follows: "Peace talkers can do much good by calling attention to the financial side of war, and the possibility of spending for the good of human beings the thousands of millions spent annually in murdering them or in preparing to murder them. The armies now maintained for the purpose of killing men should be changed, first of all, into armies kept up for the purpose of combating the natural enemies of men—for combating fevers, swamps, deserts, quicksands, and dangerous wild beasts."

I will add that surely an international hygienic agreement, which would demand physical operations of great scope and professional and administrative energies of the highest character, would be effective in diverting such operations and energies from the naval and military establishments.

These are some of the ideas which, it seems to me, must force themselves for consideration on sanitarians, physicians, and advanced thinkers in the near future.

But in the meantime members of the medical profession of this country more definitely and immediately must consider sanitation and hygiene as a part of their calling, in view of their relations to the communities and states with which their lives are cast. Preventive medicine must be included in their field of thought and action.

The sanitary awakening in the United States is notable. Its growth may be appreciated when we look back to the conventions called by those interested in these affairs just before and after the Civil War. These conventions were held in New York, Philadelphia, Baltimore and Richmond, and the discussions therein related almost exclusively to maritime quarantine. The great need was of uniformity in the administration of quarantine at the several ports. That uniformity was finally established through the national quarantine act of Feb. 15, 1893. No longer is there heard the complaint that one port is lax in its quarantine administration with the evident purpose of attracting to itself commerce, seeking to avoid the more honestly administered quarantine restraints at neighboring or rival ports. This evil, so exasperating and dangerous in the past, has been so thoroughly done away with that it is almost forgotten.

Out of these quarantine conventions there developed the American Public Health Association, composed of sanitarians in both official and private life, who, as the published transactions will show, have devoted themselves to the subjects of sanitation and hygiene. A leading cry of these sanitarians is the necessity of arousing popular sentiment and diffusing in popular form knowledge concerning the all-important subjects of municipal sanitation and hygiene.

Popular sentiment has been aroused, and a brief review of the field will show that it is stirred at the present time to a degree hitherto unknown.

This is seen partly in the activities of the state boards of health. All the states now have boards of health, or health departments, which each year are increasing in importance and in direct influence on their own people. The legislatures have widened the legal functions of these state boards and are yearly becoming more liberal in their appropriations. True, in some states the appropriations are absolutely niggardly; and it is the duty of the people appreciating the sanitary movement to demand of their legislators more liberal support of the state health organization.

The brief circulars, leaflets, or pamphlets, issued by the state boards of health, for distribution throughout the length and breadth of the state, giving plain directions with regard to the communicable diseases and pointing out the dangers and methods of meeting them, are eloquent witnesses and contributors to the awakening of the public health sentiment.

As to municipalities, one needs but to read the daily papers to be impressed with their increasing activities in the destruction of insanitary dwellings, tenement-house reform, pure-water supply, pure-milk supply, pure food, compulsory notification of communicable diseases and the restraints thrown about the latter to prevent their extension. Throughout the length and breadth of the land, in nearly every state and in many of the cities and towns, there exist auxiliary associations, which are of great benefit in creating public sentiment and upholding the efforts of the authorities.

I need mention only, for illustration, the great number of societies for the suppression of the Great White Plague, tuberculosis. Among other organizations for the suppression of this disease, there may be mentioned as of particular interest the American Federation of Labor. In a well-prepared pamphlet they have set forth the dangers and the care that must be exercised by the individual afflicted with this disease to prevent its conveyance to others, and, as this association has a membership of about two million and extends to every part of the Union, its influence in the suppression of this disease must be great.

The sanitary movements of the present time are answering the question, "Am I my brother's keeper?" and the answer is "Yes!" There is more than a sentimental or religious reason in this answer; there is a practical and self-protecting reason why every portion of the community should be interested in the sanitary welfare of every other portion—why the more prosperous should interest themselves in preventing the less prosperous from living under unhygienic conditions, in insanitary dwellings, or with indifference to the natural laws of health.

There is no part of any community which is not affected by the sanitary condition of every other part. The millionaire, residing in his mansion in the suburbs, the God-given light falling in the windows on every side of his house, with fresh air in abundance, with a filtered water supply, or drinking water imported from some spring of famous purity, and with plumbing and house drainage of the most modern and perfect type, may fancy that he has nothing to fear from the overcrowded rooms of an insanitary tenement house located in some interior court or alley of the slum district of the city; but the connection between these two dwellings is in many ways more direct than he may imagine. It needs but a little sociologic study to appreciate how readily the germ of a disease nurtured in the most poverty-stricken portion of a city may find its way to the residence of the wealthy. I had this fact impressed on me during a period of governmental service in a certain city where at the time of this incident smallpox was prevalent. In one of the city's finest mansions there dwelt a beautiful child, the sole heir of its cultivated and wealthy parents, almost worshipped by them and guarded in every way possible with exceptional jealousy and care. The parents were unwilling to incur even the minimum risk of vaccination and established instead a system of prevention of contact with the outer world, involving a confinement of the child to the house until the disease should have disappeared from the city. But the faithful nurse must needs have rest and recreation, and during one of these periods made a visit to her colored friends in their poor habitation, and brought back to the child the dread disease against which these unusual precautions had been taken, and which terminated its life.

The prosperous, intelligent and ruling members of any community, who are indifferent to the sanitary welfare of the ignorant, or the poor, or even the vicious, are thereby endangering themselves. The disease germ is too often considered a myth or something far away from the healthy and prosperous. It is invisible to the naked eye, but so is the air we breathe. It is an entity; it has real existence. Though unseen by normal vision, it may be seen at any time through the microscopé, now in such common use, the spectacles of science. You have but to put on your spectacles to see the germ. And where will you hunt for it? You will not hunt where the sunlight from Heaven pours in, nor where the fresh pure air from the mountains, seas or plains permeates the habitation; you will not hunt for it in houses where there is pure water and sanitary plumbing, or in localities where there is good drainage, sewerage and paving. These are not the natural haunts of the germ. You will hunt for it successfully where these conditions do not exist—in bad tenements, dark and unventilated rooms, in the hidden dirt and foul collections of untidy places; the parasite of rodents and insects, breeding along with these on unkempt premises. You will find it clinging to old carpets, furniture, wall paper, and bedding in these miserable habitations, or floating with the dust in the air, and clinging also to the persons of the inhabitants of such places. Now, the disease germ is a social climber. Its existence is not stationary. It goes calling, with the old clothes and person of the inhabitant of the foul den, who surely will visit friends less degraded, and these have friends of higher degree. So that, slowly or rapidly as the case may be, the germ struggles upward and is carried to the top.

This shows the necessity of the absolute elimination of the slums in every city. As I have previously declared, there is no adequate reason why slums should exist anywhere, and by slums I mean places where, through bad drainage, imperfect sewerage, inadequate air space, lack of pure water, and lack of sunlight, human beings are subject to disease and crime inducing conditions.

The existence of slums in a city is that city's fault; not its misfortune. Our ambition should be a slumless country, and, as this means simply municipal cleanliness and decency, there can be no good reason why it should not be brought about. The chief pride of a city should not be its boulevards and handsome buildings, but that nowhere within its boundaries can be found slum conditions as just described.

Not only thus will disease be suppressed, but there will be encouraged the development of individual health and power. It would mean a greater average of mental aptitude for work in the higher fields of human activity, in all the arts and sciences. Under more perfect sanitary environments we live longer, we live better; our energies, physical and mental, are stronger, and better fit us for entering on a higher plane of living. There is better opportunity for greater culture and refinement, greater familiarity with the higher laws of life, greater ability to comprehend our spiritual being and wrest from the unknown those higher principles of existence toward which we are now groping with unexplained instinct.

Man, after the fall, was at first chiefly animal; next he gained mentality, and now he is reaching forward to what, for a better term, we may call spirituality, and which is so often expressed in the term "uplifting of the human race" by those who plead for human advancement.

Thus it will be seen that the principles of preventive medicine apply universally. All are interested in them, from the highest to the lowest, no matter what their calling. Physicians are the natural agents of preventive medicine, but there are other natural agents. There are the engineers, expert in sanitary works; lawyers, who have sanitary wisdom; philanthropists, sometimes misguided in their efforts, but helpful. Then there are the clergy and the religious denominations. These have great opportunities, but too often miss the mark.

The clergy and their various denominational societies could be much more effective than they are in bringing about improved conditions. Their opportunities are exceptional, but their operations, while helpful to a degree and worthy of commendation, too often fall short and fail to grapple with the real needs. Their benefits are but temporary and too often by their palliative character result in a neglect of more radical and basic treatment. I refer particularly to the work that is done under the name of charity. Charity, as it is ordinarily understood, is insufficient and temporizes with the real difficulty. The charity enjoined by scripture, it seems to me, is charity of the mind and disposition rather than physical charities. "Charity covereth a multitude of sins," but it does not cover a multitude of dirt. Much of the physical charity of to-day is but the individual or corporate atonement for the shortcomings of the community. The best physical charity is the establishment and enforcement of proper sanitary laws. The charity that limits its activity to supplying food, or clothing, or heat to the poor, and extending sympathy and words of encouragement, is not enough. Let the devotee go further; let him ask why there is allowed to exist within the city such a habitation, where the sun never enters and light scarce permeates; where ventilation is unprovided, and the air is vitiated by overcrowding; where there is no sewer connection, and where the surface drainage round about runs to the cellar or first floor, adding dampness to other bad conditions. Let him ask: "Is there no city ordinance that forbids such conditions? If there is, why is it not enforced?" Let him say: "I will inquire, and if the purse or other influence of some crafty owner is the cause of this evasion of the law I will call attention to it and also to the official who is neglecting his duty. Or, if there is no violation of the law, with my friends I will form a coalition and have elected to the city council some one who will introduce a proper ordinance, and I will help arouse a public sentiment that will force it through."

Put your pity, your sympathy, your indignation, your enthusiasm, your charity, into laws or ordinances. Enthusiasm is ephemeral; determination is weakened by time and events. But if all these are translated into written statutes they are preserved and are continuously operative.

The Earl of Stamford, in a presidential address before a sanitary congress at Bradford, England, in 1903, made the following statement: "More and more is it becoming clear that indiscriminate public and private charities can never for all their abundance mitigate a tithe of the evil, misery and pauperism—incidents of the accumulation of the very wealth out of which those charities are supported. In spite of all our efforts at charitable relief—nay, rather because of them—the evil increases and individual attempts to arrest the rising tide become futile. Before our eyes spread the depopulated countrysides, and into our cities in increasing crowds pour the men and women who were once and ever should be the backbone and glory of the nation, but who now go to swell the ranks of the unemployed and to become the victims of the city slums. For these and all the other cognate evils of the day our eyes turn for salvation and help to sanitation, and Lord Beaconsfield's aphorism, *Sanitas, sanitatum, omnia sanitas,* once lightly regarded or derided, has become a mighty and accepted truth."

How wide, then, is the field of thought and action of the sanitarian! He delves into the material problems connected with the daily life of the poorest of the community, and his mind is occupied with constructive efforts on the part of his state, his country, and of all nations. He must have his eye on a standard set on the highest pinnacle, but must beware of utopian measures. He should remember that a law or measure which seems entirely impracticable to-day may appear practicable to-morrow. And he should have the sound judgment which will make him withhold placing any stone in the sanitary structure till the stone below has been firmly fixed. His mission is alike to keep out disease and to eliminate its cause; as an ally or agent of law and government to spread a net and hold it firm to catch and throw back the vicious and diseased in the great wave of immigration as it breaks on our shores; to lay the hand of healthful restraint on commerce for its own and the public good; to check the merchant or manufacturer when his absorbing greed for gain makes him ready to risk the lives of hundreds; to oppose the lawyer when by a legal twist in behalf of the individual he seeks to force a way around the sanitary barrier erected for the common safety; to force the slow comprehension of legislators; to prick the tardy conscience of the doctor with the needle of the law; to sweep from the path the sentimental obstruction of philanthropic visionaries; and to spread among the people the knowledge so necessary for their own welfare.

In his mission he must bear in mind the old Latin aphorism, "*Palma non sine pulvere.*" But he will find compensation in that other aphorism, "*Labor ipse voluptas*"—in the consciousness of the nobility of his efforts his labor will itself prove a pleasure.

Original Articles

EXPLORATION AND DECAPSULATION OF THE OTHER KIDNEY BEFORE COMPLETING A NEPHRECTOMY.*

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In recent years an enormous amount of painstaking scientific investigation and persistent, praiseworthy effort have been expended on the part of such masters as Koranyi, Kümmell, Casper, Israel, Rovsing, their assistants, and many others, with a view to finding and elaborating a reliable method of determining the functional activity or possibilities of each kidney separately, or of both kidneys combined, in advance of a contemplated or possible nephrectomy. The result of all this investigation and effort has been to add one after another to the already long and still growing list of so-called functional tests. Yet despite the fact that every recent writer on the subject, with or without personal experience in the matter, feels himself called on to discuss at greater or less length all and sundry of the various functional tests of which he may have heard or read, it can not be said that anything even approaching a consensus of opinion has been reached. On the contrary so far from this being the case, we find the masters themselves at sea and divided in the matter. Some of them, while strenuously upholding each the utility of this or that method favorite with himself, deny all or much practical value to the methods employed by their confrères. Others, like Israel and Rovsing, for example, deny all practical value to any of the modern functional tests, the latter falling back on the only method that has, to a certain extent, stood the test of time and experience, namely, the determination of the daily output of urea. Yet, in spite of the apparently discouraging present situation, the hope appears to be justified that the prodigious efforts put forth in the attempts to solve the problem will not have been expended in vain, but will result in giving us, at an early date, a practical, satisfactory and generally acceptable method of determining the amount of work which we can count on any given kidney to perform.

Such knowledge is especially needed and becomes of vital importance on the eve of a contemplated nephrectomy. Is there a second kidney and, if so, is it in condition to take up and to carry on unaided, to the full extent required, the elimination of poisonous waste products which can pass out of the system only through the kidneys, and a failure to eliminate which puts an end to life?

In the present state of our science and art, the method of procedure introduced by me several years prior to the advent of the modern functional tests, still constitutes our main reliance and ultimate resource. This method, which I first practiced in 1894 and advocated in a paper[1] on "The Other Kidney in Contemplated Nephrectomy," consists in exposing and examining, through a second lumbar incision, the fellow kidney before completing an otherwise indicated nephrectomy.

The routine procedure which I have practiced in all my nephrectomies for the past ten years or more, consists in first cutting down on and thoroughly exploring the kidney that may require removal. A vital and essential part of such exploration consists in not disturbing in any way the vital connections of the organ at its root, the renal vessels and ureter. Should such exploration of the kidney confirm the necessity and indication for its removal, the kidney is for the present replaced and a second lumbar incision, for exploration of the other kidney, is made on the opposite side of the body. If the second kidney be found in good condition, or in condition sufficiently good to sustain life, it is replaced and the second wound is closed. Returning now to the first incision, the diseased kidney is delivered and removed. Should exploration, on the other hand, show advanced disease of the second kidney, or that nothing would be gained by the removal of either kidney, then both kidneys are replaced in the body, either closing both wounds or treating either or both kidneys by such conservative measures—decapsulation, nephrotomy, resection, drainage, etc.—as may be indicated under the circumstances.

This method of procedure in nephrectomy was, as above pointed out, first practiced and published by me, although Rovsing[2] mistakenly claims priority in the matter more than six years after my publication. Rovsing bases his claim on an operation performed by him in 1894. In this case, one of renal hematuria, the healthy right kidney was first cut down on as the result of a mistake in diagnosis, necessitating a second incision for removal of the diseased left kidney. The original error of diagnosis, therefore, necessitated the second operation, quite a different matter from an operation of selection performed on the second kidney with a view to determining whether the kidney first exposed can be safely removed. Nor do any of Rovsing's writings between 1894 and 1904, although many of them deal with nephrectomy as such and detail cases of nephrectomy at great length, contain any mention whatsoever of the procedure under discussion.

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* Read at a joint meeting of the American Gynecological Society and the American Association of Genito-urinary Surgeons, Washington, May 9, 1907.

[1] Ann. of Surgery, 1898, xxvii, 425-435.

[2] Arch. f. klin. Chir., 1904-5, lxxv, 867-895.

The second lumbar incision for exploration of the other kidney has three distinct purposes. In the first place, it gives absolutely positive information as to the existence or non-existence of a second kidney; in the next place, it enables the surgeon to determine the condition of that kidney; and lastly, it places him in a position to decapsulate the remaining kidney. The advantages of the latter procedure will be commented on further on.

The existence of a second kidney is of vital importance in nephrectomy. A number of cases are on record in which a patient's only kidney was removed, with the inevitable result. In addition to the recorded cases, a number of unpublished cases may be assumed to exist; I have personal knowledge of at least three such. And it must be stated emphatically that no method of examination at our command, short of exploratory incision, can give absolute and indisputable certainty of the existence of the two kidneys. Even catheterization of both ureters may deceive us on this point, as illustrated in the case presently to be related.

I have operated in all on three patients possessing, as determined by cutting exploration, but one kidney each. In two of the cases, the operation contemplated was not nephrectomy, and these two patients were therefore safe from the possible disaster of removal of their only kidney. Not so with the third patient, whose life was spared by virtue of the second exploratory incision, and whose story I will briefly outline:

CASE.—N. J., a married woman aged 35, came under my care in November, 1902, with pyuria, febrile attacks and a tumor in the right flank diagnosed as hydronephrosis affecting a movable right kidney. Cystoscopy showed two urethral orifices presenting no marked differences in appearance. On account of the pyuria, catheterization of the ureters was not performed at this examination, from dread of possibly infecting the presumably healthy left kidney.

Fixation of the loose hydronephrotic right kidney, performed on Nov. 10, 1902, afforded but temporary relief. Nephrotomy was next tried on Jan. 5, 1903; a large quantity of pus was evacuated and continued drainage was established. About 720 c.c. of urine drained away daily through the lumbar wound, while about 480 c.c. were passed daily *per urethram*. The latter amount was assumed—incorrectly, as was proven later—to come from the left kidney.

With the closing of the wound the old symptoms returned and, with the concurrence of a consultant, nephrectomy was considered indicated and was attempted on Jan. 19, 1903. The right kidney was fully exposed and freed from its connections except at the root, where the renal vessels and ureter were left intact. The kidney being temporarily replaced, a second incision was made over the left lumbar region. Search high and low, the peritoneum being freely opened to facilitate such search, failed to find a second kidney. The left wound was closed and the right kidney was freely incised for drainage, which was maintained for some six weeks, at the end of which time the wound closed spontaneously and permanently. With the exception of a very moderate amount of pus in the urine the patient is well to-day, more than four years after the operation.

The existence of two ureteral orifices with but one kidney seemed to call for explanation and certainly piqued curiosity. Catheterization of both ureters was performed some time after the operation when the patient was again up and about. The right catheter passed freely up the right ureter to the kidney and yielded urine identical in composition with that obtained from the bladder. The left ureter was pervious to the catheter for some 20 centimeters, at which point the further progress of the instrument was arrested. Not a drop of urine came from the catheter, although the latter was allowed to remain some twenty minutes.

The case, therefore, was one of absence of the left kidney and the upper end of the left ureter, with presence of 20 centimeters of the bladder end of the left ureter. Were the absence of the left kidney not established beyond question, arrest of the ureteral catheter at 20 centimeters from the bladder might be mistakenly interpreted as due to stricture of the ureter at that point, and not as demonstrating the absence of the corresponding kidney. In a similar manner, catheterization of both ureters in a case of solitary kidney with two ureters would fail to demonstrate the absence of one kidney. For any surgeon, therefore, depending on any and all means, short of direct cutting exploration, for determining the presence of two kidneys, the fatal mistake of removing a patient's only kidney is still among the possibilities.

Inspection and palpation, aided on rare occasions by exploratory puncture, of a kidney at the bottom of an incision, or, better still, when delivered into the wound, will enable all but the veriest tyro to determine the presence or absence of gross lesions, such as tuberculosis, abscesses, stones and tumors. If both kidneys be found affected with tuberculosis, advanced purulent degeneration, or tumor, nothing will be gained by removing either kidney, and a nephrectomy possibly contemplated at the beginning of an operation should be abandoned. If stones be found in both kidneys, it is usually the best procedure to remove the stones from both organs, draining or not as may be indicated.

A different situation arises when it comes to the recognition of the finer structural changes which may affect a kidney. But even here it is, for the purposes of the surgeon, mainly a question of the extent and degree of such changes, and these, I maintain, can be readily appreciated after some experience in the examination of kidneys during life. It is not difficult—nay, it is very easy—to recognize advanced fatty and waxy degenerations, interstitial and other varieties of nephritis without the requirements demanded by the pathologist of splitting the kidney from end to end and through its entire thickness. If aid akin to this be needed, the surgeon may remove a small piece of kidney tissue, examination of a frozen section of which can be made on the spot in a few minutes by a competent pathologist. Pending the decision of the pathologist, the surgeon may occupy himself with attention to necessary details of operation. Generally, however, if not always, the surgeon of sufficient experience in gross pathology will be able to decide from macroscopic appearances alone whether or not a given kidney is in sufficiently good condition to take up the burden imposed on it by the removal of its fellow.

Two good and sufficient reasons for exploration of the other kidney in contemplated nephrectomy have been advanced and discussed. A third reason or indication for exposure of the remaining kidney in nephrectomy has, within a more recent period, arisen in my practice. I refer to decapsulation of the remaining kidney for the purpose of preventing or lessening the liability to death from renal insufficiency, the so-called renal death. As one result of my work in the surgical treatment of nephritis, I have learned that two effects of renal decapsulation may be regarded as practically invariable and constant. First, renal decapsulation invariably and at once increases the daily urea output of the kidney or kidneys; and second, renal decapsulation enables any kidney to do the best work possible for that particular kidney to perform. Both these results act directly to prevent a renal death. And, as a matter of fact, I have had no renal deaths in my nephrectomies of the past seven years, during which I have consistently practiced decapsulation of the remaining kidney.

There can be but two possible objections advanced to the routine practice of exploration and decapsulation of the remaining kidney when performing nephrectomy, one objection partly including the other. These are increased risk to life and undue length of time required for operation. As regards increased risk to life, the objection is not valid; for it is to prevent deaths due to absence of a second kidney, due to want of knowledge of its condition, and due to its inability to take up the burden of excretion necessary to maintain life, that exploration and decapsulation of the remaining kidney are advocated.

Operations on both kidneys at one sitting are no longer uncommon. My personal experience in renal surgery embraces 688 operations performed on one or both kidneys of 460 patients. In 232 of these patients only one kidney was operated on; in 228 patients operation was performed on both kidneys at one and the same sitting. In the earlier years of my surgical career simultaneous operation on both kidneys was the exception; in later years it has become almost the rule.

With good technic and proper posturing and handling of the patient during operation, exploration and decapsulation of the remaining kidney should not add more than from ten to twenty minutes to the time required for a nephrectomy. The disadvantages of a slightly prolonged operation are more than counterbalanced by the vital advantages gained for the patient in other directions.

In conclusion, and based on the foregoing, I would respectfully advance the proposition that no nephrectomy should be completed without examination and decapsulation of the remaining kidney.

ERYTHROMELALGIA.

A STUDY OF SEVENTY CASES REPORTED IN THE LITERATURE.

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As early as 1843 Graves reported two cases of "a painful disease of the feet" to which he did not venture to assign a name. The subject seems to have gained little or no attention, for a careful search of the literature fails to disclose any mention of the symptoms described by Graves until the year 1872, when Dr. S. Weir Mitchell made a preliminary statement of the same phenomena, which was published in the *Medical Times* of Philadelphia. This likewise received little notice until 1878, when Dr. Mitchell wrote a formal monograph on "A Rare Vasomotor Neurosis of the Extremities,"[1] which, for purity of diction and incisiveness of style, has seldom been equaled in medical literature. As a model of careful and painstaking study it is to be recommended to all who attempt the description of clinical observations. In this essay sixteen cases are collected, some of which, however, are not typical examples of erythromelalgia, but are exhibited in order to show points of differential diagnosis. Without giving a specific definition of the term, which is made up of three Greek words signifying redness, pain and limb, Mitchell notes four points that distinguish erythromelalgia from any similar disease. These are: 1, pain or ache in the hand or foot, of slow onset, burning in character, becoming gradually worse; 2, flushing of the skin during exertion or when the part is held in a dependent position; 3, progress of these symptoms with occasional periods of freedom from pain; 4, the resistance of all forms of treatment.

While still an undergraduate in medicine my attention was called to a case of erythromelalgia[2] of a type so distressing and so hopeless that both my sympathy and interest were strongly enlisted, and since that time I have been constantly on the lookout for painful disorders of the extremities. However, I have seen only two other cases which possessed the constant characteristics of this disease. Both of them were dispensary patients, and, as they returned but once following the initial visit and could not subsequently be found, I did not secure the data necessary to make a report of any value. I am told, nevertheless, that specialists in nervous disorders are accustomed to see from one to three cases in each year. In any event it is now quite certain that the disorder is much more prevalent than the early investigators had reason to believe, and I was surprised to find such a volume of literature bearing on the subject, not only in English, German, French and Italian, but also in Russian and Hungarian, lack of familiarity with which tongues makes the adequate review of the recorded observations a difficult one. Although I have examined seventy distinct reports, I am by no means sure that this could not be increased to a hundred if it were possible to include those written in unfamiliar languages, and I am sure that even this number is not at all indicative of the frequency of the malady, owing to the difficulty which observers have found in following the cases to an outcome which would permit of careful analysis and description.

In considering the etiology of erythromelalgia there are two hypotheses, each of which claims for itself a full quota of ardent and worthy supporters. The first of these states that *the disease is primarily resident in the nervous system,* either in the cerebrospinal axis or in the peripheral nerves and their terminal arborizations. In this classification there is some question as to where we should place the sympathetic system, since the latter is in a sense both central and peripheral. Arbitrarily, however, we may consider it under the central heading. The second hypothesis is that *the disease is primarily an affection of the vascular system* with secondary nervous manifestations.

In Dr. Mitchell's first study of the affection he inclined very strongly to the opinion that the lesion was to be found somewhere in the brain or spinal cord, and, since the symptoms are so often exhibited in symmetrical halves of the body, it was quite natural to expect some pathologic change in the latter structure rather than in the former.

In a very few cases this has been found, but certainly not in a sufficient number to make it of value in assigning a definite cause to the spinal axis. Lannois and Parot[3] have attempted to make this hypothesis tenable.

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[1] Am. Jour. Med. Sci., July, 1878.

[2] Med. News, October, 1904.

[3] Rev. de Med. de Paris, xxiii, 7.

Their recorded conclusions follow on the study of one case in which the autopsy was especially directed to a minute examination of the central nervous system. Very little is said of the general arterial findings, and nothing as to the possible sclerosis and degeneration at the local point affected. A destruction of "centers" in the cord was well marked in this case, notably in the column of Clark and in certain bundles of the anterior horn, but there was scarcely a basis for the conclusion which can be best stated by direct citation:

> En somme, on peut envisager l'affection comme une lesion de certain centres medullaires (tractus intermedio-lateralis, et le groupe basal posterieur) conditionné souvent par l'arteriosclerose.

Since the publication of that thesis we have learned, through the patient investigation of various physiologists both in this country and abroad, something of the anatomy and function of the sympathetic system—a subject much neglected because of the difficulty in studying its complex relationships. It is altogether possible that further researches will explain many of the phenomena of internal secretion, a matter of such vital importance to the welfare of the economy, and also that we may be enabled to draw some interesting conclusions regarding those disorders, which, for want of knowledge, we are pleased to speak of as "functional."

The experiments of Claude Bernard determined beyond doubt that the blood vessels are controlled through the sympathetic system, and that their proper functioning is largely dependent on a balance between the vaso-dilators and vaso-constrictors. The vaso-constrictor center in the bulb is always in a state of tonus, for if the cord is cut and the vaso-constrictor force supplying the blood vessels is thus removed marked dilatation is noted.[4]

Thompson, Wertheimer, Bancroft and others have carefully studied the vaso-motor nerves in the dog. They find that the limbs receive these nerves by way of the spinal cord from the second dorsal to the third lumbar segment; that those to the fore-foot pass through the stellate ganglion, while those to the hind-foot are connected with nerve cells in the sixth and seventh lumbar, and in the first and possibly the second and third sacral ganglia; and that after pursuing a tortuous course they are finally distributed to the media of both arteries and veins. Although these nervi vasorum are essentially motor in function, it has not been proven that they can not convey sensory impressions. Certain it is that they can be excited reflexly by afferent impulses from the blood vessels themselves, or from the end-organs of sensory nerves in general. This was shown by Heger, who injected nitrate of silver into the peripheral end of the crural artery in a rabbit and obtained a rise of general blood-pressure with a subsequent fall, and at times even a primary fall. It is probable that afferent impulses were thus set up in the blood vessels and transmitted through the sciatic nerve to the vaso-motor centers. The reflex constriction or dilatation appears usually in the vascular area from which the afferent impulses arise. In the light of this knowledge, therefore, it is not difficult to suppose that the dilatation or contraction may be set up by some excitant arising in the body itself as a form of faulty metabolism, or that this excitant is capable of producing pathologic changes in the tissues of the extremities, which changes may in turn bring about a mechanical stimulation of the nerve elements producing the well-known symptoms of pain and dilatation or contraction.

Some observers prefer to ascribe to all diseases of this type a distinctly neuritic origin, an ascending neuritis dependent on some previously existing disease. For example, we have the diatheses of gout, rheumatism or diabetes, the poison of syphilis, and the degenerative changes produced by lead, any one of which causes is capable of producing a well-marked neuritis.

Starr in his "Organic Nervous Diseases" describes a case of erythromelalgia accompanying gout, and seems inclined to the opinion that the disease was of neuritic origin dependent on the toxins of gout circulating in the blood. This theory would scarcely hold, however, if we are to depend on the pathologic findings, in many of which no changes in the nerves can be found.

The effect of cold on the symptoms may throw some light on the etiology. In each of the three cases I have seen there was a history of frost bite; may there not be a resultant productive inflammation from this accident that can produce marked sclerotic changes such as are found in the arterial walls at autopsy? Following on a study of gangrene in a human limb frozen by accident, von Manteuffel[5] conceived the idea that the arteriosclerosis which he found was a secondary remote result of cold. Accordingly, he froze the legs of several guinea-pigs by spraying them with ether and learned that he could reproduce the anatomic findings of his clinical study. The vessels exhibited the typical lesions of arteriosclerosis.

Unfortunately there have been very few postmortem examinations in persons afflicted with erythromelagia. Up to the year 1904 the only anatomic findings of any importance had been published by S. Auerbach, and these were not complete enough to be entirely satisfactory. However, it had been noticed that the changes were chiefly those of an obliterating endarteritis without special evidence of any kind in the accompanying nerves or end-plates. H. B. Shaw[6] in 1903 gave the results for three cases. In the first there was thickening of the intima irregularly disposed in both internal and external plantar arteries of the diseased foot. The venæ comites were almost occluded by clots, and marked canalization was present. Dorsal arteries and veins of the member showed no change. The nerves of the entire foot were normal. In his second case, a thumb, both arteries and veins showed thickening of the intima. There were likewise the same conditions in the ulnar artery, in the deep palmar arch, and *comes nervi mediani*. The nerves were normal. His third case was a right hand; the digital arteries of the fingers were slightly thickened and the thumb showed great thickening of the intima of the vessels. There was some change also in the ulnar artery, but more in the radial. The nerves here were also normal.

From these observations Shaw concludes: "As a result of consideration of these cases it would appear that erythromelalgia when occurring independently of central nervous changes is associated with one morbid picture, that of local vascular change."

Hamilton[7] has made an exceedingly careful study of his case—a right foot. He found the intima of the vessels from the amputated toe little thickened, but the media much so. In the large arteries both structures showed hypertrophy associated with thrombi, in which there was beginning organization. The elastic lamina was increased. The nerves contained an increased amount of connective tissue both in the sheath and bundles of fibers. The cord showed slight degeneration of its arteries, but nothing further. The brain was normal.

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[4] Porter (W. T.): Am. Text-book Physiol., 1900, i, 201.

[5] Centrlb. f. Chir. (Leipsic), Jan. 18, 1902.

[6] Brit. Med. Jour., March 21, 1903.

[7] Jour. of Nerv. and Ment. Dis., April, 1904.

Death in the majority of all the cases in the literature was due to some vascular condition such as apoplexy or heart failure.

It seems scarcely necessary to describe in detail the symptoms of this disease, as they are similar in all cases and have been set down by various writers with a considerable degree of accuracy. Naturally enough they are chiefly local and consist of the severe pain, redness, swelling, puffiness and hyperidrosis, all of which are worse when the part is held so that gravity aids in the congestion. Trophic changes are described by some, but were not present in the cases I have seen. Some interest attaches to the marked increase in systemic blood pressure. There is a hypertonicity throughout the vessels of the body which seldom falls below 200 mm. of mercury as measured on the Riva-Rocci instrument. In Weir Mitchell's third case all pain disappeared during a severe attack of dysentery. He does not state whether it recurred with a recovery from this interjected malady, but it is an interesting observation as bearing on the possibly direct relationship of the pain to the tension within the arteries. The pain is also markedly affected by the nervous condition of the patient, any excitement or worry producing a paroxysm almost immediately. Hence these patients demand for themselves absolute quiet and will lie motionless for hours, fearful lest any sudden external influence, even such as moving about in bed, may bring on an attack. In this connection it is interesting to note that paroxysms of angina pectoris are likewise brought on by any influence that tends to disturb the mental equilibrium, and it was a frequent saying of the celebrated John Hunter, who died in an attack of angina, that his life was in the hands of any rascal who cared to annoy or tease him.

Gastric and intestinal neuroses are frequently associated with erythromelalgia, and the belching of a large quantity of gas from the stomach is in some cases a sure omen that a vascular storm is approaching.

The diagnosis of erythromelalgia is not difficult if one gets a clear clinical picture fixed in the mind. The history is of great importance in this respect, especially as to the date of appearance and exact location of the initial tingling and itching sensations. With few exceptions these are first felt on the plantar or palmar surfaces. In the foot the ball of the great toe is likely to be the seat, and in the hand the terminal phalanx of an index finger. One should guard against a diagnosis of frost-bite or tightly-fitting shoes; for the intelligent patient is usually aware of these conditions if present, and if not present does not like to have them enforced on him by the medical attendant who is inclined to make light of the matter. Gout, rheumatism, syphilis and the tender toes of typhoid should offer no difficulty, for the lesions produced by them are quite dissimilar from those seen in Weir Mitchell's disease. A condition known as acroparesthesia, first described by Nothnagel in 1867, may offer some difficulty in the early stages of the affection, for the sensations are quite like. The course in the latter is, however, not progressive, and the pain is an unimportant feature. It is more common in females, which is not true of erythromelalgia, and there are likely to be other symptoms more or less neurasthenic in type.

Angio-neurotic edema has been confused with it, but it is seldom or never found in the digits, and its characteristics are those of a wheal or welt rather than that of a blotch of red ink. Moreover, the local lesions are not tender to pressure.

The literature contains many instances of associated conditions such as acromegaly, brain tumor, hemorrhagic retinitis, hemiplegia and angina pectoris, and there is one instance, said to be of hysterical origin, associated with symptoms of Raynaud's disease that was cured by hypnosis.

Gerrard[8] has reported what he thought to be an atypical form to which he gave the name of erythromelalgia tropica. It was observed among Malay laborers who had previously suffered from malaria, and he suggests that it "may be a neuritis of malarial origin." The sufferers described sensations of tingling and numbness, with burning pain in the soles of the feet, but nothing is said of the toes. He noticed no "flushings" or "vertiginous" attacks and is not sure about swelling and redness. The onset was usually acute, the shortest being of three days and the longest of three months duration when first seen. He thinks that there is a possibility of plantar cellulitis accounting for the symptoms, for the natives work in shifts which expose the bare feet to the cold morning damp and to the terrific heat of midday and late afternoon. There is scarcely evidence enough to consider these cases as belonging to the type described by Mitchell.

All clinicians are fairly agreed that the treatment of erythromelalgia has been for the most part a failure. At least it can be little more than palliative owing to the constantly progressive tendency of the affection. The management must depend on the skill and resourcefulness of the physician in meeting every detail, not only as it arises but as it is likely to arise. He should be thoroughly acquainted with the patient's constitutional tendencies and should possess an accurate knowledge of the physical signs displayed by each organ, even to a weekly inspection of the eye grounds, in which a warning of an impending change in the course of the disease is so often first manifested. Especial attention should be directed to the associated arteriosclerosis, which, even if it be impossible to arrest its progress, can be so managed that a fatal hemorrhage may be delayed for years. While under active treatment for the local conditions, chief of which is the severe pain, the patient should be kept in bed with the part elevated. If a foot is involved a suitable bed-rest should be provided to keep the bed clothing from coming into contact with the sensitive member. Active employment of the rest treatment and well-directed effort toward the securing of mental equipoise will do much in warding off the paroxysms. As hygienic measures the use of spinal douching and manual massage are to be strongly recommended, especially when sleep is difficult to secure. The effect on the patient is one of euphoria, and he often dozes off into a few hours sleep, from which he awakes greatly refreshed.

The diet is such as common sense would dictate; all hearty foods and especially the red meats should be prohibited. Urinary analysis will be of service in determining the kind and quantity of the food most desirable. If gastric indigestion is present there may be some difficulty in providing food that shall be nutritious and at the same time digestible. Peptonized food and experimentation with the many prepared products on the market may help to solve the problem. Above all it must be remembered that the patient's general health should be kept to the highest possible point, as the paroxysms are very wearing and each attack uses up a great deal of reserve energy.

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[8] Dublin Med. Jour., September, 1904.

Drugs are notoriously unsatisfactory in this disease. However, J. E. Morgan claims a cure from the hypodermatic use of morphin and atropin. It is a good rule to avoid morphin as long as it can possibly be done, but its use will certainly be necessary at some time during the course of the disease. The case which I have reported never received more than ⅝ gr. in the 24 hours during a siege of 5 years, but she contracted the habit and it was only with difficulty that this was overcome. I hope at some future time to make further observations on the use of the fluid extract of ergot in this affection. Given in dram doses three times a day it certainly relieved the symptoms quite markedly, but as the patient died in an apoplectic seizure I have never felt quite sure as to the part played by the ergot in bringing about this fatal result. H. C. Wood[9] claims that ergot acts on the vasomotor centers when given in small doses as a stimulant; in large doses it is a depressant. He mentions in support of this statement a case of fatal ergotism with gastric irritation, thirst, diarrhea, burning pain in the feet and convulsions, and concluded that "the action of ergot in producing gangrene of the extremities is of interest as bearing on the general question of vasomotor affections by central disease." It certainly influences the blood pressure to a marked degree, and when carefully used may prove of service in this condition of extreme dilatation.

The iodids, especially the iodid of sodium, are in favor with some. Potassium iodid was of no use in my case. The nitrites have also been used. Coal tar products have given good results in relieving the pain. Cardiac drugs are indicated in some cases. They should be used with discretion. Cod liver oil and the phosphoglycerates of lime and soda are particularly useful as nerve foods, although the former is not always tolerated when used internally. There is no objection to its external use, and some prefer this method of administration to any other.

In the extremely intractable cases I believe the resort to surgery is justifiable, even if it be merely a palliative measure. There are cases where amputation of a finger or toe gave very great relief, and, if the patient solicits it and the family give consent, the operation should be performed, especially if there is the slightest tendency to gangrene. Resection of nerves and blood vessels was a useless procedure in most cases in which it was tried.

Local applications sometimes give marked relief. Ice water, to which a little alcohol has been added, may be sprayed on the affected part, which should be left uncovered in order to aid evaporation. If sufficient care is used not to freeze the part a spray of ether, chloroform or ethyl chlorid may be applied with advantage. Clay poultices should be studiously avoided. They bring no relief from pain, and removal causes great suffering.

But what shall one say in conclusion as to the genesis and proper classification of this interesting disorder? Is it a disease with a distinct and constant pathologic basis, or is it merely a symptom of some grosser disease? In 1894 Lewin and Benda[10] made a critical study of all the cases reported to that date, and it is their fixed opinion that erythromelalgia is not an independent disease, but a symptom-complex which may have either a central or peripheral origin. From the data at hand I am inclined to support this view, and also that of Eulenberg, who thinks that Raynaud's disease should also be so classed. It is my belief that both erythromelalgia and Raynaud's disease are simply different phases of the same condition, the one being dependent on an undue dilatation of the terminal arterioles, the other on an undue contraction of the same. Several authors, notably Johannsen, Potain, Rolleston and Sachs, report the two conditions in the same patient, and there is not the slightest doubt but that they do exist together as symptoms of some marked pathologic state, and notably in that disease of the blood vessels known as arteriosclerosis.

527 West One Hundred and Fiftieth Street.

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9. "Therapeutics."

10. Berl. klin. Wochschr., 1894, xxxi, 53, 87, 117, 144.

VARICOSE EPIGASTRIC VEIN FOLLOWING PHLEBITIS.

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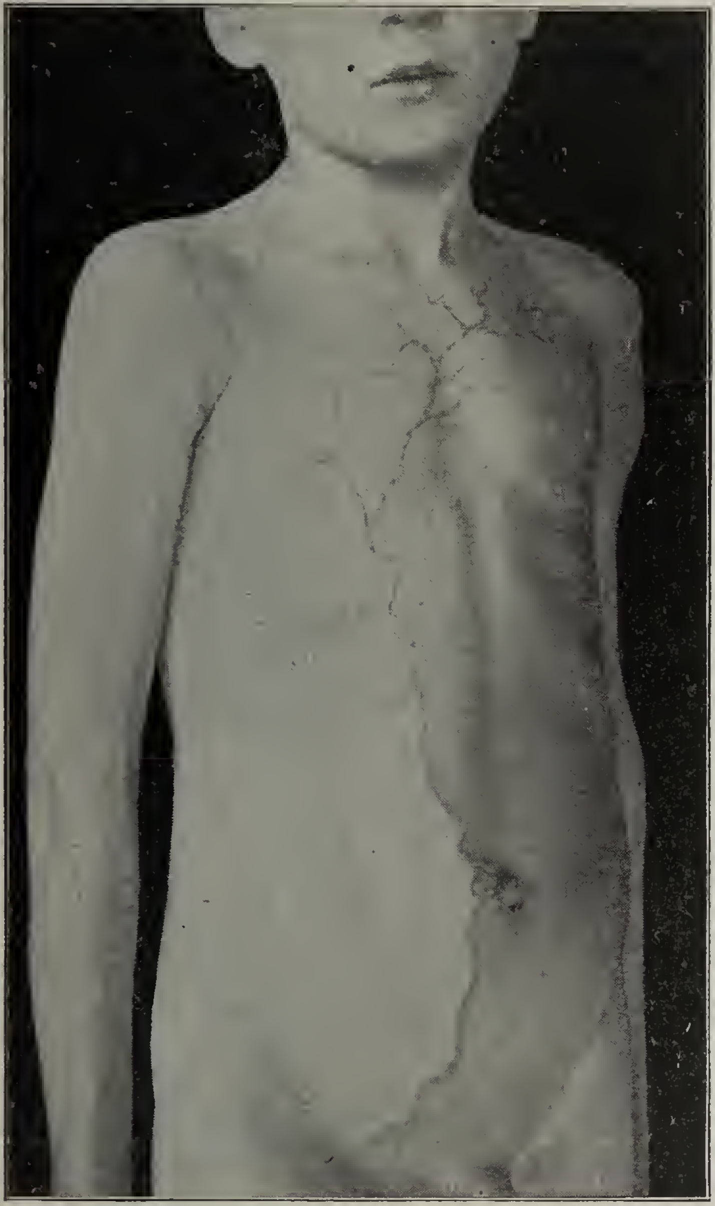
PHILADELPHIA.

Patient.—Vincent M., aged 10, came under my notice in the out-patient department of the Episcopal Hospital, where he was being treated for intractable ulcers on the left leg, in October, 1906. The largest ulcer was about one and a half inches in diameter, over the subcutaneous surface of the left tibia, at the junction of the lower and middle third of the leg. There were numerous scars of other ulcers on this leg, as well as on the right.

History.—The history of the case is obscure. In December, 1904, he is said to have developed inflammatory rheumatism, which started in the left foot and ankle, and which subsequently spread up the leg and became erysipelatous in character. In January, 1905, the patient came under Dr. B. F. Stahl's observation, and I am indebted to him for his notes of the boy's condition at that time. Dr. Stahl writes: "His thighs and legs (I think both) were swollen with necrotic areas on feet and legs. I think the left leg was much worse than the right. The history was that of rheumatism and erysipelas. I have never been certain that either existed." The patient's mother says that his temperature was high, reaching 104 F.; that his face swelled up under the eyes; that the "sores" on the left leg came first, and that sloughs were removed from them before the right leg was affected. Later the right leg was similarly affected; both arms swelled up, and for a short time the patient was delirious. He was confined to bed until Feb. 22, 1905, and was not able to walk until the following July, while the last ulcer on his leg was not healed till a year later, July, 1906. During the summer of 1906 the scabs on some of the ulcers on the left leg were knocked off by a fall, and it was for this condition that the boy was brought to the Episcopal Hospital in the autumn of 1906. The ulcers were strapped and had healed solidly without scabs, about Christmas time.

Although the clinical history is so inaccurate, it is readily seen that the patient suffered from a severe general infection, and physical examination elicited the fact that this had been attended by an extensive phlebitis. On the left side the phlebitis had evidently involved some of the veins of the lower extremity, probably the internal saphenous and perhaps the superficial femoral, accounting for the persistence and recurrence of the ulcers. On the right side the superficial veins appear to have escaped, but the external iliac vein was thrombosed, and the clot can still be felt extending beneath Poupart's ligament into the femoral and long saphenous veins as far down as the orifice of the superficial epigastric vein. The return current from the right lower extremity, being thus blocked by the clot in the common femoral vein, has been diverted into the superficial epigastric, which is immensely dilated and varicose. Some communicating branches leave the main trunk of the epigastric vein near the umbilicus, and some blood flows through them probably into the veins of the round ligament of the liver or into the superior epigastric and internal mammary veins. The main trunk of the superficial epigastric vein continues directly upward, and in the sternal region divides and subdivides into a plexus of veins occupying the *left* mammary region. These veins can be very distinctly seen beneath the skin. The blood from these veins then flows across the chest and finally reaches the heart by way of the *left* cephalic vein.



The superficial veins of the left shoulder are all markedly dilated, making it seem probable that the deeper veins were thrombosed here also. From the absence of an enlarged vein passing directly from the right superficial epigastric vein to the axilla of the same side, which is the more usual route in these cases, it may be assumed that the right axillary vein is also more or less obliterated. It would otherwise be difficult to account for the blood from the right lower extremity reaching the heart chiefly through the left subclavian vein, as is the case in this patient.

Idleness in Insanity.—"Nothing to do" is the bane of the insane as much as it is of those mentally more fortunately situated.—J. F. Percy, M.D., in *Charities and the Commons.*

BIMANUAL VIBRATORY PALPATION.

HOWARD A. KELLY, M.D.
BALTIMORE.

In making a bimanual examination of the kidney or of a uterine or ovarian tumor it is often difficult to determine with great precision the extreme boundaries of the growth or of the misplaced organ. There is often a doubtful zone, around the more central manifestly resistant part of the tumor, where it shades off into the surrounding tissues.

The result attained by the customary methods of palpation may be said to yield the umbra or the more definitely resisting portion, while outside of the umbra lies a zone which we may call the penumbra or the doubtful area. Now, if I could only so palpate as to recognize the changes of consistency between the penumbra and its enveloping tissues I would then be able to enlarge the boundaries of the tumor or organ in question and so to reach more definite results.

A bimanual palpation concerns itself with these several factors: First, the mass under investigation; second, the enveloping body walls; third, the fingers which receive the impulses of percussion, which rest as a rule at some point near the lower pole or beneath the mass; fourth, the palpating fingers which communicate a movement to the mass in question; and, fifth, the adjacent organs and the various tissues in the midst of which the mass lies.

It is of the one factor, the palpating fingers, that I wish now to speak. I have long noticed the fact that if the palpatory pressure is made slowly by the upper hand an accommodation of the intervening structures, due to their elasticity, evidently takes place, or in the case of a fluid a slow wave is started and the impulse becomes diffused and is not conveyed with entire distinctness to the opposite pole. Often, with the exertion of greater force in palpating, the enveloping muscular walls are put on the defensive and a certain amount of resistance is excited which the patient can not prevent and which vitiates the fineness of the result.

Now I have found that I can obviate these difficulties and send distinct waves to the receiving finger by using the gentlest possible strokes in palpating, and so extend the field of my palpation by a device which I call vibratory palpation. Let us suppose the case of a pelvic tumor, the finger in the vagina rests lightly on the cervix if it is uterine, or on its lower pole if it is ovarian. Then the upper hand plays lightly over the abdominal wall, over the tumor, touching first its central portions and then advancing radially out toward its periphery, in all directions communicating a series of very rapid light vertical succession movements. As the periphery is reached these little vibrating thrills communicated by the palpating fingers are felt with the greatest distinctness by the finger in the vagina, so long as the tumor or solid organ is played on. They are not felt at all the moment the vibrations fall on the intestines or on the fat abdominal wall just beyond the periphery of the growth. The little vibrations are communicated by giving from three to five little tremulous movements every second to the palpating fingers.

The actual excursus, that is to say, the to-and-fro movement of the fingers does not extend over one centimeter.

In this way an extremely accurate outline of the general form of the tumor as well as of all its irregularities is obtained.

RADICAL CURE OF UMBILICAL HERNIA.

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ROCHESTER, MINN.

The older methods of operation for the radical cure of large umbilical hernias were so unpromising that few surgeons cared to attack them unless forced to do so by acute conditions. Not only was the prospect of relief uncertain, but there was considerable danger attending the operation itself because of increased intra-abdominal tension, as the recognized procedure was to dissect out the recti muscles and transplant them to the median line.

These patients are usually obese with thinned-out recti muscles widely separated, so that when brought in apposition they have but little retentive power, even if the tension which is necessarily put on them is sufficient to maintain them in position.

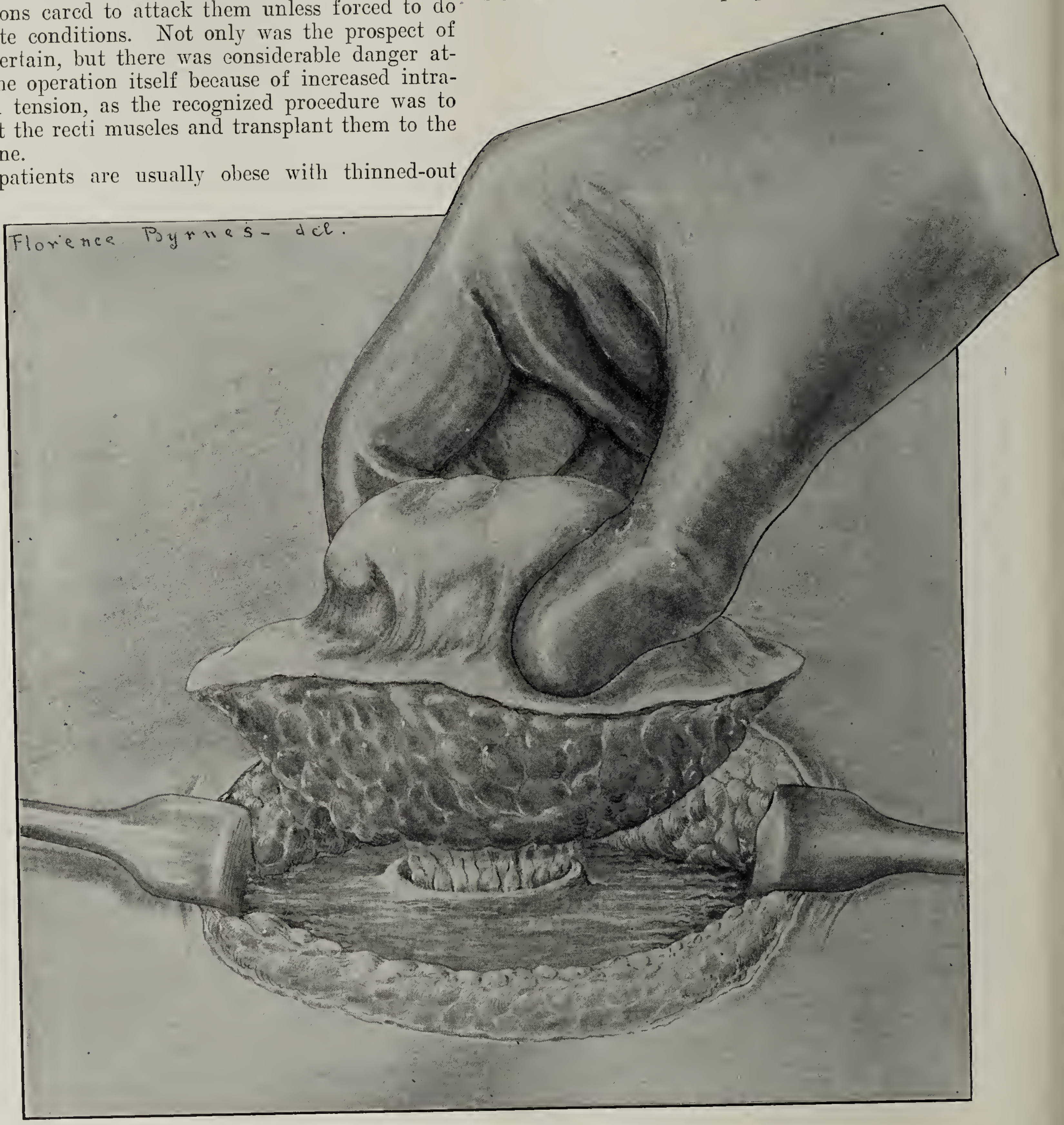

Fig. 1.—Removal of sac, adherent omentum and skin.

The hernial opening lies above the attachments of the urachus and remnants of the hypogastric arteries in the umbilical scar. That these three structures exercise some influence is evidenced by the fossa which they normally outline in the peritoneal cavity. Below the umbilicus the recti muscles are in close apposition, all of the aponeurotic structures of the abdominal muscles passing in front of them. Above the umbilicus there is three-fourths of an inch or more separation between the recti, due to the fact that here these muscles are completely ensheathed in the tendinous aponeurosis of the external and internal oblique and the transversalis muscles.

In 1894, in an operation for the radical cure of umbilical hernia along the old lines, a wide transverse incision was made for the purpose of bringing the greatly separated recti muscles in apposition. The muscles were found at least six inches apart and so thinned out as to render futile the idea of bringing them together. This led to the necessity of overlapping from above downward all of the aponeurotic structures of the abdomen to close the transverse operative gap. Without quite realizing the importance of the step which was accomplished in this case, I devised a method for the cure of umbilical hernia, by overlapping from side to side without any attempt to find the muscles (similar to the Blake operation). But in more than half of the cases in which this was attempted, sufficient overlapping could not be accomplished successfully, and I was forced back to the "above down" plan and found that in this way the largest protrusions could be satisfactorily reduced and the hernial opening closed without tension.

If a fleshy patient with umbilical hernia be laid flat on an examining table, it will be found that the anterior abdominal wall has become so stretched that the "slack" is considerable, so much so that if the right hand be placed below and the left hand above, the abdominal wall can be made to completely cover and overlap the lower hand. This stretching of the abdominal wall in the median line between the ensiform cartilage and the pubes may amount to from four to ten inches. If the patient now be asked to raise the body from the table, setting into action the recti muscles, they will be found to be displaced latterly to about the same extent. This overstretched condition of the abdominal wall is brought about as a result of the increased weight of the pendulous abdomen. As a person gains in weight the spine gradually becomes more erect in posture, and in the very fleshy individual the spinal column is bent backward, the weight of the head, neck, shoulders and upper thorax being used to counterbalance the abdomen. It is for this reason that the overlapping from above down method of cure is so easy in the very obese with large hernias, relatively much more so than in thin persons with normal abdominal walls.

The tendinous aponeurotic structures involved in the operation are among the strongest in the body and when overlapping is accomplished the resistance is nearly perfect. The sutures merely maintain the structures in apposition, while the intra-abdominal tension itself prevents displacement. It can be aptly compared to a steam boiler. If the boiler door is on the outside it requires great force to maintain its resistance to the pressure, whereas if the door is placed on the inside, the greater the pressure within the more tightly is the opening closed.

The operation is extremely simple. Two transverse elliptical incisions are made, cleanly exposing the neck of the hernial sac and the aponeurotic structures for several inches above and below it. The neck of the hernial protrusion is cleared as high as the aponeurotic structures extend. The sac is then opened and any intestine which may lie in it is returned into the abdomen. The contained omentum, if such there be, is ligated in sections on a level with the abdominal orifice and the stumps returned into the peritoneal cavity. The sac with all of the adherent omentum, including the skin, is cut away without further manipulation (Fig. 1). A stout curved needle threaded with strong celluloiden linen is passed from without in through the aponeurotic structures and peritoneum from two to three inches above the margin of the opening.

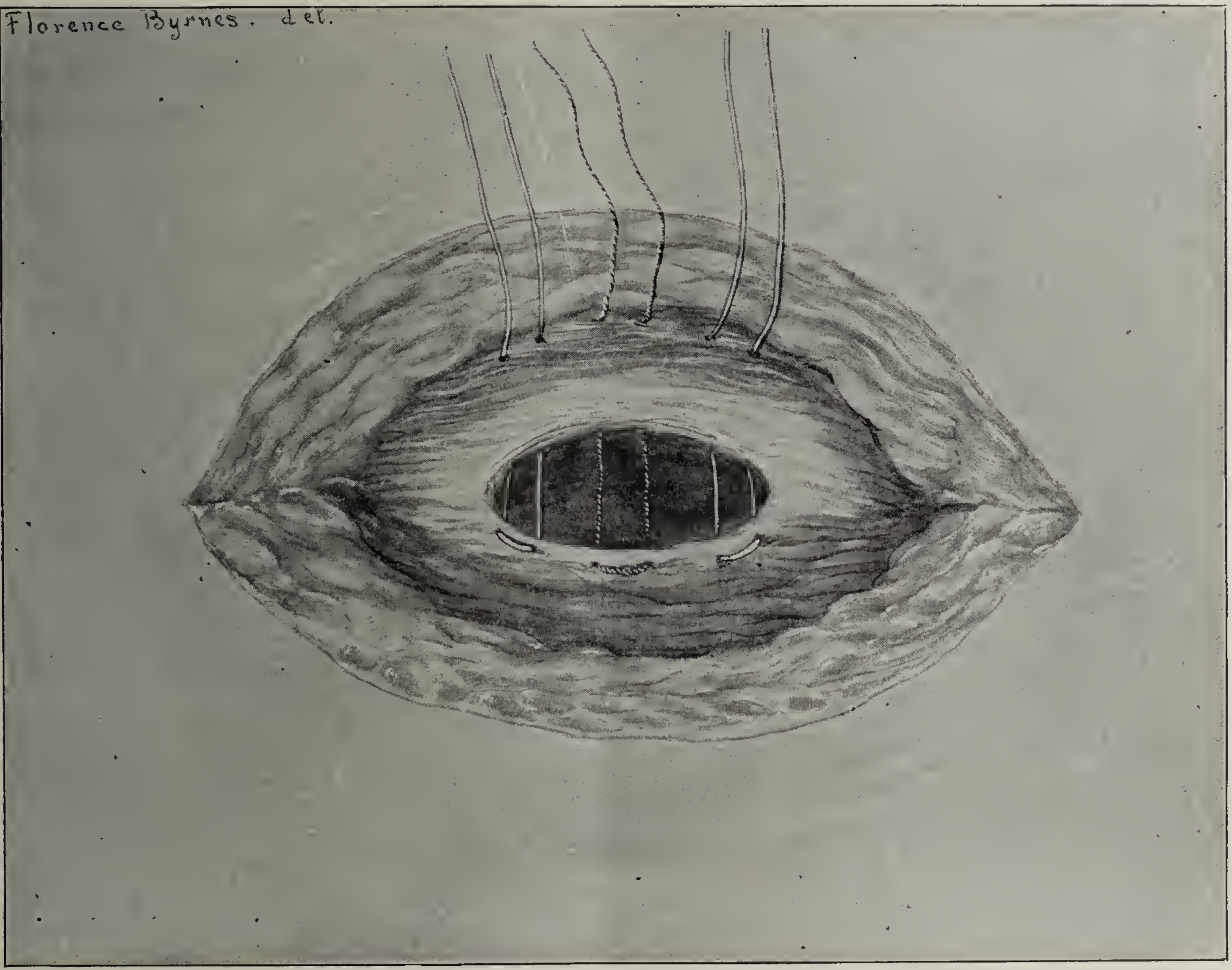

Fig. 2.—Suture of the aponeurotic and peritoneal structures, sutures placed.

To guard the needle as it enters the peritoneal cavity the bowl of a large tablespoon, as recommended by Monks, is a valuable aid. The needle and thread is drawn down and out of the hernial opening. A firm mattress stitch is now caught in the upper edge of the lower flap about one-fourth of an inch from the margin, the needle is then carried back through the hernial opening into the peritoneal cavity and made to emerge one-third of an inch lateral to the point of original entrance. On each side of this is introduced a similar mattress suture of strong chromicized catgut (Fig. 2). These three sutures are drawn tight, pulling the entire thickness of the aponeurotic and peritoneal structures behind the upper flap. The margin of the upper flap is now retracted to expose the suture line, and if any gap exist it is closed with catgut sutures. The upper flap is now sutured to the surface of the aponeurosis below by continuous chromicized catgut suture (Fig. 3) and the superficial fat and skin closed. The patients are confined to bed from twelve to twenty days.

There are two modifications in the plan outlined above for which I am indebted to Dr. A. J. Ochsner. In the operation as originally performed the hernial opening was incised laterally and the peritoneum was separated from the upper flap, the lower being drawn upward into a pocket. These steps are unnecessary.

The above-down overlapping method for the radical cure of umbilical hernia I first presented in a paper before the American Academy of Railway Surgeons at the annual meeting in 1898.[1] In a second paper read before the American Surgical Association in 1901[2] the method was again brought forward. In a third article on the same subject, read before the Surgical Section of the American Medical Association at the annual meeting in 1903,[3] some further experiences were dwelt on.

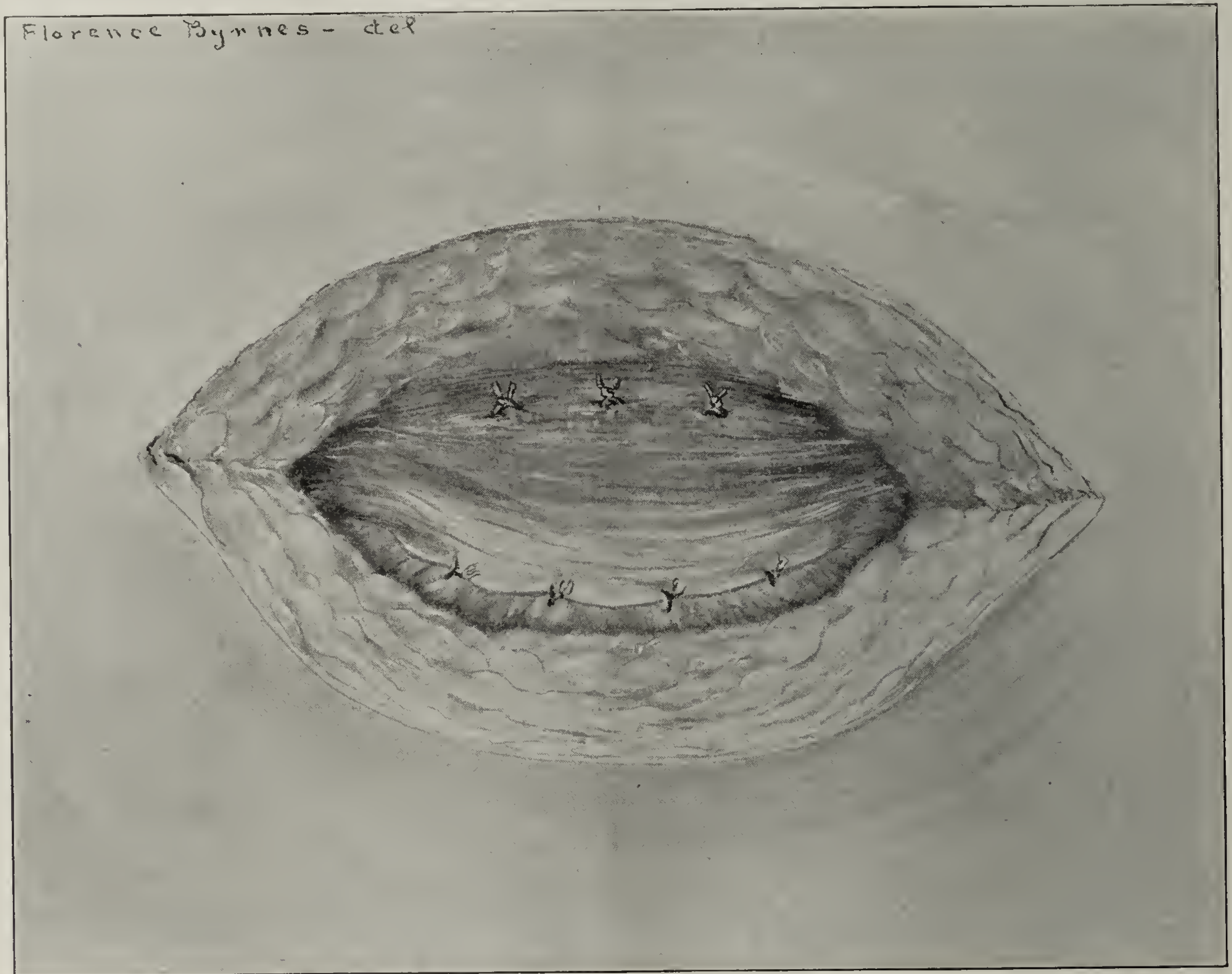

Fig. 3.—Sutured aponeurotic and peritoneal structures.

The object of this fourth communication is to call attention to the ultimate results, as more than thirteen years have elapsed since the first operation was done. During this time one hundred and twenty-six umbilical hernias and fully as many postoperative hernias, especially those following appendicitis and gallstone operations, have been performed by this method, almost without a relapse.

Of the eighty-eight patients with umbilical hernia who were operated on between 1894 and 1905 seventy-five were traced. One had a partial relapse; her physician described it as a boat-shaped stretching at the site of the former operation, but stated that it did not inconvenience the patient. Another patient supposed to have suffered a relapse was operated on and a second opening found above and lateral to the closed umbilical opening.

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[1] Ann. of Surg., January, 1899.

[2] Trans. of Am. Surg. Assn., 1901, and Ann. of Surg., May, 1901.

[3] THE JOURNAL, July 25, 1903, 225.

EXTENSIVE MULTIPLE KELOIDS.

THREE CASES IN CHINAMEN FOLLOWING THE HABITUAL HYPODERMIC USE OF MORPHIN.

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CHICAGO.

Keloid is a pathologic process of the skin, somewhat doubtful as to its nosologic classification, but generally looked on as a connective tissue neoplasm, closely allied to, though separate and distinct from ordinary fibromata. The name of this skin affection—keloid—was first used by Alibert,[1] and it should correctly be spelled cheloid, being derived from χηλή, a crab's claw.

The etiology of keloid to-day is still ill understood; we do know, however, that this morbid process frequently follows comparatively insignificant trauma of the skin and that it appears to require a special susceptibility or predisposition, either purely personal or racial, in the individuals in whom it develops. Pricks of the skin with small instruments, common needles or tattooing needles have frequently been noticed as the starting points of keloid formation. However, I have failed to find in the literature reports of cases of the development of multiple keloids in consequence of the habitual use of the hypodermic syringe in morphinism.

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[1] Maladies de la Peau, Paris, 1870.

In the Bureau of Science in Manila we observed three cases of multiple keloids developed in habitual morphinists, all short-term prisoners in Bilibid, the penitentiary of the Philippine Islands, two of the patients being full-blooded Chinese, one a Chinese-Filipino Mestizo. In none of the cases could much of a history be obtained. A suspicious Chinese prisoner is, of course, not very liable to say much as to his history and morphin habit. It is also a notorious fact that habitual morphinists are absolutely unreliable as to veracity, not only with reference to the use of morphin, but with reference to anything. In other words, they are confirmed, colossal liars. Hence, whatever history was obtained in any one of the three cases is of no great importance, since no reliance can be placed in it.

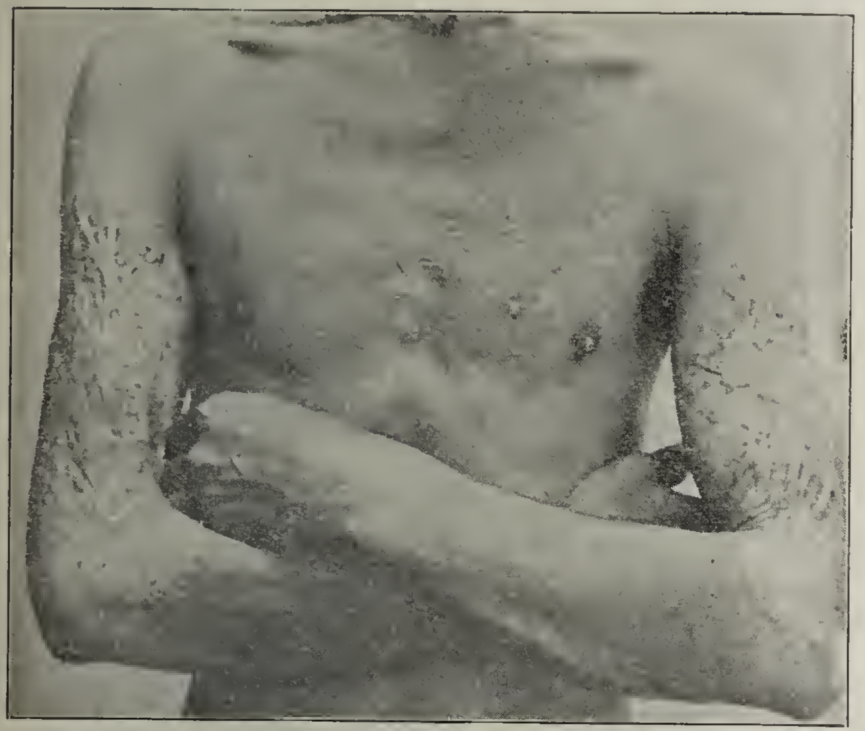

Fig. 1.—Photograph of patient in Case 1, front view of arms.

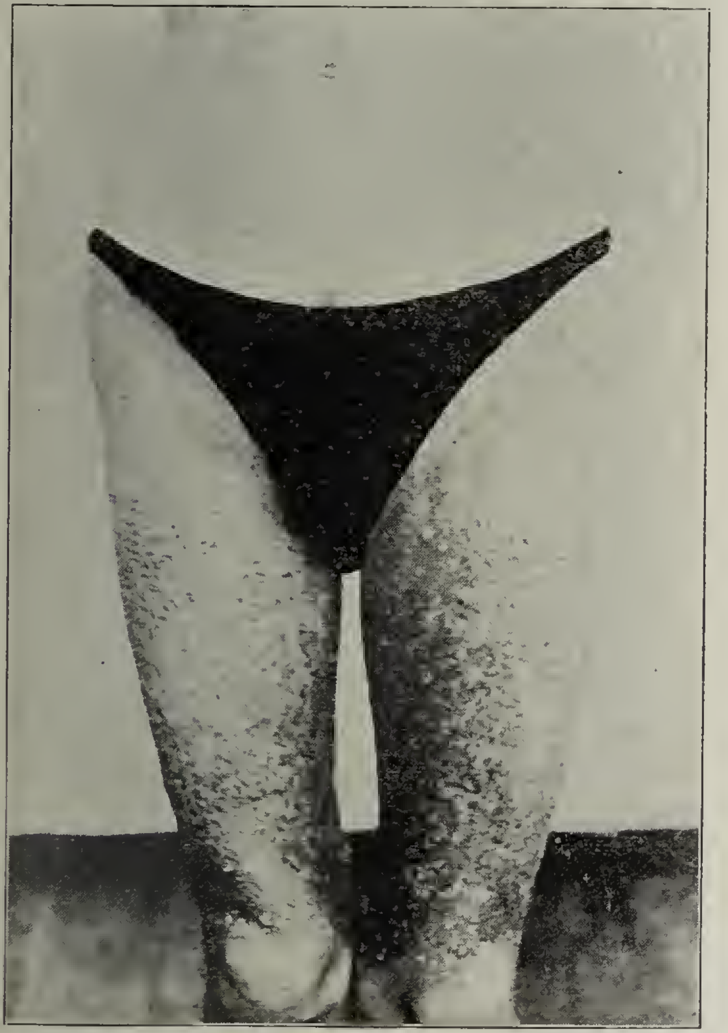

Fig. 2.—Photograph of patient in Case 1, front view of thighs.

From inquiries it appears that some Chinese, starting out first as opium smokers, later become addicted to the habitual use of morphin hypodermically. The preparation employed in this manner is said to be a very inferior, impure, crude morphin.

About two years ago Lyon and Wherry[2] reported from Manila a case of infectious dermatitis in chronic morphinism, accompanied by an unknown diplococcus resembling *M. gonorrhœæ*. The authors describe this case as occurring in a Chinese about 20 years old, a prisoner in Bilibid, who had been addicted to the hypodermic use of morphin, and who showed on the chest, arms and legs an extensive ulcerative dermatitis. From the pus of the skin lesions a diplococcus was obtained. From the histologic description of sections of the ulcers it does not appear whether or not the ulcerations were developed on the basis of primarily existing keloids. Evidently the authors never suspected nor mentioned keloid formation.

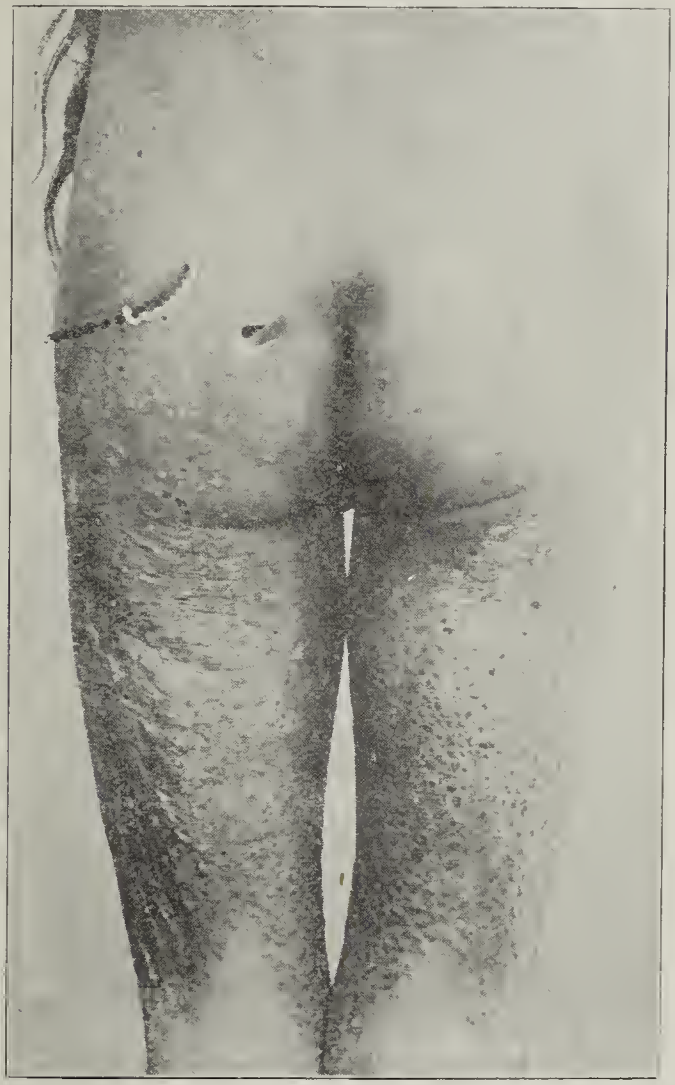

Fig. 3.—Photograph of patient in Case 1, back view of buttocks and thighs.

Borst,[3] in his extensive monograph on tumors, defines keloid as follows:

> Keloid presents itself as an exceedingly tough, callous, frequently stellate, cicatricial tissue, forming elevated, narrow ridges, bands, plates or nodules, of a reddish-white, shining appearance. It generally develops on the base of a traumatism (after stabs, cuts and burns), and also apparently without any preceding insult. Hence, formerly we used to distinguish between cicatricial keloid, apparently following traumatism, and spontaneous keloid. In the case of the latter it was alleged that the papillary body remained intact. This distinction has with propriety been abandoned. Even if one concedes a certain influence in the production of keloids to traumatism, it appears

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[2] American Medicine, 1903, vi, 401.

[3] Die Lehre von den Geschwuelsten, Wiesbaden, 1902, i, 116.

justifiable to look on an existing predisposition as the main factor. Lubarsch in this connection justly points out the fact that the traumatic basis can not explain the liability of keloid to reappear after removal.

Microscopically keloid shows a matrix composed of coarse and homogeneous fibers with thick-walled vessels. The scanty, narrow, spindled, cell nuclei are found arranged parallel between the fibers or attached to them. Masses of fibers, freely interlacing with each other, contain lymph clefts. The statement frequently made that the fibrous bands radiate rootlike from the vessels I have not been able to confirm. The cicatricial keloid only rarely has the character of a true tumor; it is generally to be looked on as a specialized, hypertrophic, cicatricial tissue.

Unna[4] gives the following histologic definition of keloid:

A fibroma limited to the cutis, perivascular in its arrangement, running mostly parallel to the vessels and springing from them, growing later, with atrophy of the vessels and cells, into a pure collagenous, uniform structure, compressing the other constituents of the skin. Transitory keloid, which develops on the base of granulations or infective granulomata (lupus, syphilis) and other infectious inflammations (acne), is distinguished from the persistent one, mainly by the fact that the liability of the vascular adventitia to fibromatosis is only transient. Thus these keloids never reach the last stage of collagenous hypertrophy, from which there is no recovery; they are not encapsulated, their lymph spaces are not destroyed, and their cells and vessels do not completely atrophy. Thus complete restitution is possible by simple absorption of the fibrous mass; we have once more a simple scar, a simple syphilide and so on. . . . But apart from these differences, which are founded less in the act than in the condition, transitory keloid is in no way distinguished from the first stage of persistent keloid.

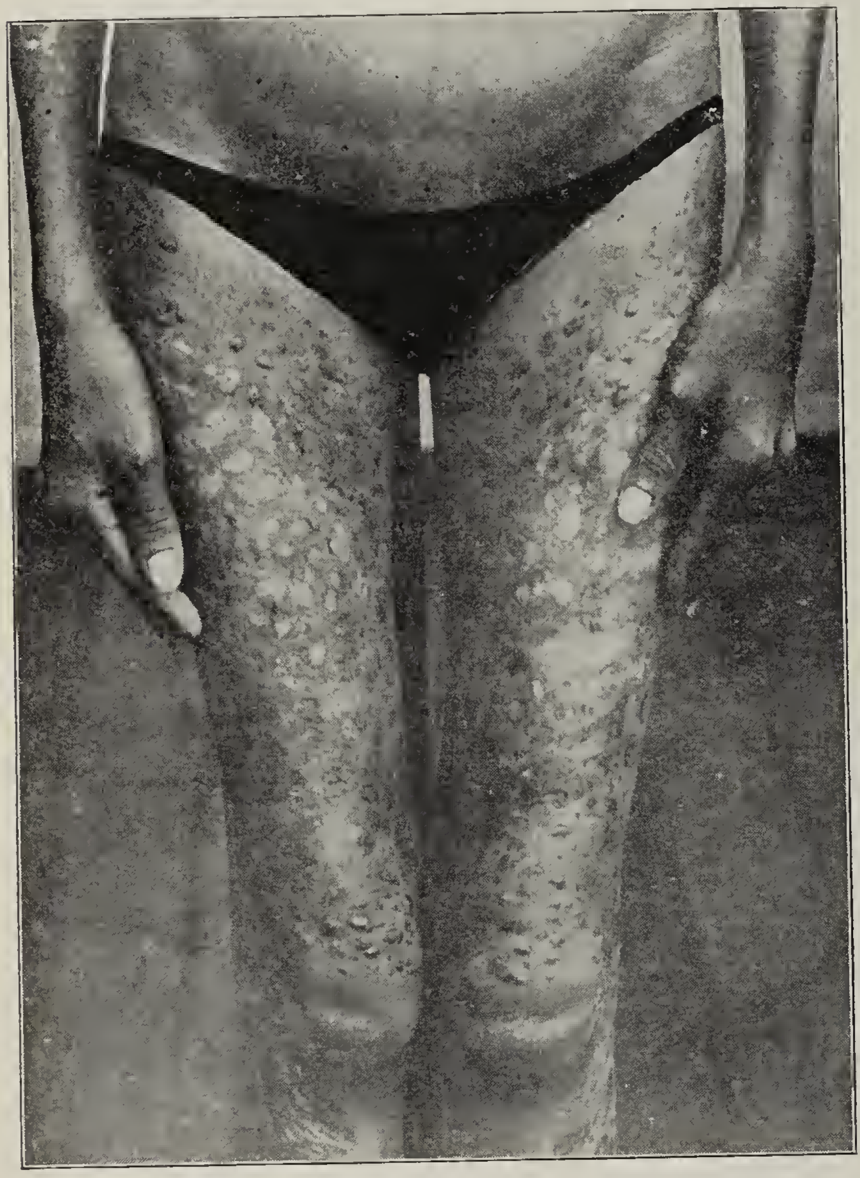

Fig. 4.—Photograph of patient in Case 2, front view.

Hyde and Montgomery[5] make the following statements:

Authors have described two varieties of this disease, the "true," "spontaneous" or idiopathic form, and the "false," "spurious" or cicatricial form which develops in the scar produced by a previous traumatism. There is no anatomico-pathologic separation between the two, and it is highly probabl that all cases of so-called "spontaneous keloid" are instance of development of the growth in regions of pressure, contusio traction or slight traumatism, that have not been recognize such as the wounds inflicted by mosquitoes.

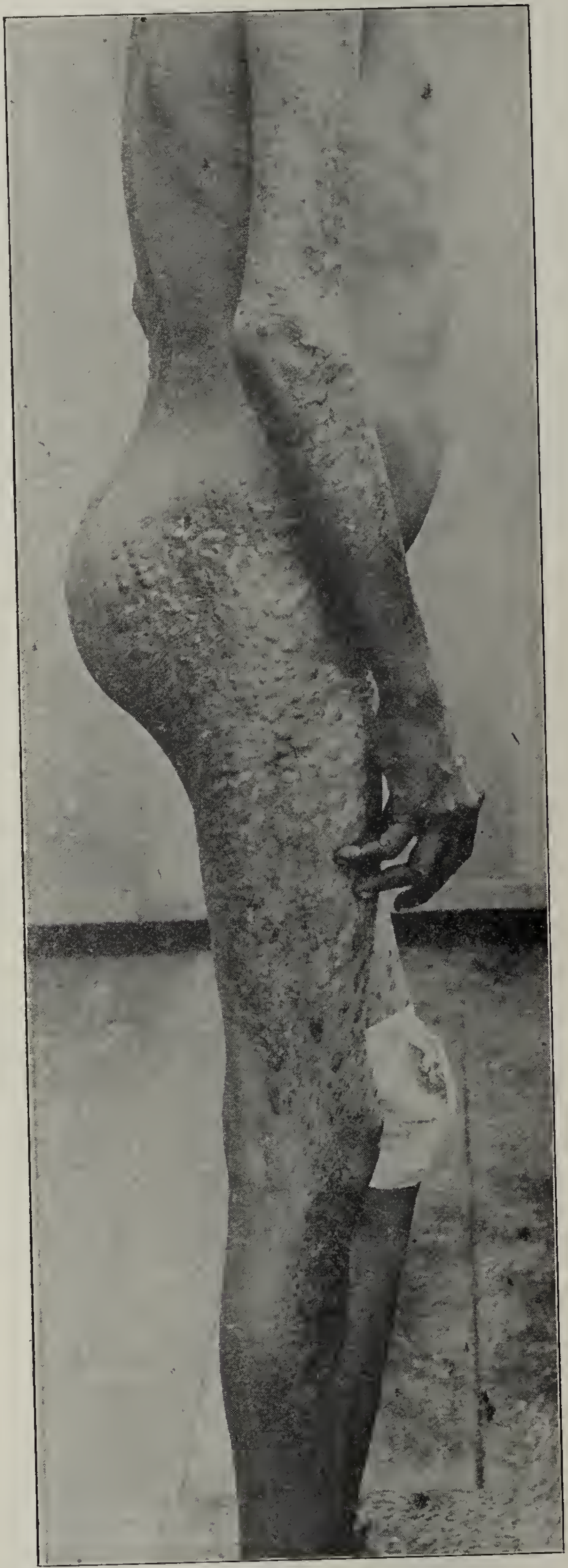

Fig. 5.—Photograph of patient in Case 2, side view.

The new formations of this disease are dense, generally elas tic nodules imbedded in the corium, or projecting above the level of the skin and firmly attached to it. . . . Slow of evolution, they usually persist for a lifetime. . . . These forms are whitish or reddish, globular or semiglobular nodules, buttons or plaques, with roundish or ovoid outline; linear, elevated striæ, bands, ridges, resembling cords, ribbons, or tapes, in irregular outline and disposition, or combinations of two or more of these figures. . . . The lesions vary in size from that of a small pea to that of a large saucer, the largest including the outlying points of the limbs or radiating ridges. Over them the skin is reddish or whitish in color, smooth, hairless, and occasionally hypersensitive to pressure and heat. Often small blood vessels transverse its surface. The growth at times is also the seat of spontaneous pain. . . . It is far more common in the colored than in the white races. . . . Cicatricial keloid resembles in its features the true keloid described above and differs from it chiefly in the fact that the cicatricial form is ordinarily preceded by scar formation, due either to disease or to injury. It thus follows the lesions of zoster, variola and syphilis, as also traumatism of all sorts, including those made by surgical operations and accidents. The tumors, as a rule, spring directly from scar tissue, and after reaching a maximum of development do not surpass the limits of the original lesions; at times, however, the growth slowly develops, as in spontaneous keloid, at a distance from the original site of injury or disease. The origin of the disease is exceedingly obscure. According to Langerhans, Warren, Kaposi and others, in all cases of true keloid, the papillary layer of the corium and the interpapillary projections of the rete mucosum downward are intact, the new formation being strictly limited to the middle and lower portions of the corium, in which there are numerous whitish, tendinous fibers of connective tissue disposed for the most parallel with the surface of the rete mucosum. In cicatricial keloid these observers find a partial or complete absence of the papillæ and interpapillary processes.

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[4] Histopathology of the Diseases of the Skin, English Edition, New York, 1896, 842.

[5] Diseases of the Skin, Philadelphia, 1901, 6th Edition, 539.

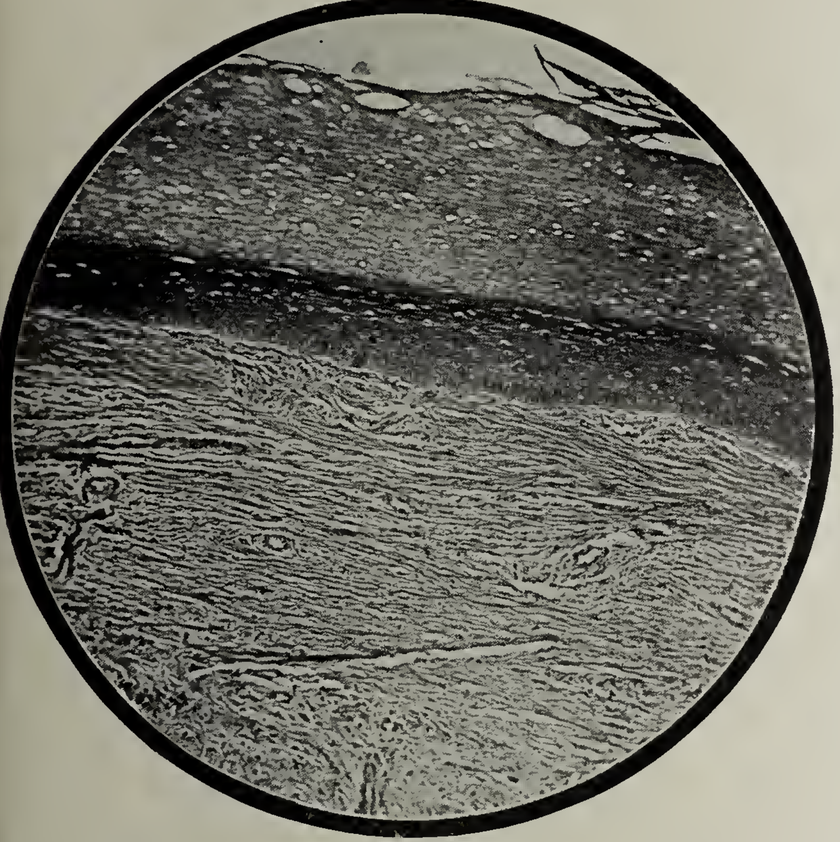

Fig. 6.—Photomicrograph. Section from Case 2, showing keloid fibers in epidermis. Low magnification.

Babes, Croker and others, on the contrary, find that the papillæ and rete mucosum may be normal, modified or absent in either form. Lymph vessels with proliferated endothelium, compressed by longitudinal growth of the fibers, passing in both vertical and horizontal planes, for the most part remain patulous.

According to Fox:[6]

Keloid occurs in both sexes and at any age. In the negro it is notably common as compared with its occurrence in the white race. Its hidden cause appears to be associated with some individual predisposition of which we are ignorant. In certain cases a keloid tumor is certain to develop wherever the skin is cut, pricked or injured in any way. Many writers have made a distinction betwen true and false keloid, claiming that the former arises spontaneously and that the latter develops on an injury to the skin. So far as we know, every keloid may arise from some injury to the skin, although in very many cases it is impossible to get any history of even the prick of a pin or a scratch. Apparently idiopathic keloid and keloid developing on a cicatricial base (scar keloid) are one and the same in nature. But every elevated and dense cicatrix is by no means a keloid, simply because it may and often does subsequently become the seat of this disease.

Ravogli,[7] who recently read a somewhat extensive paper on the subject before the American Medical Association, believes that the so-called true or spontaneous and the cicatricial keloids are different, because between the two kinds there are differences of a clinical and histologic order. In the cicatrical keloid this author claims that the fibers result in a granular mass in opposition to the clean and neat fibers which are found in the spontaneous keloid. In cicatricial keloid, the papillary layer shows no papillæ; in the spontaneous keloid the papillæ of the derma are well preserved. One of the important features in the structure of the cicatricial keloid is the nearly total absence of the elastic fibers.

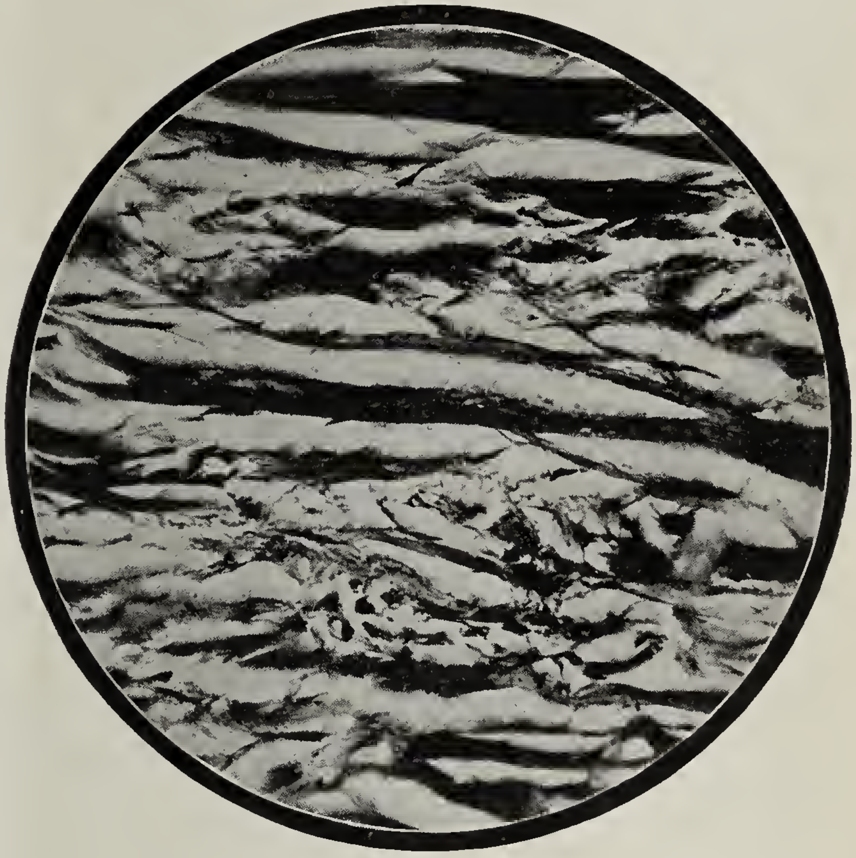

Fig. 9.—Photomicrograph. Section from Case 3, showing very much swollen homogeneous keloid fibers. Medium magnification.

Iwanow, according to Ravogli,[8] believes that the destruction of the elastic fibers is the cause of multiple keloid. Goldman also believes that keloid is the result of the disappearance of the elastic fibers. According to Ravogli's belief the growth of the connective tissue is greatly increased by the loss of the elastic fibers. It seems that the office of these fibers is that of maintaining the connective tissues up to a certain degree of development. The elastic fibers, when destroyed, are never formed again. In the structure of the keloid all traces of glands, hair, follicles, cutaneous muscles are lacking.

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[6] Photographic Atlas of the Diseases of the Skin, Philadelphia, 1903, 120.

[7] False or Cicatricial keloid, The Journal A. M. A., 1904, xliii., 297.

[8] Ravogli and those who believe that cicatricial keloid is due to the disappearance of the elastic fibers do, however, not at all explain why this disappearance occurs.

In the discussion of Ravogli's paper before the American Medical Association, Gottheil stated that every keloid is cicatrical in its origin and that there is no such thing as a spontaneous keloid. He has, besides, failed to find any microscopic differences between the two varieties. D. W. Montgomery observed a case of spontaneous keloid in a negro. Microscopic examination showed the papillæ obliterated just as in true keloid. Moses and Heidingsfeld also believe that no differential histologic diagnosis exists between false and true keloids. Heidingsfeld does not believe the absence of elastic fibers to be the cause of keloid formation. Tschlenow[9] has quite recently collected and critically gone over the literature of keloid, and he sums up his views on the subject as follows:

1. Under the name of keloid we understand a particular skin affection which, in some regards, for the present, until its etiology is better known, must be classified as a neoplasm among the new formations of the second group, namely, the fibromata.

2. Among the group of keloids have to be classified the so-called primary form called true keloids and the secondary (cicatricial keloids). The hypertrophic cicatrix has to be excluded from this group.

3. Clinical as well as histologic findings show that the former division of the keloids into primary and secondary ones is not justified, since both divisions develop according to a uniform type. In spite of this such a division may be retained for the sake of convenience from a clinical standpoint.

4. The histologic changes in keloids consist in an increased proliferation of the connective tissue along the blood vessels of the cutis, followed by secondary changes and the simultaneous loss of elastic tissue.

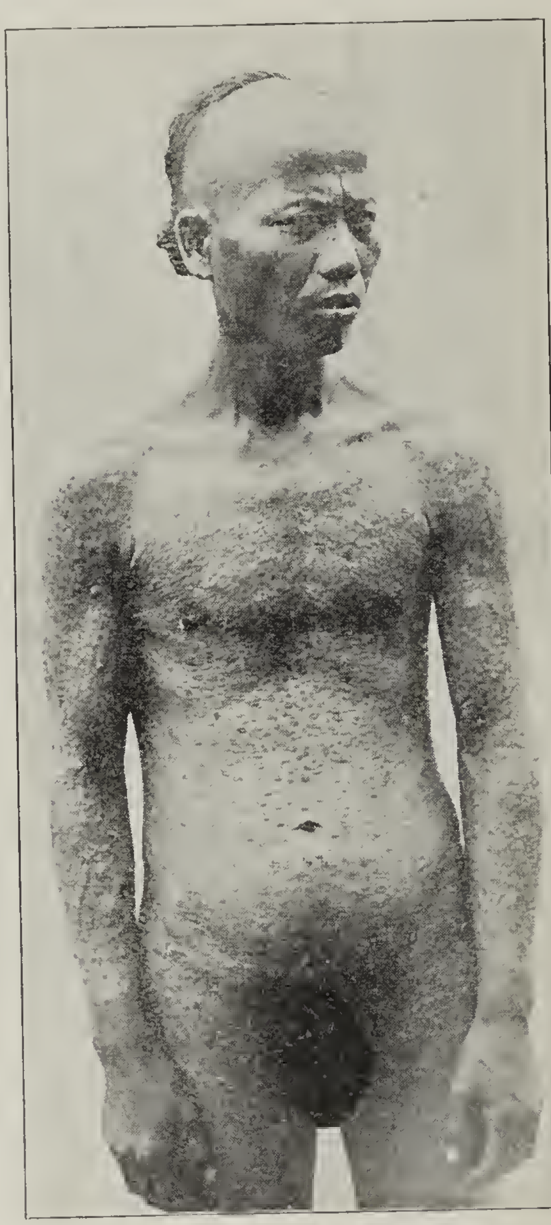

Fig. 7.—Photograph of patient in Case 3, front view.

5. It was formerly believed that the preservation of the papillary body in primary keloid and its disappearance in secondary keloid could be used as a histologic differentiation between the two types. However, this view can not be upheld.

6. The etiology of keloid has not been cleared up.

7. As the main cause of the development of keloid we have to consider a personal or race disposition which when present causes the skin frequently to react by the formation of keloids on a sometimes insignficant stimulus. This may also explain the pronounced tendency of keloids to reappear after the removal.

8. As to the pathogenesis of keloid, the vascular system undoubtedly plays an important part in their development. However, the minute details are not yet perfectly understood.

9. Keloid is neither a cicatrix nor a simple hyperplasia and is distinct in its histology from the infectious granulomata and the fibromata. A satisfactory classification at the present time is not possible.

10. The causes for the spontaneous arrest in the development of keloid are not known.

11. The prognosis in general is very unsatisfactory.

12. The treatment requires a great deal of attention and persistency and in general is highly unsatisfactory.

The three cases to be reported in this paper are the following:

Case 1.—S. F., Chinese, aged 29, a peddler by trade, had been sentenced to ten days' confinement in the carcel for doing business without a license. He had been living, according to his statement, for a number of years in Manila. He is a poorly nourished man of average size.

History.—When asked how often and in what doses he had used morphin hypodermically, he gave the following certainly astonishing account: He has used morphin for two years, lately injecting one-half grain 28 times a day, divided as follows: Four grains in eight injections at 8 a. m., five grains in 10 injections at noon, and five grains in 10 injections at 8 p. m. He employed an all-metal syringe. The prisoner estimated the amount used by the price he paid for the drug. His statements, of course, are not at all trustworthy.

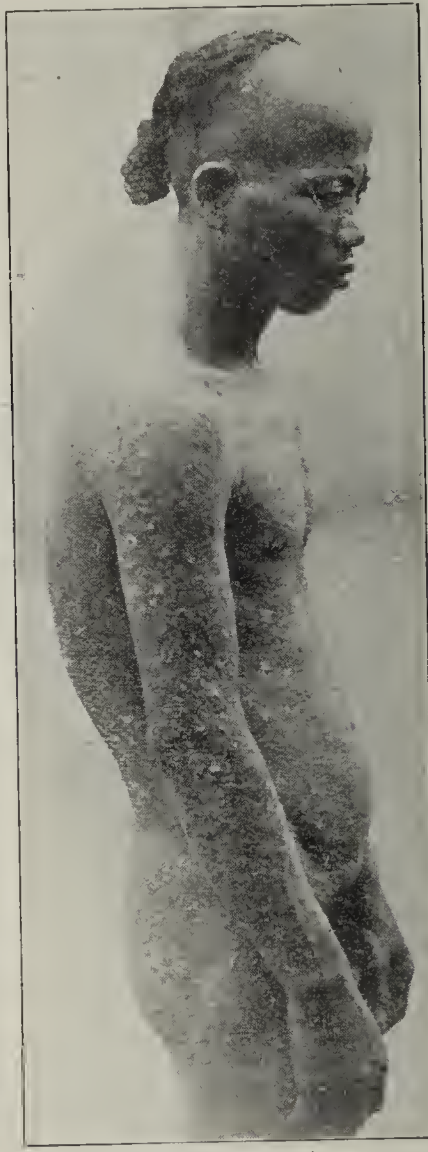

Fig. 8.—Photograph of patient in Case 3, side view.

Examination.—At the time when he was questioned he had been in prison about a week, he was weak and nervous and could hardly stand on his feet. The skin of the arms and thighs, both in front and behind, was covered with hard, shining ridges, plates and nodules (Figs. 1, 2, 3). Here and there, particularly at the posterior surfaces of the thighs, the nodules showed a superficial loss of substance or shallow ulceration. There was, however, nowhere a purulent or even copious serous discharge. The keloid character of the lesions was best marked on the anterior surfaces of the arms; here the ridges were stellate and they presented that appearance which has led to likening the lesion to a crab's claw.

In this case a histologic examination of the keloids was not made, since the prisoner, a day or so after the first examination, was discharged and deported from the islands. However, the lesions were so typical that there was no doubt as to their keloid character, as a glance at the illustrations from this case will show.

Case 2.—Q. T., a Chinese-Mestizo (father a Chinese, mother a Filipina), said to be 16 years old, was sent to prison for a short term for being found asleep in the streets.

Examination.—The young fellow when examined appeared of average size and of normal development, except as to the external genital organs. Both the testicles and the penis were very much undersized. Mentally the boy appeared exceedingly dull, so that in spite of the presence of a competent interpreter it was impossible to get any history out of him. However, he admitted having frequently used morphin hypodermically for over two years. The keloids, mostly consisting of nodules and plates, were found particularly on the outer sides of the arms and on the anterior and outer surfaces of the thighs (Figs. 4 and 5). They were hard, smooth and shining.

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[9] Ueber multiple spontane Keloide, Archiv f. Derm., 1904, lxxii, 138.

In Cases 2 and 3, pieces of tissue were obtained and at once after removal placed in Zenker's solution. The paraffin sections were stained with hematoxylin and eosin, eosin and alkaline methylene blue and by Weigert's method for elastic fibers.

The sections from the tissue in Case 2 (Fig. 6), removed from the thigh above the knee, show in the outermost portion of the loose subcutaneous areolar connective tissue some remnants of sweat glands. Above these subcutaneous strata are masses of coarse homogeneous fibers, arranged in bands and bundles, which run parallel to the surface of the skin. These bundles interlace with each other in such a manner that in general the deeper layers appear to run at right angle to the upper layers and in the sections the former are cut transversely and the latter longitudinally. Fairly numerous vessels with moderately thickened walls are seen in the innermost layers of the coarse fibers. The outer layers show few vascular lumina. Elastic fibers are entirely absent where the tissue is composed of the coarse, homogeneous, collagenous fibers, but at the margin of the fibrous masses and in one place near the surface of the skin, between two converging fibrous bands, they are encountered. In the keloid tissue proper, sweat and sebaceous glands and hair follicles are absent. The papillary layer is almost entirely obliterated. Only here and there a very short stumpy papilla or two with correspondingly small interpapillary pegs are seen. The epidermis in general is almost completely flattened out. The Malpighian layer is normal in extent, no karyokinetic figures are seen in its cells. The stratum granulosum is narrow and its keratohyalin scanty. The stratum lucidum and the stratum corneum are broad. At the margin of the keloid mass proper, hair follicles and glands are again encountered, but the tissue here shows a round-celled subacute inflammatory infiltration, composed of small round lymphoid, embryonal fusiform and a few plasma cells. Bacteria are not encountered in these marginal inflammatory areas.

Case 3.—A. L., Chinese, aged about 30, had been sent to prison for one month in punishment of a petty theft. He is a medium sized, strong built, fairly well-nourished man. He admitted having used morphin by the aid of the hypodermic syringe for two years. Previously he had been an opium smoker.

Examination.—All parts of his body accessible to the syringe, with the exception of the face, head, hands and feet were covered with keloid nodules and elevations. They were found from the clavicles downward to the ankles, on the inner and outer surfaces of the arms from the shoulders to the wrists, on the sides of the thorax, on the buttocks, on the anterior, inner, outer and partly on the posterior surfaces of the thighs, and over the calves (Figs. 7 and 8). The most profoundly affected surfaces were those of the left arm, most probably on account of having been most frequently used as the site for the morphia injections. Most of the keloids were round or elliptical, very firm elevations. Irregularly stellate ridges were seen, however, on the outer surface of the left arm. The nodules, ridges, etc., were smooth, moderately shining and of a pale reddish hue. Some of them were covered with dried up scabs. Others showed a very shallow, ulcerated surface.

Microscopic Examination.—Pieces of tissue were removed from the outer surface of the left arm and from the left shoulder. Microscopic examination of the sections shows the following (Fig. 9): In general the tissues are very much like those from Case 2, though some points of difference are to be noted. The keloid fibers are, on the whole, much coarser than in Case 2, more swollen, more homogeneous. In some places they do not reach up to the epidermis, and when they do the papillary layer is fairly well preserved. Here also small remnants of hair follicles are found. All epidermal layers, except the stratum germinativum, are thin. Lymph clefts in the keloid mass are more numerous than in Case 2, but in neither of the cases is a proliferation of lymphatic endothelia demonstrable. The inflammatory zone at the margin of the keloid connective tissue mass is less pronounced than in Case 2. In neither of the cases are the keloid fibers directly traceable to the adventitia of vessels. Elastic fibers are absent in the area of keloid connective tissue fibers. No bacteria are seen in the sections.

CONCLUSIONS.

The most important and most interesting deductions to be drawn from the observation and examination of these three cases are:

1. The great multiplicity of the keloids and the vast areas over which they occurred.

2. Their common etiology, all three unmistakably depending on the habitual use of the hypodermic syringe for the purpose of injecting morphin.

3. The fact that Chinese, when habitually using hypodermic injections of morphin, are apparently liable to development of keloids. This is probably due to a racial predisposition. It is perhaps proper to mention here that, while opium smoking is very widespread among the Chinese, the use of morphin by the aid of the hypodermic syringe is not at all common among these people.

4. The result of the microscopic examination is in accord with what has repeatedly been described as the typical histology of the keloid. Several years ago I examined microscopically several cases of spontaneous keloids. The sections from these cases are not now accessible, but I have the impression that there is no fundamental difference between the histology of so-called spontaneous and acquired keloid. The preservation or absence of the papillæ of the derma, in the two types of keloids in particular, is by no means an invariably present differential feature; on the contrary, transitional stages are occasionally found in either variety.

103 East Randolph Street.

ISOPRAL AND HYDRATED CHLORAL.*

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A student of materia medica can not fail to observe that many substances come into notice, rise into popular favor and sink back into obscurity, only to give place to others which follow the same course. This observation should tend to make one conservative, but we are so accustomed to brilliant discoveries, whereby the impossibility of yesterday becomes the accomplished fact of to-day, that many of us have cast conservatism to the winds and accept, with extraordinary credulity, the statements of the charlatan, the falsifier and the self-styled investigator.

We are coming to appreciate the indecency of allowing ourselves to be made the dupes and unpaid agents of the makers of worthless compounds, which are forced on our notice in high-sounding, and often meaningless, phrases. We must also be on our guard against accepting the statements of those who may be interested in reporting too "optimistically" on nostrums sold at fancy prices, and we must remember that the investigator who is paid for his report and the enthusiast are prone to accept insufficient evidence as the basis for highly-colored reports.

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*This article was read at the meeting of the Section on Medicine of the New York Academy of Medicine on April 16, 1907

While the ideal is being sought in every department of medicine, and nowhere more earnestly than in the field of anesthetics and hypnotics, it should be remembered that these remedies, which by their very nature can not be wholly free from danger, should not be used on man before they have been thoroughly tested on animals. The precise dose for man can not be learned by experiments on animals, but such experiments do unquestionably show the mode of action of a substance, and from this its advantages and disadvantages may be compared with those of another substance. Thus, the depression of the vasomotor center in one case, and that of the respiratory center in another, may limit the usefulness of certain agents.

Isopral is being extensively advertised as "The safe hypnotic of the chloral group; isopral acts more efficiently than chloral in one-half the dose, and without depressing effects on the heart and nervous system."

The danger attending the uses of hydrated chloral has long been recognized, and due caution is exercised in its employment. If it can be shown that isopral is fully as dangerous as hydrated chloral, and probably more dangerous, we shall not often have occasion to prescribe the proprietary, of which we know practically nothing in respect to other effects than the production of unconsciousness, and which costs about twenty times as much as the official hydrated chloral.

The use of isopral by clinicians is apparently based on the pharmacologic investigation of Impens,[1] who gave figures purporting to show that isopral is much safer than chloral. It does not seem to me that his conclusions are in any way justified, and the table taken from his article is given for comparison with results obtained myself in experiments on eight cats, thirteen dogs and two guinea-pigs.

Impens determined the effective and the lethal doses of isopral and hydrated chloral for cats, dogs and rabbits respectively, and, dividing the lethal by the effective dose, obtained indices of their safety. It will be seen that the margin of safety given for isopral is about three and a half times that of hydrated chloral in the case of cats. I am at a loss to understand how any conscientious observer could come to such a conclusion in the light of my own observations given in the protocols immediately following the table of Impens.[2]

TABLE TAKEN FROM IMPENS' ARTICLE.

(All doses are expressed in grams per kilogram of body weight.)

		Isopral.	Hydrated chloral.
Cat:	Effective	0.09	0.2
	Lethal	0.4	0.25
	Quotient	4.4	1.25
Rabbit:	Effective	0.2	0.356
	Lethal	0.9	1.54
	Quotient	4.5	4.2
Dog:	Effective	0.093	0.25
	Lethal	0.6	1.0
	Quotient	6.4	4.0

CATS.

March 13. CAT 1.—WEIGHT 4.56 KG.[3]
11:15 A. M.—0.1 isopral.
11:17 —Some incoördination.
11:30 —Dozes a minute or two and then struggles to rise.
11:44 —Less incoördination.
11:55 —Constantly in motion.
12:27 P. M.—Very restless; gait nearly normal.
12:50 —Becoming quiet.

March 13. CAT 2.—WEIGHT 4.4 KG.[3]
11:23 A. M.—0.1 hydrated chloral.
11:32 —Some incoördination.
11:52 —Dozed about half an hour.
12:23 P. M.—Nearly normal.
12:50 —Sleeping in middle of floor (habitually seeks corner).

March 13. CAT 3.—WEIGHT 2.57 KG.
2:08 P. M.—0.3 isopral.
2:11 —Wild excitement.
2:17 —Fully extended, sphincter ani relaxed.
2:30 —Deep narcosis; respiration, 60, shallow.
March 14. —Sitting up, awake nearly all day; some incoördination.
March 15. —Extremely irritable; much depressed.
March 16. —Sleeps most of the time; rolled over on side after leaping from table 77 cm. in height.

March 13. CAT 4.—WEIGHT, 2.6 KG.
2:00 P. M.—0.3 hydrated chloral.
2:14 —Some incoördination.
2:25 —Fully extended; respiration 35.
3:40 —Narcosis not so deep as in 3; reflexes more easily elicited.
March 14. —Very sleepy all day.
March 15. —Nearly normal.
March 16. —Falls gracefully to feet when dropped 1 meter.

March 14. CAT 5.—WEIGHT, 3.5 KG.
11:24 A. M.—0.35 isopral.
11:55 —Respiration 100, very irregular.
1:00 P. M.—Reflexes abolished.
5:00 —Respiration 38.
March 15.
10:00 A. M.—Respiration, 14.
5:00 P. M.—Respiration, 12.
March 16.
11:00 A. M.—Respiration, 10; reflexes obtained on pinching toes.
March 17.
7:30 A. M.—Respiration, 23.
March 18. —Rolls on side after leaping from table.

March 23. CAT 6.—WEIGHT, 3.0 KG.
9:37 A. M.—0.35 hydrated chloral.
11:37 —Respiration 90, irregular: reflexes from toes.
3:20 P. M.—Respiration, 51; reflexes from toes.
March 24.
8:00 A. M.—Respiration, 27.
March 25.
7:30 A. M.—Respiration, 21; dozing all day.
March 26. —Very sleepy all day.

March 26. CAT 7.—WEIGHT, 4.51 KG.
10:15 A. M.—0.375 isopral.
11:00 —Died.

March 26. CAT 8.—WEIGHT, 4.62 KG.
11:05 A. M.—0.375 hydrated chloral.
11:35 —Struggles to escape from cage.
5:20 P. M.—Very restless; respiration, 22.
March 27.
10:00 A. M.—Respiration, 18; restless; frequently struggles to feet.
March 28. —Some incoördination.
March 29. —Normal.

The dose of isopral in Experiment 1 exceeds that claimed by Impens to be effective by more than 10 per cent., but except for a few minutes of dozing it caused only excitement and incoördination, while the same amount of hydrated chloral, which is just half that claimed by Impens to be effective, caused a considerably greater degree of hypnosis. In Experiment 7 a dose of 0.375 gm. per kg. proved fatal, while Cat 8 survived the same amount of hydrated chloral, which is 50 per cent. greater than the fatal dose given by Impens. Furthermore, sublethal doses of isopral cause more profound depression of the respiratory center and more lasting incoördination than does hydrated chloral in equal doses.

Cushny says[4] that the soporifics, or narcotics (of the chloral group) have the same general action as the anesthetics, which, as is well known, paralyze the respiratory center, and we may feel sure that the relative danger of the different members of the chloral group may be measured by their depressant action on the respiratory and vasomotor centers.

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[1] Therap. Monatsb., 1903, ix. 459; x. 533.

[2] Impens gave the drugs by the mouth, I gave them by the rectum, from which absorption is somewhat more rapid, but this does not affect the ratio of toxicity.

[3] Cats 1 and 2 are thoroughly accustomed to the laboratory having been kept there for four months. Neither is wild, but 2 is naturally more quiet than 1.

[4] Pharmacology and Therapeutics, third edition, p. 188.

A number of experiments on dogs were, therefore, made with a view to determining the relative effects of isopral and hydrated chloral on the respiratory and vasomotor centers. Especial care was observed in the different experiments to have the same degree of anesthesia, which was just sufficient to prevent pain during the short operation preliminary to taking tracings. The protocols of Experiments 8 and 9 will serve to illustrate the relative action of the two drugs. The same results are shown more graphically in the tracings of Experiments 12 and 13.

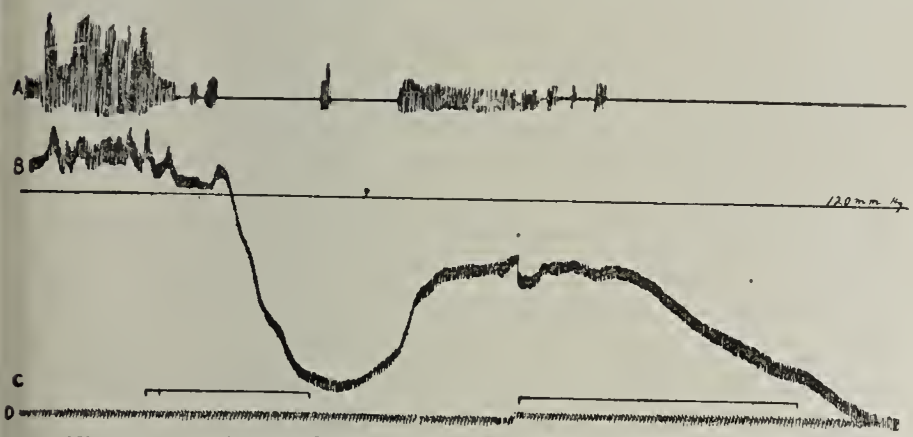

Fig. 1.—April 1, 1907. Fox terrier: excellent condition, weight 7.0 kg. At 11:05 ether; cannulas inserted. At 11:25 ether withdrawn. At 11:41 tracing. At 11:42 1/3, injected 0.1 gm. isopral per kg. of weight. At 11:45 2/3 injected 0.1 gm. isopral per kg. of weight. A, respirations; B, blood pressure; C, lines showing times of injection; D, time record in seconds. (Less than half a dozen heart beats, not shown on tracing, occurred after the heart had apparently stopped.)

March 20. DOG 8.—MALE, WEIGHT, 5.3 KG.

9:55 A. M.—Ether cannulas inserted into the carotid artery, femoral vein and trachea.
10:15 —Ether withdrawn.
10:25 —Dog awake.
10:33 —Blood pressure[5] 140, respiration 48, heart rate 96.
10:34-10:36½—0.1 gm. per kg. isopral, vein.
10:35 —Blood pressure 134, respiration 21, heart rate 90.
10:36 —Blood pressure 108, respiration 36, heart rate 126.
10:36½ —Blood pressure 50, respiration 48, heart rate 114.
10:44 —Blood pressure 100, respiration 23, heart rate 125.
10:44-10:47—0.1 gm. per kg. isopral, vein.
10:45-10:47—Blood pressure 40, respiration stopped, heart rate 96.
10:47¼ —Blood pressure 18, heart rate 84.
10:48 —Blood pressure 0, heart stopped.

It is seen by the protocols of these experiments that 0.1 gm. of isopral per kg. of weight caused a much greater fall in blood pressure (vasomotor depression) and a more profound depression of the respiratory center than did twice as much hydrated chloral, three times as much hydrated chloral as isopral being required to produce paralysis of the respiratory center, at which time the vasomotor center was less affected after hydrated chloral than after isopral, as indicated by the asphyxial rise occurring after chloral, but not after isopral.

The deep respirations shown in the isopral tracing are due to struggling; the normal respiration is shown at the very beginning of the tracing. It is seen that the respiration stopped before a third of the second dose of isopral had been injected, and that the heart was rapidly failing, as shown by the short excursions, while the vasomotor center was soon completely paralyzed, for no asphyxial rise of blood pressure occurred, the heart stopping within three minutes after the respiration ceased. In the case of hydrated chloral more than three-fourths of the second dose had been injected before the respiration ceased, at which time the heart beats were much stronger, the heart continuing to beat vigorously for seven minutes; the vasomotor center was still active, as shown by the asphyxial rise of blood pressure. The ratio of toxicity of isopral to that of hydrated chloral, as shown in several of my experiments on dogs, in which the drug was injected intravenously, is as ten to four; this is confirmed in the present experiments, since respiration was paralyzed by less than half as much isopral as of chloral, but Impens gives the ratio of toxicity as ten to six, or a relative toxicity for chloral 50 per cent. greater than I was able to show.

A guinea-pig was given 0.4 gm. of isopral per kg., and another was given 0.8 gm. of hydrated chloral per kg., the latter being somewhat more deeply narcotized. Both were able to sit up in about four hours and were recovering apparently, but both died during the night —a result which might be attributed in part to the lowered temperature of the building at that time.

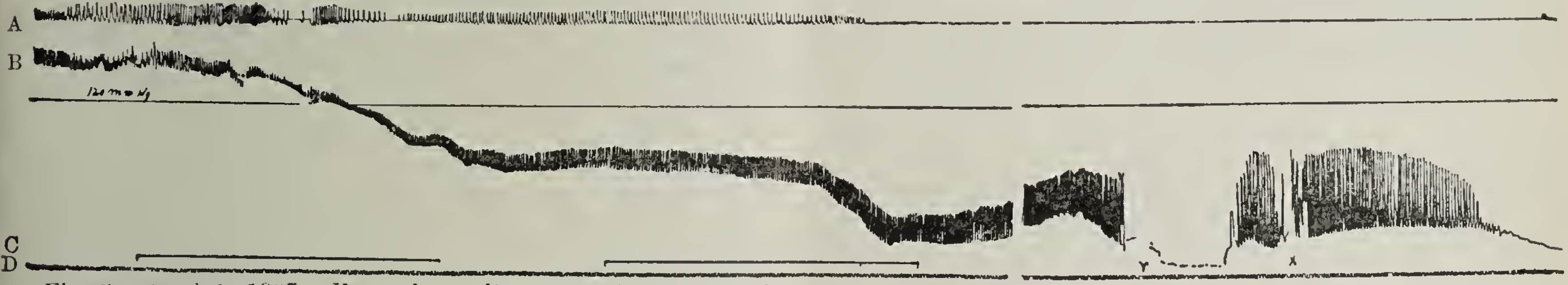

Fig. 2.—April 1, 1907. Mongrel, excellent condition, weight 6.6 kg. At 11:57 ether; cannulas inserted. At 12:17 ether withdrawn. At 12:30, tracing. At 12:31-12:34:20, injected 0.2 gm. hydrated chloral per kg. of weight. At 12:36-12:39:20 injected 0.2 gm. hydrated chloral per kg. of weight. At 12:41 tracing in seconds interrupted 50 seconds while changing drums. A, respirations: B, blood pressure; C, lines showing times of injection; D, time in seconds; Y, X, places where writing point failed to record heart beats.

DOG. 9.—FEMALE, WEIGHT, 6.8 KG.

12:40 P. M.—Ether; operation as in preceding experiment.
1:00 —Ether withdrawn.
1:27 —Blood pressure 140, respiration 65, heart rate 130.
1:29 —Blood pressure 140, respiration 65, heart rate —.
1:30-1:32½—0.2 gm. per kg. hydrate chloral, vein.
1:32 —Blood pressure 115, respiration 66, heart rate —.
1:33½ —Blood pressure 92, respiration 66, heart rate 120.
1:40 —Blood pressure 120, respiration 45, heart rate 144.
1:40¼-1:43½—0.2 gm. hydrated chloral, vein.
1:44 —Blood pressure 70, respiration 24 shallow, heart rate 120.
1:47 —Blood pressure 93, respiration 31, heart rate 132.
1:51 —Blood pressure 76, respiration 21, heart rate 160.
1:53-1:54—0.1 gm. hydrated chloral, vein.
1:54¼ —Blood pressure 80, respiration 16, heart rate 140.
1:55-1:56—0.1 gm. per kg. hydrated chloral, vein.
1:56¼ —Blood pressure 66, respiration stopped, heart rate 115.
1:58 —Blood pressure 70, heart rate 110.
1:58½ —Blood pressure 50, heart rate 65.
1:59 —Blood pressure 0, heart stopped.

The results obtained in these experiments and confirmed in a number of others do not agree with the figures given by Impens for the relative toxicity of the two drugs.

Cats and dogs are so prone to fall asleep at any time in those places to which they are accustomed that it is evidently impossible to fix the minimal hypnotic dose with accuracy for these animals, hence but little value attaches to Impens' conclusions as to the exact effective dose for them. Rabbits usually remain awake during the day, and they, therefore, afford a better opportunity for comparing the effectiveness of hypnotics, and the indices of safety of isopral and hydrated chloral for these animals given by Impens are so nearly the same that the difference may be considered as coming well within the limits of error. The figures given by Impens for this animal accord fairly well with the results obtained by myself in experiments on ten rabbits made before I had read Impens' paper.

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[5] The blood pressure is given in millimeters of mercury.

From those experiments I had concluded that 25 parts of isopral equaled in effectiveness and toxicity 40 parts of hydrated chloral. It is not necessary to give the protocol, as I am willing to accept Impens' figures for rabbits with the reservations mentioned.

Wassermeyer[6] reports that he used isopral in doses varying from 0.5 gm. to 2.5 gms. If we accept 40 to 25 as the ratio of toxicity of isopral to that of hydrated chloral, 2.5 gms. of isopral is equivalent to 4 gms. of hydrated chloral or, if the ratio be 2 to 1, 5 gms. of hydrated chloral, an amount which no careful clinician would venture to employ.

Kress[7] used isopral in doses of from 0.5 gm. to 0.75 gm., and particularly advises caution in its use in cases of disease of the heart and vessels, urging that it be employed only occasionally, because we know nothing of the injury resulting from its continued use or from its decomposition products.

In conclusion, I wish to reiterate my belief that my experiments on rabbits and cats and Impens' experiments on rabbits show that there is no essential difference between the action of isopral and hydrated chloral in effective doses on the respiratory centers, while my experiments on dogs show that isopral is more than twice as active in depressing the vasomotor and respiratory centers and the heart, my figures for the relative toxicity almost precisely corresponding to those given by Impens for the relative effectiveness of the two drugs for the dog.

Cautious clinicians will not experiment with isopral except in carefully selected cases.

It seems almost superfluous to add that isopral, like hydrated chloral, is wholly unsuited for use in those cases in which sleeplessness is due to pain, since it is an anesthetic only in extremely dangerous doses.

My thanks are due to two of my students, Messrs. Rulison and Flagg, for assistance in certain of these experiments.

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PARANOIA, ITS VARIETIES AND MEDICOLEGAL IMPORTANCE.*

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Psychiatry is the most backward of the sciences. This is not surprising because it deals with the most complex problems and has received but little aid from psychology, the study of the normal mind. So long as we are ignorant of the processes of normal thought and of the relation of brain to mind our knowledge of the processes of morbid thought must remain far from complete. The study of each, however, will help the other, and one of the most encouraging signs of the times is that psychologists, or some of them at least, are now studying the matter clinically and comparing the normal with the abnormal.

As a result of our comparative ignorance, the classification of the types of mental disease is most unsatisfactory. This is to be expected, for science is nothing other than classified knowledge. At present, classification is not scientific and accurate, but unscientific, inaccurate and necessarily in some degree untrue. The use of the same word to mean different things and of different words to mean the same thing increases the difficulty of classification. There is no authoritative and accepted nomenclature. Thus, the word paranoia, which when introduced into modern medicine was given a fairly clear and definite meaning, has come to be vague or, if you prefer a gentler word, wide in its significance. A learned English writer has pointed out that if it be accepted in all its meanings and dementia præcox in all its meanings, then all men suffering from any form of alienation have either paranoia or dementia præcox. The difficulty of classification is further increased because there are at present two divergent streams of psychiatric thought: one tries to simplify matters by proving the unity of all mental disease or at least by classifying all types of insanity under a few heads, the other attempts to clarify knowledge by multiplying types and separating from each other forms of disease, which, while identical in essentials, differ in non-essential symptoms. The final outcome will doubtless be increase of knowledge, but the present temporary result is confusion.

Unsatisfactory as classification is, every one admits that all forms of mental disease may be divided into two great types: first, the accidental insanities, so-called, in which heredity plays a smaller part and stress of life and bodily disease are the predominating causative influences; second, the insanities of degeneration, in which heredity is the one great cause, and the disease the inevitable result of the conjunction of a germ cell bearing the potentialities of certain qualities with a sperm cell bearing certain other abnormal potentialities. The disease begins with conception and the result, in the biologic not the theologic sense, is predestined, and comes to pass independently of the presence or absence of external stress or bodily disease.

Paranoia is one of the most interesting examples of the degenerative insanities. Owing to confusion in classification, the opinions of authors vary much as to just what should be included under the term, and all that I can do is to describe, briefly, paranoia as I have seen it and to trust that I shall not add to the already existing confusion. Since paranoia is a disease of personality and character, its description is difficult because the symptoms vary as the congenital temperament varies, and, since no philosopher has ever succeeded in classifying the numerous types of normal men, the classification of diseased men is not easy.

The paranoiac, then, is the product not of environment, but of heredity. He is the victim, not of external stress or bodily disease, but of internal, inherent, congenital weakness. The inheritance is rarely direct; that is to say, a paranoiac parent rarely has paranoiac offspring, but always there is a bad strain in the family; some form of insanity, marked excentricity, pseudogenius, epilepsy, hysteria, alcoholism, or criminality. Statistics from hospitals do not agree with this statement, but hospital data as to family histories, as a rule, are incomplete.

In private practice it is much easier to obtain correct histories and I have never known a true paranoiac, whose lineage I knew, who did not show some ancestral defect.

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[6] Berlin klin. Wochschr., xlii, 1180.
[7] Berlin klin. Wochschr., xlii, 487.
*An address read at the meeting of the Philadelphia County Medical Society, April 10, 1907.

I have never known a boy or girl of biologically good family history to develop paranoia. It must be admitted, however, that the personal equation of the investigator counts in deciding what constitutes a bad ancestry. Thus, from my point of view, one type of saintliness makes a bad father or mother. I mean the hard, rigid, ultra-religious person who thinks all pleasure sin and all beauty from the devil, who thinks so constantly about what is going to become of his soul as to forget he has other duties in the world, who forgets that possibly to give pleasure to others is "to acquire merit," who represses all manifestation of pleasurable emotion and who, in truth, is a supreme egotist masquerading as an altruist. Such a person is biologically a bad parent.

In studying the influence of heredity it must be remembered that the child is not simply the sum of his parents and grandparents and in gradually lessening degree of his earlier ancestors, but that one child may inherit predominately or even entirely from one near ancestor, another from another. Again, inheritances may either reinforce or neutralize each other or so combine as to bring a product unlike any of the primary constituents. Things inherited do not show themselves in early life only, do not all come to the surface then, but throughout life and at one time one inheritance may be most patent, at another time some other. Sometimes there is a continuous struggle through life between different inherited influences. We do not inherit moral or intellectual qualities, but merely their potentialities. We inherit brain cells which react this way or that way to stimuli and the reaction, not the cell itself, is the emotional or intellectual quality.

Before studying the development of the symptoms and the gradual unfolding of the entire picture of paranoia it will be well to consider the main and essential symptoms present when the disease is at its height. The essential symptoms, then, are intense, indeed supreme egotism, delusions of persecution and of grandeur which are always systematized and always reasoned about, absence or perversion of the moral sense and an apparently strong but really weak intelligence. The important minor symptoms are hallucinations, falsification of memory and sexual perversions. A negative symptom of some importance is the entire absence of any sign of physical disease either of the central nervous system or of the abdominal or thoracic viscera. Anatomic abnormalities, the so-called physical stigmata of degeneration, when dealing with large numbers, are no more frequent than in the general population, though individual patients sometimes show many marked signs.

More important than the mere list of symptoms is their mode of development and gradual evolution. Paranoia lasts throughout life and influences almost every act and more or less controls all conduct. The history of a case of paranoia is the biography of the man. As it is a disease of personality, the superficial aspect of any case varies from time to time, indeed from day to day, and, since the paranoiac has different moods, even as we have, and since sometimes his delusions may submerge themselves or he may consciously and voluntarily be able to hide them for a time, it is impossible to make a diagnosis from one examination unless the patient's previous history be known. To know a paranoiac, as some one has said, the physician must not make a study of a cross-section of his life (one day), but of a longitudinal section (many months or even years).

Let us now go back a little and, leaving individual symptoms, study the evolution of the disease. Though the greater number of patients do not present marked evidences of insanity till sometime between the twenty-fifth and thirty-fifth year and are not until then regarded as seriously ill and, though often, to the lay mind, it appears that the onset is sudden on account of some outbreak of violence or excitement, yet really the onset is slow. There is a prodromal period of years and the beginnings of abnormal manifestations occur, as a rule, at puberty or during adolescence. This is not to be wondered at, for the growth of sexual feeling and power is closely associated with emotional and intellectual growth. The world of the adolescent is altogether unlike that of the child and puberty is the greatest internal stress to which man is subjected. The symptoms, then, are prone to make their first appearance somewhere between the fourteenth and seventeenth year. At first they are insignificant; no one pays any serious attention to them, and they are regarded as evidences of viciousness or bad breeding. The first symptom is change of character. The boy who previously was intellectually ordinary or perhaps precocious begins slowly to alter, or instead of there being a steady decline there may be successive rapid falls, he remaining for a longer or shorter time at each succeeding level. He had the crude but real generosity of the healthy boy; he grows selfish. He had love and respect for his parents; he becomes unaffectionate, impertinent and resentful. He had the virtue of the average boy; he is vicious. He was truthful; he now lies, often for the pleasure of it, and always plausibly. He was popular among, or at least not disliked, by his school mates; he becomes more than unpopular. He was social; he is unsocial. He was physically alert and properly fond of play; he is physically languid and wants to lie abed. He had the unconscious grace of movement of the healthy youth; he is clumsy, awkward and his gait slouching. He stood well at school, or at least as well as a healthy boy ought; he falls back, and, though he is full of excuses and plausible and may study some one subject well, or make pretense to be deeply interested in books far beyond his power and age, he is always behind and can not keep up with his class. He almost surely masturbates and may show the beginning evidence of any form of sexual perversion.

At a time when he should be making school boy love and suffering from the milder attacks of love sickness he will have nothing to do with girls. This goes on for months or even for several years. He varies from time to time. Now there seems to be some improvement, now rapid degeneration. No one suspects disease. Everybody blames him. No one can tell what the future will be, save that it almost certainly will be evil. No one can tell whether he will be a criminal, a dement, a mattoid or a paranoiac. No one can even say with certainty that he has not a chance to recover mental equilibrium.

Though he may not fulfill the promise of childhood, yet he may become a fairly normal man, at least a harmless one, able to take care of himself. Such recoveries do occur. But in those doomed to paranoia, sooner or later, usually in the twenties or early thirties, distinct signs of insanity appear. As selfishness increases it expands into supreme egotism and vanity. The patient becomes suspicious, often of those of his own household, and thinks they do not treat him right and that he is superior to them. Soon he is alienated from them. Suspicion becomes deeper and reaches the dignity of a delusion of persecution. Vanity and egotism bring delusions of grandeur. What particular grandiose delusion develops depends on many known and unknown factors. Probably education and environment determine the matter much more than ancestry. Sometimes it looks like mere accident and chance. Probably in erotic paranoia heredity always determines the delusion.

The country-bred youth who has never seen or heard much talk of factories and machinery will scarcely come to believe that he is a great inventor. The weak-minded youth or man, whose intellectual food is "the yellow press" and anarchistic oratory, may well come to believe he is appointed by God to save the country by murdering its ruler. He whose ambition outruns his wits may develop almost any kind of grandiose delusion.

What makes him take up one delusion of persecution rather than another also may be plain or undiscoverable. Whatever the subject of his delusions may be, those of persecution usually come first or are at first more patent and those of grandeur are used to explain the persecution. Certain subjects, love, religion, politics or science, are particularly likely to be chosen for the delusions. Whatever the delusions may be, the patient reasons about it. The reasoning is, of course, always faulty, but superficially may seem logical. Thus, he knows people are persecuting him because they look at him so strangely, or they are talking about him because when he comes near them they look guilty and cease talking. He reads meanings into letters and newspapers that are not there. He misinterprets things said to him. Almost always there is some slight truth on which he builds his delusion. Further, though there may be several delusions, they all pertain to one or at most a few subjects and concern some central idea. Another characteristic is their permanence. They last for years and fade out only when mental feebleness has become marked. Falsification of memory is common both in the sense of remembering things that never happened and in the sense of drawing, years afterward, some false deduction concerning an event.

Much is said of the intellectual strength of the paranoiac, but it is apparent rather than real. He is usually, but not always, in the earlier stages, a great talker, though some are sullen and silent throughout. At that time he argues about all things and has opinions about everything. He is always right, the rest of the world wrong. He is plausible and may make a great impression on those who know nothing of what he is talking about. This plausibility is one of the things which make him dangerous, because sometimes he can give such apparently good reasons for his belief that he is persecuted that kind-hearted persons are led astray. He is cunning and for a purpose can hide his delusions for a time, but his vanity is his weakness and by an appeal to it he can be induced to show what he thinks and believes. From the start there is intellectual weakness, but not a true dementia till very late. He reasons, but his reasoning is crooked and perverted.

The moral sense lessens steadily from the beginning until it is absent altogether. The paranoiac has no feeling of altruism and gets no pleasure from giving pleasure. The pain and troubles of others cause no pain to him. Whether he becomes a criminal depends on circumstances and on whether or not he has the pseudo-courage necessary to commit murder. He is always a liar and frequently has perverted sexual instincts. Erotic and political paranoiacs are the type most prone to commit serious crime.

I wish also to say a few words about the mattoid, because, by not a few authorities, he is classed with the paranoiac, though he differs in some respects. The mattoid may best be defined as the imbecile dreamer of great dreams without power of accomplishment. He has been well described by dramatists and novelists. Indeed, the great poets, novelists and dramatists are better clinical psychologists than some professional psychiatrists.

Thus, Daudet, in his novel, "Jack," has described one kind of mattoid with relatively few words and in language that every one can understand. You will remember he was a poet who only thought he was a poet. He bought several reams of nice note paper and several gross of pens and then each afternoon shut himself up in his room with a sufficient quantity of beer and left word with his servant he must not be disturbed because he was composing his great epic. Nothing of the poem save the title was ever written. He was worthless, garrulous, plausible, hypocritical, seemingly brilliant and at heart criminal. Indeed, vanity, intellectual conceit and selfishness associated with mental feebleness are the great qualities of the mattoid.

Sexual perversion, which, of course, occurs in many other conditions and may be merely vice, is not infrequent and may vary in intensity from the most bestial habits to a mere sickly but harmless estheticism. The mattoid is prone to have an appetite for drink or drugs which he uses to increase his dreaming ability. Sometimes, however, he is temperate or even abstemious. His dreams and his thoughts of greatness usually concern what he would call "the higher things." In his own mind, he is a poet, a painter, a dramatist, or a philosopher, who has solved, but never to the satisfaction of any one else, the riddle of the universe. He thinks the esthetic quality is highly developed in him and that he is of finer fiber than the poor creatures who live around him. He often has much religiosity.

He is often a reader of books he does not understand. He often writes and sometimes gets printed books on fantastic subjects no one can understand. The paranoiac does the same and sometimes does it better. He differs from the paranoiac in that, though he may feel that the world has used him badly and not given him the credit he deserves, yet he does not develop real delusions of persecution. He hopes on for recognition to the end. Though he, also, is extremely conceited he never gets delusions of grandeur; he never thinks he is pope, cardinal or king, God or the devil. He never hears voices or has visual hallucinations. His dreams are self-induced and recognized to be such. He is rather proud of his ability to day-dream. He is always lazy and indolent. Selfish though he is and much as he will impose on a poor wife or mother or any one who will slave for him while he dreams, he rarely commits serious crime, and if he does murder it is, as a rule, from the same motives as the average man. He is not entirely devoid of moral sense. His disease soon reaches its height and then remains stationary. He rarely develops dementia. If he becomes distinctly insane in the technical sense, save in old age, it is caused by stress, alcohol or drugs. He runs his course for many years useless and a parasite and dies.

The recognition of paranoia is difficult because many cases are not typical; all do not run the same course, all do not show the same wealth of symptoms; many are mere aborted or fragmentary cases. Some one has used the illustration that if the thick end of a wedge be used to typify complete paranoia, cases will be found less and less typical and less and less serious till at the thin edge it is impossible to say whether the patient is normal or diseased.

There is, indeed, a great borderland of wide extent and indefinite boundaries wherein live many people whom it is impossible to classify as either sane or insane. At times they seem normal, at other times abnormal. We all know people who throughout life are suspicious, resentful, egotistic and perverse in their manner of reasoning, but who would never commit any of the grosser crimes, and yet are continually doing little social crimes which show a lessening of the moral sense and who lead miserable and unhappy lives not on account of any external stress or because they have had any serious trouble, but because they are born so.

Again, there is the man who with much conceit and little resentment and not much suspiciousness never gets along in the world though he is ambitious and always busy, always doing things, always inventing something that will not work or would be useless if it did, or preparing ways to hasten the millennium or doing other similar things. We have all met the litigious paranoiac. He is the man who is always going to law over trifles. In the worst cases he will spend his all to prove his rather worthless rights. Even in erotic paranoia there is every grade.

To still further complicate the matter some men of great talent or even genius present fragmentary evidences of paranoia. There have been men who did much for the progress of the world whose vanity was supreme and whose conduct was vicious in the extreme; men who did things not from any altruistic instinct, but simply from the pride of ability. Some have even been distinctly delusional. There have been others whose ability was restricted in extent, but prodigious in intensity, who were cranks and queer all their lives—the men of much uncommon but no common sense. There are others who, distinctly paranoid in the eyes of those competent to judge, yet have intelligence enough to deceive the public or a large part of it for years and to live well on generous dupes. Some patients with aborted paranoia have no moral defect. Their disease is purely intellectual.

Paranoia never shortens life. Most patients live to old age; none recover. The intensity of the symptoms may vary from time to time and the quiet and discipline of a well-regulated hospital may cause the delusions to become submerged temporarily, but they emerge again. Dementia finally ends the scene.

If this were all, complex as the problem is, the diagnosis would be relatively simple compared with the reality. Unfortunately, however, there is the so-called secondary paranoia. In other words, in alcoholism, in senility, following certain acute maniacal and hallucinatory states, and in one form of adolescent insanity there occur periods which, taken by themselves and considered without regard to the past history and, of course, without knowledge of the future, present a more or less resemblance to true paranoia. As a rule, in these cases there is a large element of dementia, and hence the ability to reason is far less than in paranoia. Then, too, hallucinations play a much larger part than in primary paranoia. Indeed, many of the delusions are based on remembered hallucinations; e. g., visions of God and the Holy Ghost or voices threatening injury. Sometimes subjective bodily sensations are interpreted as being caused by poison or electricity. Thus, paresthesia of the hands and feet are thought to be caused by batteries worked by enemies.

Whether or not there is any kinship between primary and secondary paranoia is a matter of opinion. Some instances of the so-called paranoid type of dementia præcox look like, and indeed probably are, very rapid cases of true but atypical paranoia. They run the entire course of the disease, ending in complete dementia in a few months. Why certain persons suffering from alcoholic insanity, mania or senile insanity should develop paranoid symptoms can not be determined with certainty, but it is probable that in them the congenital tendency to paranoia, though present, is not sufficiently strong to show itself until bodily disease or stress of life has weakened them.

Paranoia is of medicolegal interest, because its victims are often so intelligent as to appear to be entirely responsible for their conduct and because they often come in conflict with the law. Compared with the total number of patients, crime is not frequent among paranoiacs, but many of their crimes look like the acts of sane men and are carefully planned and cunningly done. They also, of course, may commit crime under the influence of sudden impulse. Many who never commit a felony cause much trouble and fear by writing threatening letters or obscene love letters to people whom they do not know or scarcely know. As it is impossible to foretell whether or not threats will be followed by action, the result on the peace and happiness of the recipients of the letters may be serious.

Some paranoiacs have a delusion that some particular person or group of persons has stolen money from them or is keeping them out of an inheritance or has misappropriated a trust fund and will bring or attempt to bring suit to recover or, taking the law in their own hands, kill the suspected persons. Erotic paranoiacs sometimes murder the persons for whom they have developed an insane love. Some paranoiacs who have never been declared insane make wills which later come into dispute. Very often they develop delusions of infidelity concerning husbands or wives and abuse the object of their delusion so that separation is imperative if they can not be confined in an asylum. In determining whether an alleged paranoiac is really sane and responsible for a crime, competent to take care of himself, and able to understand the nature of a contract, or insane and ought to be restrained in an asylum, have a guardian appointed for his estate, or be relieved from the consequences of a contract he may have undertaken, the same factors come into consideration as in any other alleged insane person. The physician's duty in court cases is simply to discover the mental condition of the patient. That having been done, the question of the responsibility or irresponsibility, competency or incompetency of a man in his mental state is a matter of law and to be decided by judge and jury.

A Journal to Discuss Borderland Questions of Theology and Medicine.—A German physician and clergyman have combined to publish the *Zeitschrift für Religionspsychologie*, to be issued by K. Marhold, Halle, Germany. The aim of the publication is to develop a healthy religious life—the "psychagogics of practical theology;" to study the anomalies in religious life, the hypernormal and hyponormal manifestations, and the development of the religious life in all ages and countries and under various influences. The *Münch. med. Wochschr.* states that the first number has already appeared and contains articles on "Biblical Religious Psychology," "Religious Conscientiousness," and "Obsessions and Religious Practices."

THE PATHOGENESIS OF HEMOGLOBINURIC FEVER.

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Blackwater fever is shrouded in mystery, its study, from etiology to treatment, disclosing problems as yet unsolved.

It is generally conceded that the disease (if it may be so called) consists of a destruction of red blood cells so widespread that the liver, being powerless to transform the liberated hemoglobin into bile pigment, the greater part is excreted by the kidneys. This conversion into biliary coloring matter is the physiologic fate of free hemoglobin and, indeed, its pathologic destiny up to a certain limit—which, according to Ponfick's postulate, is the destruction of one-sixth of the entire number of red cells—beyond which hemoglobinuria ensues. This much seems to be rather unanimously accorded. The nature of the hemolysin is the missing link in the pathogenetic chain.

That the blood destruction and consequent hemoglobinuria are due directly to the malarial parasite is maintained by some. Geographic distribution favors the assumption of a close relation between malaria and blackwater fever, since the latter does not occur endemically except in highly malarial places. It is true that cases have developed in individuals from malarial foci after reaching non-malarial localities, as reported by Manson,[1] Sambon,[2] Crosse,[3] Kleine,[4] Schlayer, Mowbray,[5] Laveran[6] and others, but this does not controvert the former proposition. Hemoglobinuric fever occurs as a rule in those who have dwelt in the endemic locality at least several months and usually from two to four years.

Malarial infection appears to be a *sine qua non.* This nearly always precedes the hemoglobinuric attack, but may possibly be concomitant, as in cases mentioned by Plehn,[7] Doering,[8] Tomaselli, Cardamatis,[9] Mould,[10] Sambon,[2] Curry[11] and others, though in some of these cases, certainly, antecedent malaria is not excluded. There is also the chance that paroxysmal hemoglobinuria and bilharzia disease might be confounded with true blackwater fever. A few cases of hemoglobinuria have been reported in which it is claimed there neither was nor had been any malarial infection. If this is true it is probable that these were not hemoglobinuric fever but cases of pure quinin poisoning, as this drug had been administered immediately preceding the outbreak of each of these cases.

In an overwhelming majority of cases the disease occurs in persons who have suffered from repeated attacks of malaria, though cachexia, while not infrequent, does not seem to be essential for an outbreak.

The relative rarity of hemoglobinuric fever in the negro probably favors the malaria theory as opposed to the pure quinin theory. It is known that this race manifests at least a degree of immunity to the effects of malaria. Secondly, immunity to disease is more frequently evinced than racial susceptibility to drugs.

The hemoglobinuria occurring in Texas fever of cattle and that of sheep, goats, horses, mules and dogs is cited, with some show of reason, as an argument for the purely malarial origin of blackwater fever. There are essential differences, however, in the occurrence of blackwater in malaria and in Texas fever. First, malaria is followed by blackwater in a very small percentage of cases, malaria being common, hemoglobinuria much rarer; in Texas fever blackwater is a common symptom occurring in a large percentage of severe cases. Second, in blackwater fever in man the number of parasites shows no proportion whatever to the severity of the disease, being frequently absent, and if present at the onset usually disappear during the course of the disease. In Texas fever, on the other hand, the number of parasites is in direct relation to the severity of the process and increases as a fatal termination approaches. In human malaria the parasites may exist in very large numbers without the development of hemoglobinuria; this is not the case in Texas fever.

The parasitic findings in hemoglobinuric fever are at great variance. A Plehn[12] states that he seldom found them soon after the outbreak and only exceptionally later; F. Plehn[7] found no parasites; Marchiafava and Bignami[13] report them absent in numerous cases; Koch[14] detected parasites in 2 out of 16 cases; Sambon[2] says that they are absent in a considerable proportion of cases; Nocht found them in 75 per cent. of cases; Cardamatis[9] in 4 of 25 cases; Ollwig[15] in 6 of 15 cases; Crosse[3] pronounces them frequent; Bertrand[16] found them in almost all cases; Shropshire[17] in 41 per cent. of cases; Hanley[18] in none of 13 cases; Brem[19] in 2 out of 14 cases: Foustanos[9] states that they are often absent; Powell found parasites in 5 out of 11 cases; Vincent in 1 out of 5; Mense[20] states that crescents are frequent, but often no parasites are found; Bastianelli and Bignami found them in each of the several cases they examined; Poole in only a limited number of cases after careful search; Stephens and Christophers[21] in one series found them in 12.5 per cent. of cases; A. Plehn[12] in many, and Doering[8] in almost all cases, while Laveran[6] usually found them in the beginning. The following figures show the difference in results of examination at different periods of the disease.

Stephens and Christophers:[22]
Day before attack parasites present in 95 per cent. of cases.
Day of attack parasites present in 70 per cent. of cases.
Day after attack parasites present in 20 per cent. of cases.
Mannaberg:[23]

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[1] Tropical Diseases, New York, 1903; Brit. Med. Jour., May 16, 1903.

[2] Practitioner, March, 1901; Brit. Med. Jour., Sept. 24, 1898; Jour. Trop. Med., April 15, 1899.

[3] Blackwater Fever, London, 1899; Lancet, Jan. 6, 1900; Brit. Med. Jour., Oct. 8, 1898.

[4] Brit. Med. Jour., Sept. 14, 1901.

[5] Lancet, Aug. 26, 1905.

[6] Paludisme et Trypanosomiase, Paris, 1905.

[7] Deutsche med. Wochschr., 1895, 25-7; Arch. f. Sch. u. trop. Hyg., November, 1899; Tropenhygiene, Jena, 1906.

[8] Deutsche med. Wochschr., 1895, 46.

[9] Grèce Méd., April, 1900.

[10] Brit. Med. Jour., Sept. 9, 1899.

[11] The Journal A. M. A., May 3, 1902.

[12] Die Malaria d. afrikanischen Negerbevölkerung, Jena, 1902; Arch. f. Sch. u. trop. Hyg., August, 1899; ibid, December, 1903; Deutsche med. Wochschr., 1902, 38.

[13] Malaria, New York, 1900; Summer-Autumn Malarial Fevers, London, 1894.

[14] Arbeiten aus den Kaiserlichen Gesundheitsamt, 14, 2, Jour. Trop. Med., July 15, 1899, Nos. 1, 12 et seq.

[15] Med. Berichte ü. d. Deutschen Schutzgebeite, 1903-4.

[16] Ann. D. Soc. Med. Chir. d'Anvers, November and December, 1899.

[17] The Journal A. M. A., Sept. 5, 1903.

[18] Jour. Trop. Med., 1899, p. 85.

[19] The Journal A. M. A., Dec. 8-15, 1906, pp. 1896-1992.

[20] Handbuch der Tropenkrankheiten, iii, 1, Leipzig, 1906; Archiv. f. schiffs-und trop. Hyg., April, 1899; ibid, August, 1899.

[21] Reports to the Malaria Committee of the Royal Society; 5th Series, London, 1901, p. 24.

[22] Practical Study of Malaria, London, 1904.

[23] Malarial Diseases, Philadelphia, 1905; Parasites of the Malarial Fevers, London, 1894.

Day before attack parasites present in 95 6 per cent. of cases.
Day of attack parasites present in 63 per cent. of cases.
Day after attack parasites present in 17.1 per cent. of cases.

The form of parasite found is, in the great majority of cases, the estivoautumnal. In fact, Marchiafava and Bignami[13] state that all cases in which the parasites have been found have been of the estivoautumnal variety. This statement, however, will not now hold. Ruge,[24] Mannaberg[23] and Sambon[2] declare that the disease may follow tertian and quartan infections. Hughes,[25] Ollwig[15] and Brem[19] have each reported one case, Plehn three cases and Koch[14] five cases in which the large tertian parasites were found, and Otto[26] reports one following quartan infection. Previous infection with estivoautumnal parasites may have occurred in these cases or a mixed infection with this variety existed, the parasites escaping detection, as sometimes happens if the examination is not made at the proper time or is not sufficiently thorough. Moreover, the fact that parasites other than the estivoautumnal have been found is no argument against the malarial nature of blackwater fever, since cases of pernicious fever in which only the large tertian parasites were found have been reported by French, Ewing[27] (2 cases) and Ziemann.

It appears certain that attacks of hemoglobinuria are less frequent and less severe after the systematic prophylactic use of quinin. Moffatt[28] believes that the mortality is thereby diminished; Hofft and Wendland[29] believe that quinin lessens the frequency; Crosse[3] and Hopkins[30] assert that they never knew a case to develop in one who systematically used quinin. A. Plehn,[12] who has studied this subject carefully, claims that the systematic use of quinin is even a better prophylactic of blackwater fever than of simple malaria. Even Tomaselli believes that hemoglobinuria does not appear during quinin prophylaxis without malarial infection. As mentioned below, Wendland,[29] Plehn and Tomaselli believe in the power of quinin to precipitate an attack of blackwater fever. These two views, apparently parodoxical, are not incompatible, as will be shown later.

Blackwater fever is regarded as of malarial origin by A. Plehn,[12] Schellong, Banks, Beyfuss, Garcia Van der Scheer, Laveran,[6] Burot, Legrand, F. Plehn,[7] Rees, Marchiafava and Bignami,[13] Crosse,[3] Hopkins,[30] Mannaberg,[23] Quennec,[31] Kanellis, Hanley,[18] Foustanos,[9] Cardamatis[9] and others. Even Tomaselli, who looks on quinin as the exciting cause, holds previous malaria essential. Calmette, Vincent and Manson[1] doubt the malarial nature, and Sambon[2] and Stalkarrt[32] oppose the malaria theory. Koch[14] is probably the most vigorous opponent of the theory that relates it to malaria.

Some writers, as Quennec,[31] Grocco, Rho, Dryepondt, Thin,[33] Crosse[3] and others, believe that in addition to the mechanical destruction of the red cells by the parasites the latter give off toxins which have hemolytic power. Reviewing the evidence for and against the malarial nature of the disease we find favorable: 1, geographic distribution; 2, race, probably supports malarial theory; 3, length of residence in endemic locality; 4, malarial history; 5, attacks rarer and milder during quinin prophylaxis; 6, frequent presence of malarial parasites.

Adverse to the malarial origin are the facts that it is known that the parasites are not always present, that when found they are not in numerical proportion to the severity of the disease and that they usually disappear as the disease progresses. Parasites may be very numerous in malaria without the appearance of blackwater.

My opinion of the relation of hemoglobinuric fever to malaria is that the latter is essentially and solely the predisposing cause, and that in some cases it may also act as the exciting cause.

S. Berettas, in Greece, in 1858, first announced a causal relation between the administration of quinin and an outbreak of blackwater. Tomaselli defended this view in Italy, and more recently Koch[14] has directed attention toward it.

That quinin may cause hemoglobinuria under certain conditions is maintained by Laveran,[6] Calmette, F. Plehn,[7] Tomaselli, Koch,[14] Mannaberg,[23] Ruge,[24] Kohlbrugge,[34] Dempwolff, Foustanos,[9] Cardamatis,[9] Kenellis, Ketchen,[35] Ollwig,[15] Wittrock, A. Plehn,[12] Stephens and Christophers,[22] Wendland[29] and others, while the opposite opinion is held by Carre, Etienne, Van der Scheer, Burot, Legrand, Vincent, Sims, Donny, Dryepondt, Quennec,[31], Beyfuss, Schellong, Reynolds, Dinitsch, Hanssen, Boetz, Mense,[20] Stalkarrt,[32] Moffatt,[28] Hopkins,[30] Bertrand,[16], Sambon,[2] Buchanan, Battersby, Rees, Johnson and others.

The "quininists," including Tomaselli and Koch,[14] do not go so far as to say that the quinin alone is responsible for the development of blackwater fever, but assert that it is the exciting cause in predisposed individuals, this predisposition usually incurred by repeated malarial attacks. Further than this not even Koch[14] maintains that quinin is the exciting cause in all cases, but he admits that although he has seen no case of blackwater fever in which quinin poisoning could be excluded, he could not go so far as to maintain that every case of blackwater fever is quinin poisoning. Tomaselli states that malaria preceded all his cases. Most of the adherents of the quinin theory assume not only a predisposition through malaria but also a special idiosyncrasy toward quinin.

Quinin being a specific for malaria, and hemoglobinuria occurring in malarial subjects, it is but a most natural sequence of events that a large number of the cases of hemoglobinuric fever have developed after the administration of quinin. In many cases the relation here is undoubtedly one of occasion and not of cause. It seems certain that cases following the administration of quinin in which the drug had been well borne previously and fails to elicit an outbreak after subsequent doses can not be attributed to the quinin.

In the literature, however, there are cases in which recurrences could be produced repeatedly at will by a dose of quinin as certain cases of paroxysmal hemoglobinuria could be excited by the action of cold. The most striking example of this is the case of Murri.[36] Manson,[1] Ketchen,[35] Hopkins,[30] Bertrand,[16] A. Plehn,[12]

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[24] Einführung in d. Studium d. Malariakrankheiten, Jena, 1906.
[25] Jour. Trop. Med., June 1899.
[26] Deutsch. med. Wochschr., 1902, 4.
[27] Jour. Exp. Med., Feb. 5, 1902.
[28] Brit. Med. Jour., Jan. 25, 1902.
[29] Wendland: Med. Berichte, über d. Deutschen Schutzgebeite, 1903-4.
[30] Dublin Jour. Med. Sci., June, 1903.
[31] Arch. f. Sch. u. trop. Hyg., April, 1899.
[32] Brit. Med. Jour., Sept. 9, 1899; Jour. Trop. Med., October, 1899.
[23] Brit. Med. Jour., Sept. 1, 1900.
[34] Arch. f. Sch. u. trop. Hyg., April, 1899
[35] Brit. Med. Jour., Nov. 10, 1906.
[36] Deutsche med. Wochschr., 1896, 8-9.

Koch[14] and others have also reported such cases all in malarial subjects.

That quinin is not always the exciting cause is fully attested by the numerous cases in which no quinin had been given, as reported by Mense,[21] Rothschuh, F. Plehn,[7] Marchiafava,[13] Celli, Bignami,[13] Bastianelli, Van der Scheer, Beyfuss, Baldwin Seal,[37] Von Diesing, Powell, Schellong, Laveran,[6] Quennec,[31] Navarre, Reynolds, Etienne, Sims, Donny, A. Plehn,[12] R. Plehn, Doering,[8] Dempwollf, Brin, Rankin, Thin,[33] Cardamatis,[9] Moffatt,[28] Hopkins,[30] Sambon,[2] Cargill, Crosse,[3] Hearsey,[38] Curry,[11] Brem,[19] Shropshire[17] and others.

With due respect to the opinions of those who adhere to the quinin theory, there is no doubt but that the manner in which this question has been handled by some has been productive of harm, inasmuch as in some sections it has brought the specific into discredit, not only with the laity but with the profession. It is no argument against the benefits of vaccination to parade the fatalities that have resulted.

Inasmuch as malaria always is or has been present in hemoglobinuric fever and we know that the immediately previous administration of quinin can be excluded in a not inconsiderable percentage of cases, we are justified from this alone in attributing a much more powerful etiologic influence to malaria than to quinin. And when we find that in many of the cases which might by some be regarded as due to quinin this drug had been administered repeatedly under similar conditions without an outbreak and subsequently well borne, the number of cases in which quinin might justly be said to excite an attack dwindles considerably.

The rôle of quinin in this condition is probably highly complex. It has been shown that it is of value as a prophylactic when systematically employed; if not thus used and malarial infection be permitted to occur it may, in some persons thus predisposed, precipitate an attack. In the attack itself it may be of value in destroying the parasites when these are present or it may act harmfully in aiding hemolysis.

The belief that blackwater fever is due neither to malaria nor quinin, but is a disease *sui generis,* is defended by Manson,[1] Sambon,[2] Stalkarrt,[32] Rho, Kohlbrugge,[34] Donny, Yersin and others. There is so little to support this view that it hardly seems necessary to discuss it.

The theory that green beans and their blossoms were the cause of many cases of blackwater fever seems to have perished in Greece, where it originated.

The modern study of immunity and cytolysis has thrown a flood of light on hemolysis. It is unnecessary to review in detail the development of our knowledge of hemolysis, but the following facts will be recalled. It has been known for some time that the serum of certain animals had the power of dissolving the blood corpuscles of certain other animals. Bordet showed that this effect may be produced artificially. The serum of guinea-pigs naturally has no hemolytic effect on the red cells of the rabbit, but if rabbit's blood is injected into the guinea-pig and the process repeated the serum of the guinea-pig becomes hemolytic toward the rabbit. It has been shown that the hemolysins are formed by the interaction of two substances, one the amboceptor or immune body resisting moderate degrees of heat, the other called the complement inactivated by a temperature of about 55 C. Neither amboceptor nor complement alone is sufficient to dissolve erythrocytes, but for this it is necessary that both act, the amboceptor sensitizing the cells for the complement. The amboceptor may act alone, but the cells will only be rendered susceptible, not dissolved. The complement has no effect whatever on the red cells except through the immune body. The complement exists in normal serum. The formation of an antihemolysin is thus stated by Wassermann:[39]

> A specific hemolysin, one for example, specific for rabbit's blood, derived by treating a guinea-pig with rabbit's red cells, is highly toxic to rabbits. Injected into the animals intravenously in doses of 5 c.c. it quickly kills the animals, causing *intra vitam* a solution of red cells. Such a hemolytic serum then acts the same as a bacterial poison. For example, to keep to our illustration, rabbits are injected first with very small doses of this specific hemolytic serum. The dose is gradually increased until it is found that the animal tolerates amounts that would be absolutely fatal to animals not so treated. If some of the serum of this animal is now abstracted and added to the specific hemolytic serum it is found that the power of the latter will be inhibited. This shows that an antihemolysin has been formed.

Based on these facts, which have been amply demonstrated, Bignami[13] states his hypothesis as follows:

> 1, An alteration in the plasma which is effected little by little as a consequence of a specific change in the red blood corpuscles through which a certain number of them come to behave in respect to the organism like the corpuscles in the blood of another species of animal; 2, the formation in consequence of this change of a substance in the plasma which is capable, under certain conditions, of becoming hemolytic.

For the better understanding of my theory the pathogensis may be divided into the following stages: 1, erythrorhexis; 2, hepatic stimulation and production of amboceptors; 3, action of complement; 4, hemolysis and hemoglobinuria.

1. This primary blood destruction is due directly to the malarial parasite, chiefly through the act of sporulation, possibly also by the production of a toxin, though this has not been demonstrated. The hemoglobin thus liberated is carried to the liver, where it is elaborated into bile pigment. We have seen that this erythrorhexis is insufficient to account for hemoglobinuria.

2. On reaching the liver the hemoglobin is acted on by certain of the molecules or atom groups of the liver cells which have an affinity for it. When all the atom groups have been combined with the hemoglobin, which happens when this function of the liver has been frequently or recently exerted, or when the amount of liberated hemoglobin is very large, the liver is stimulated to the production of more such atom groups. This stimulation is responded to by an overproduction of atom groups, some of which gain access to the general circulation. Translated into the terms of Ehrlich's theory, it may be said that certain receptors of the liver cells have the property of transforming free hemoglobin into bile pigment; when these receptors are exhausted the deficiency is met by over-production. When the cell becomes overfilled some of these side-chains are cast off into the general circulation. Here the receptor becomes an amboceptor. The pathology of the liver in this condition fully supports the view of over-stimulation; karyokinesis and other changes in the liver cells suggest that it responds to this stimulation. In the present state of our knowledge we can not determine the chemical nature of the immune body.

3. Having gained access to the general circulation, the amboceptor meets the complement which is present

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[37] Jour. Trop. Med., Feb. 15, 1899.
[38] Brit. Med. Jour., Jan. 26, 1901.
[39] Immune Sera, New York, 1904.

in normal serum and the complete hemolysin is formed. The nature of the complement is unknown, but certain facts throw suspicion on lecithin. It is generally conceded that the complement is derived from the leucocytes which are rich in lecithin; bile, a hemolytic, is also rich in lecithin; there is over-production, stasis, and reabsorption of bile; erythrorhexis liberates the lecithin contained in the red blood cells; Kyes,[40] using the amboceptors of cobra venom, produced a complete hemolysin, "cobra-lecithid," by activation with lecithin. It can not yet be said with certainty, however, that lecithin is the complement of the hemolysin in blackwater fever.

It is highly probable that when the production of the hemolysin does not proceed with too great rapidity there is formed *pari passu* an antihemolysin which may exactly balance the hemolysin without destroying it. This is probably the symbiosis referred to by Krauss. So long as the equilibrium between hemolysin and antihemolysin is maintained no hemolysis occurs, but let this equilibrium be greatly disturbed by fresh malarial invasion, cold, fatigue, quinin or other and probably unknown factors, hemolysis occurs and hemoglobinuria ensues. Under this exact equilibrium the patient is in a condition very similar to that of paroxysmal hemoglobinuria; a close relation between these two affections has been maintained by Sambon.[2]

It is possible that a slight and temporary loss of equilibrium may result in a limited hemolysis, producing hemoglobinemia but not hemoglobinuria. In this way might be explained some cases of anemia, cachexia and postmalarial secondary fever in which the parasites, if present, are not in proportion to the results.

The exact rôle quinin plays in the etiology of the cases rightfully attributed to it is not altogether definite. It may precipitate an attack by preventing the formation or activity of the antihemolysin or by increasing the complement through the action which it has on the leucocytes.

It is believed that this hypothesis explains the occurrence of hemoglobinuric fever during and after malarial infection, with or without the administration of quinin; it explains why the malarial attack may precede by months the appearance of blackwater; why cold, fatigue, etc., may elicit an attack; why the hemolysis does not always coincide in time with the sporulation of the parasites in the cases in which the latter are present; it accounts in a measure for the complex relation with quinin and explains obscure anemia and postmalarial secondary fever. Lastly it coincides with the prevalent ideas of tropical physicians of an intimate relation between hemoglobinuric fever and "biliousness."[41]

Addendum:—Since the completion of this paper I find in the *Journal of Tropical Medicine*, March 1, 1907, a review of an article by O. Casagrandi in the Atti della Societa per gli Studi della Malaria, 1906. This investigator found in malarial blood a hemolysin, the presence of which is masked by an antihemolysin.

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[40] Berl. klin. Wochschr., 1902, 38-39; ibid 1903, 2-4, 42-43; ibid 1904, 19, Ztschr. f. phys. Chemie, xli, 4.

[41] Other authorities which may be consulted are: Thayer: Lectures on the Malarial Fevers, New York, 1901; Smith and Kilbourne: Texas Fever, Washington, D. C., 1893; Brown: Jour. Trop. Med., Sept. 15, 1899; Connolly: Brit. Med. Jour., Sept. 24, 1898; Messerer: Des Lesions Visceralis de l'Impaludisme, Paris, 1886; Kohlstock: Deutsche med. Wochschr., 1895, xlvi; Rickette: Infection, Immunity and Serum Therapy, American Medical Association Press, Chicago, 1905.

WAX MODELS OF CASES OF LEPROSY BY FRANCIS R. DAY, OF HONOLULU.

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Death claimed him before he could be gratified by appreciations of his beautiful models exhibited at the last annual meeting of the American Medical Association in Boston. It was not long ago that Dr. Day showed these models to the members of the Hawaiian Territorial Society at its thirteenth annual meeting in Honolulu. He said:

Every man should have a hobby, especially if he be a physician. The eternal grind of our work favors the gradual wearing into deep ruts that are difficult to escape from when once formed. An avocation serves the useful purpose of breaking up the process of rut making. It offers relief from the brain-tiring monotony and affords mental recreation and change. Therefore, I say, every man should have a hobby. My latest is the making of wax models of skin lesions or other pathologic specimens.

While abroad a few years ago I was particularly impressed by the large and interesting collections of these models in the various European capitals, particularly the Baretta collection at the Hospital St. Louis in Paris, the Henning collection in Vienna, Kolbow's in Berlin, and Professor Neisser's in Breslau.

These models represent, in an absolutely life-like manner, all of the multitudinous manifestations of diseases of the skin, and to the dermatologists, or to any practitioner of medicine, they have a fascination and a value second only to the observation and study of the real thing. Yet in all these extensive collections there were very few examples of the disease with which we in Hawaii are all familiar, leprosy; and I considered myself fortunate, when the opportunity presented, to learn from a master the method of making these models.

Since returning to Honolulu I have been at work and am enabled to present for your inspection fourteen models illustrating the various types of leprosy, tubercular, anesthetic, macular and mixed. Some of them are of unusual interest as representing mixed efflorescences, one, a case of macular leprosy complicated with scabies, another, leprous ulceration of the foot in an awa drinker. A third shows the mutilating effects of phalangeal absorption in a Portuguese woman, aged 73, who had gone forty-five years of her life with these stumps and who was recently apprehended by the United States Public Health and Marine-Hospital officials in San Francisco when she attempted to return to Portugal after a short visit to relatives in Hawaii. Of the two illustrations accompanying this article, one represents a well-marked case of the leonine countenance of advanced tubercular leprosy, and the other shows the results of leprous neuritis, the contractions, paralysis, atrophy and ulceration of the hand.

In the discussion which followed Dr. Sinclair said:

Dr. Day has shown great skill in his successful imitation in wax of the living originals, and I am sure that if Dr. McDonald were to take test snips from a few of the lesions displayed he ought to be able to demonstrate the *Bacillus lepræ*.

Dr. de Faria said:

I wish to call special attention to the model of the old Portuguese woman who was sent to Molokai some five months ago. I wish to ask the following question: Are the syringomyelia and some trophoneuroses, as the sclerodactylia for example, special forms of nervous or rather medullary leprosy, or are they different morbid entities?

This is an important question to which a definite answer has not yet been given and which is worthy of attention, since we have such a large field for investigation.

Leprosy made its first appearance in the islands some sixty years ago, and I do not know of any important study made there besides that of Dr. Arning on the transmission of the disease.

It is time that something should be done, and I hope that the federal government will soon help.

My question is based on Lambaco's investigation, which led him to express the opinion that the syringomyelia and the anesthetic and mutilating leprosy are but clinical varieties of one and the same disease.

There are two methods of conducting observations toward the solution of this problem. The first, and most scientific and positive, is to look for Hansen's bacillus in every observed case of syringomyelia and sclerodactylia and other trophoneuroses, as well as to examine thoroughly, postmortem, the spinal cord in every case of leprosy; and the second, which is historic and comparative, consists in inquiring if the existing fields of syringomyelia coincide with those of actual leprosy. I believe that the only positive observation reported up to the present is that of a case of syringomyelia in which the lepra bacilli were found by the late Professor Camara Pestana in a pathologic cavity of the medulla after the necropsy.

The history and clinical observation of the woman the model of whose hand was presented led me to make the diagnosis of sclerodactylia, although I had suspicions of leprosy.

Dr. McDonald, the territorial bacteriologist, said:

I have had an opportunity of seeing work of this kind in museums of New York and London, but for absolute imitation of detail and perfection of coloring I have never seen anything to equal these models. I feel a personal pride in them as being made in Honolulu.

A little later, while at Dr. Day's home, it was my privilege to examine these models; they are certainly as nearly perfect as art could make them. Dr. Day told me at this time that it was his intention to present the collection to his *alma mater,* Rush Medical College. Each model was made with great care, the casts being taken by the doctor himself from lepers at the Leper Settlement where he remained for some weeks working with my brother, Dr. W. J. Goodhue, the medical superintendent of the settlement.

Whatever Dr. Day did he did well; whether at his hobby, as he was pleased to term the modelling or doing his usual professional duty, his whole soul went into his work. With patient perseverance he combined rare artistic skill and taste, as is evidenced by his sketches, etchings, burnt wood work, photography and painting, the last of which has had public recognition.

I have in my home the following motto burned on wood done by him with a modified cauterizer:

In this house we speak no ill of others.
Those who have the inclination may, after
they close our gates, talk about us.

Dr. Day leaves a grief-stricken wife, Emily Foster Day, who is well known as the author of a clever book for children.

Special Article

WATER SUPPLY AND PUBLIC HEALTH.

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CHICAGO.

(*Continued from page 1759.*)

3. BACTERIAL EXAMINATION.

When sanitarians generally came to recognize that the constituents that impart a dangerous character to polluted water were living organisms belonging to the class of bacteria, it seemed to many a fair inference that by testing for the presence of these bacteria more accurate and direct information could be obtained as to the safety of a water than by testing for chemical substances which were not in themselves injurious. Projects for the bacterial examination of water were consequently entered on with much enthusiasm, but the original expectations excited by this mode of procedure have by no means been realized. It was soon found that the search for specific pathogenic bacteria in water was but rarely crowned with success, and that among the multitude of bacteria present in sewage and polluted water but few could be regarded as dangerous; it is now manifest that for the present the bacteriologist, like the chemist, must form his judgment as to the sanitary character of a water from indirect evidence and by inference, rather than from the positive demonstration of the presence of pathogenic microbes.

Quantitative Analysis.—First in order of development was the quantitative examination of water. In its simplest form this consisted in the enumeration of colonies of bacteria developing on plates of nutrient gelatin to which measured quantities of the water were added. Since its inception this method has undergone considerable modification and elaboration. It has been found, for example, that the changes that take place during transportation of a sample of water from the point of collection to a distant laboratory are often so great as to vitiate completely the results of the colony count. The change in the number of bacteria is usually in the direction of an increase. For the purpose of avoiding this source of error the packing of water samples in ice for shipment has been commonly resorted to in order to inhibit the multiplication of bacteria that takes place at ordinary temperatures. It has been shown more recently, however, that refrigeration may lead to a diminution of the original germ content and in this way alter the original number of bacteria wellnigh as seriously as transportation at ordinary temperatures. The best modern practice requires, therefore, that for the quantitative bacterial examination of water, the water under observation be mixed with nutrient gelatin and plated within one hour, or better, within one-half hour, after removal from its source. When circumstances are such as to necessitate transportation, control platings should be made at the point of collection as frequently as practicable.

Another direction in which elaboration of method has proceeded is in respect to the composition of the nutrient medium employed for the development of the colonies. Nutrient gelatin (10 per cent. gelatin, 1 per cent. Witte's peptone) is preferred by most workers in water bacteriology at the present time, although in some special investigations nutrient agar has been advantageously used. Media substituting for peptone albuminous substances such as the *Nährstoff Heyden* have been strongly recommended by some observers, but for various reasons have not come into general use.

Opinions have oscillated as to the degree of alkalinity of the culture medium most suitable for quantitive work. The practice once common in this country of using a medium reacting 1.5 acid to phenolphthalein has been gradually superseded by the use of a medium of somewhat greater alkalinity, namely: 1.0 acid to phenolphthalein. This reaction has been found by many observers to give the maximum colony count with the usual two day incubation period at 20° C. If the water is suspected of containing more than about 200 bacteria per c.c., it should be diluted with sterile water 1-10, 1-100, etc., since much more accurate counts can be obtained when the number of colonies on a plate range between 50 and 200 than when larger numbers are present.

As regards the interpretation to be placed on the results of quantitative bacterial analysis, the statements already made concerning the establishment of standards for chemical examination apply here with quite as much force. Taken by itself, the actual number of colonies per c. c. developing in a given sample of water has little if any sanitary significance. A pure spring water containing at the outset less than 100 bacteria per c.c. may, on standing in a clean glass flask at a fairly low temperature come to contain tens of thousands of bacteria per c.c. within from 24 to 48 hours. There is no reason for supposing that the wholesomeness of the water has been in any degree impaired by this multiplication of bacteria. The quantitative bacterial examination, like the chemical, has only an empirical value.

Experience, however, has shown that most natural waters known to be pure contain relatively few bacteria capable of developing by the usual methods, while sewage and sewage-polluted waters contain large numbers. Fresh sewage, for example, usually contains from 1,000,000 to 3,000,000 bacteria per c.c., while ordinary waters rarely contain more than a few hundred. The actual number of bacteria in a water under natural conditions often possesses, therefore, considerable sanitary significance, although the attempts that have been made to apply arbitrary standards for the reasons cited have met with but little success. There is a tendency to hold that natural waters found by approved methods to contain more than 1000 bacteria per c.c. are to be regarded as distinctly suspicious. A turbid river water, however, may be relatively unpolluted and yet at times contain several thousand bacteria per cubic centimeter.

Kind of Micro-organisms.—More success has attended the attempt to connect the presence or relative abundance of certain specific micro-organisms with the quality of a water. It is considered practically established in sanitary water analysis that the kind of bacteria present is more significant than the number. The earlier attempts at differentiation did not prove especially illuminating. It was supposed, for example, that some light might be thrown on the character of a water by the abundance of colonies liquefying the nutrient gelatin, as distinguished from the non-liquefying varieties. Such a distinction has no sanitary value. Continued attempts to discover some specific bacteria characteristic of sewage and not found in pure natural waters have had a more satisfactory outcome. Examinations to determine the presence of certain kinds of bacteria are now commonly made by bacteriologists engaged in water analysis, and the relative abundance of these bacteria is of great importance in forming an opinion of a given water.

The most widely used, and by general consensus the most valuable of these tests for specific bacteria is the "colon test." *Bacillus coli communis* is a common inhabitant of the intestine of man and of many of the higher animals and is found in great abundance in sewage. Its close biologic resemblance to the typhoid bacillus and the fact that, like the latter organism, it finds its way into sewage from the discharges of the human body render its presence, especially when in large numbers, peculiarly suggestive.

The method of procedure ordinarily used in making the colon test consists in adding measured quantities of the water (5 c.c., 1 c.c. or fractional parts of 1 c.c.) to the ordinary glucose-peptone broth in fermentation tubes. The ability of the colon bacillus to ferment sugar with gas production causes gas formation in the closed arms of those fermentation tubes to which colon bacilli have been added. A more detailed examination is then made of the contents of those tubes showing gas production and the presence of the colon bacillus definitely ascertained by application of the necessary specific criteria. If ten tubes be thus inoculated, each with 0.1 c.c. of water, and the colon bacillus is found in seven of these, the inference is that there are seven colon bacilli per 1 c.c. of the water examined. If three tubes out of 10 inoculated with .01 c.c. yield positive results, then it follows that the number averages 30 per c.c. This method, which was devised in 1892 by Theobald Smith, has proved useful in the hands of many experimenters and is highly regarded as a delicate and satisfactory method of determining the degree of water pollution. It should be remembered that the relative abundance of colon bacilli rather than their presence is the essential feature of this test. The mere finding of one colon bacillus in 50 c.c. of water or even in occasional 5 c.c. samples affords no adequate ground for casting suspicion on the character of a water. On the other hand, those who have had most experience in the application and interpretation of this test are agreed that a water showing the presence of colon bacilli quite uniformly in a quantity of 1 c.c. is, to say the least, of extremely doubtful quality. *On the whole, if reliance must be placed on a single test of a water and the interpretation deduced therefrom, greater weight at the present time can be attached to the results of the colon test in the hands of an experienced observer than to any other isolated determination, bacterial or chemical.*

It has been proposed to use the presence of streptococci in water as an adjunct to or possible substitution for the colon test. Streptococci are often found in fresh sewage in large numbers, not infrequently in greater abundance than the colon bacillus. It is, however, believed by some to be a less hardy organism than the latter and to disappear more quickly from sewage and from polluted water. While there is reason to believe that the typhoid bacillus does not live in water as long as the colon bacillus, it is unquestionably wise to adopt a standard of too much rather than too little rigor. For this and for other reasons, the streptococcus test does not seem likely to supplant the colon test, although it may possibly sometimes supply valuable information concerning the existence of very recent and therefore highly dangerous pollution.

The presence of the spore-forming anaërobe, *B. welchii* (*B. aerogenes capsulatus*, *B. enteritidis* of Klein) has likewise been urged as a specific determination of possible value. Owing, however, to the tedious and difficult procedure necessary for complete identification of this organism, and also because of its probable persistence for long periods in the spore stage, the isolation of *B. welchii* in practical water examination has not come and does not seem likely to come into general use.

CHAPTER VI.

THE NATURAL PURIFICATION OF STREAMS.

It may be safely assumed that there are few natural waters on the surface of the earth that do not receive a perceptible amount of the sewage, drainage or waste resulting from human habitation. Entirely apart from any analytical data the experience of the human race has shown that many of these natural bodies of water are used as a source of water supply by considerable populations without any strikingly noticeable injurious effects. If all the dangerous elements or, to put it more specifically, all the pathogenic bacteria entering bodies of water remained there in their original number without change, it needs little imagination to picture the difficulties that would beset mankind in the matter of procuring a good water supply. It is apparent that in Nature some sort of change occurs which results in the destruction or disappearance of the offensive and disease-producing elements that are from time to time introduced into most bodies of water.

This belief in the natural purification of water has been maintained especially in respect to the water of flowing streams. Although there is no reason to suppose that motion aids in purification, the saying that running water purifies itself has been popularly accepted as almost axiomatic, and the theory of natural purification has received its chief support from what has been observed and has been supposed to occur in polluted rivers. It is not difficult to understand how such a belief arose. A casual observation of freshly polluted river water often suffices to reveal gross evidences of the pollution, but farther down stream these indications of contamination are less marked and finally they vanish altogether. From these naked-eye observations the inference has been hastily drawn that purification has occurred. Much misunderstanding and many mistaken notions have arisen in this way and it seems desirable to devote more space to the consideration of this doctrine than is perhaps warranted by its actual practical importance. It may be premised that in modern times and under the prevailing conditions of urban life the purification of water, whether by natural or artificial processes, is of no small importance. It has been wittily said that what is wanted in a drinking water is innocence rather than repentance, but it must be also remembered that very few large communities are in a position to obtain a virginally pure supply. In practically every civilized country, the rivers, large and small, receive the sewage or drainage of a more or less extensive population, and the same is true of the larger ponds or lakes. It has recently been estimated (Hazen) that the water supplied to approximately 52 per cent. of the urban population (in cities of over 25,000) of the United States is unsatisfactory. The large and increasing consumption of water by the inhabitants of modern cities and towns renders the obtaining of a sufficient quantity of uncontaminated water extremely difficult and in most cases impossible. For the majority of public water supplies recourse must be had to sources known to be more or less polluted at some stage in their history. The reckless practice of many cities in this matter shows that a considerable degree of natural purification must occur, otherwise the consequences of the prevailing neglect of the most elementary precautions would be far worse than they are.

The extent and rapidity of this process of natural purification are questions, however, on which there has been much difference of opinion among sanitarians, and concerning which existing data are inadequate and in some cases apparently conflicting. The final settlement of the question hinges on many imperfectly understood and variable factors.

The problem is often presented in concrete form as follows: Suppose a city pours its sewage into a river, how far below the point at which the sewage is discharged is it permissible or desirable on sanitary grounds for another city to take its water supply from this stream? Or, in another relation, in the case of a city deriving its water supply from a river, how far above this point can another city be equitably and safely allowed to empty its sewage into the river? Under actual conditions, pollution and subsequent purification never present themselves in so simple a form. Between the point of great pollution and that of derivation of the water supply, other sources of contamination and infection always occur. The drainage from rural communities or from isolated farmhouses connected, it may be, with outhouses immediately overhanging the tributaries of the main stream, constitutes a perpetual menace to the purity of a river water, even when the possibility of pollution with urban sewage is removed. These often-overlooked sources of danger however, are frequently overshadowed by the grosser defilement to which a stream is subjected by the discharge of the sewage of a great city. It is the latter event that is commonly, although perhaps unwisely, considered as the main feature in the problem of the natural purification of streams.

Stripped of all technicalities the question at issue really is how far can typhoid bacilli travel in the water of a flowing stream and arrive at a water intake in such a condition as to constitute a menace and a danger to the inhabitants of a distant city or state. It is obvious that the problem is not one of space so much as of time, that it is not so much the distance over which a bacillus has to pass as it is the time consumed in traversing the stretch of river between the two points. The problem at bottom is essentially that the longevity of the typhoid bacillus in a given water, whether of a river or lake. As is well known, the conditions affecting this longevity are many and varied and the experimental evidence shows that the length of life of this micro-organism is greater in some waters than in others and is conditioned by a variety of concomitant influences. Practically, then, every inquiry into the alleged self-purification of streams must partake of the nature of an individual and separate investigation, and, for the present, must be carried on without too much reference to results obtained under other conditions. It has rarely been found possible to experiment directly with the typhoid bacillus under conditions identical with those obtaining in a given river. It is necessary, therefore, to rely provisionally on data of an indirect and inferential character, and it is these latter only that are ordinarily considered in a study of any particular case. The indirect evidence is of several kinds and of different degrees of value.

Very conclusive evidence cannot often be derived from epidemiologic data for the reason that between the point on a river at which sewage is poured in and that at which the water supply is taken out many houses and villages contribute pollution and infection. It is only occasionally that an excessive prevalence of typhoid fever in a city supplied with river water can be traced clearly and indisputably to infection by the sewage of some one city located on the stream. Where the cities concerned are not far apart, as in the case of Lowell and Lawrence, on the Merrimac river in Massachusetts, a connection between unusual typhoid fever in one place and unusual infection in the other seems to have been definitely made out. The sewage of the city of Lowell is emptied into the river only nine miles above the intake of the Lawrence water works and it has been shown that on several occasions a large amount of typhoid fever in the former city has been followed by an increase in the disease of Lawrence, the time correspondence being so close as to satisfy epidemiologic requirements. A few similar cases have been recorded. The circumstantial evidence brought to light by Sedgwick[19] in his study of an outbreak of typhoid fever at Newburyport, Mass., points to a similar relation between the breaking out of typhoid fever in that city and an unusual infection of the Merrimac by the sewage of Lowell and Lawrence, respectively, 17 and 26 miles above. River-borne epidemics of typhoid fever are rarely traceable, however, with such distinctness to urban pollution. The majority of the more carefully studied epidemics of typhoid fever due to river water have been attributed to infection of the stream or its tributaries a short distance above the sources of supply. The well-known Lowell epidemic of 1890-91, to continue reference to the same body of data, owed its origin not to the sewage of Concord, Manchester and Nashua, but to a specific infection of Stony Brook, a small feeder only 3 miles above the Lowell water intake.[20]

The attempt to associate the occurrence of typhoid fever in the city of St. Louis with the opening of the Chicago drainage canal did not find much support as might have been anticipated indeed from the general complexity of the situation. Even if it were assumed that all the typhoid fever in St. Louis was due to the water supply, it can be readily seen that it would not be a simple task to apportion equitably the responsibility for the infection of the Mississippi river water among the various urban and rural communities, near and remote, on the Mississippi, Illinois and Missouri watersheds or to assign to each its proper share of responsibility for such pathogenic bacteria as might be drawn out of the Mississippi at the St. Louis water works.

Since it is clear that the epidemiologic evidence, which in most cases of water-borne infection is of paramount importance, is often absent or ambiguous as regards the natural purification of streams, it becomes necessary to fall back on chemical and bacterial data.

The chemical changes that occur in a sewage polluted river water are of considerable interest and significance. Those streams that have been freshly contaminated with large quantities of sewage contain at the outset organic nitrogen and free ammonia in great abundance. Analyses made at various points along the river show that a marked diminution in the amount of these organic substances occurs during the passage of the water down stream. Hand in hand with the lessening of these substances there is noticed first an increase in nitrites and then in nitrates, until eventually a large part of the unstable organic nitrogen of the original sewage has become oxidized into the stable mineral condition of nitrate; the process of nitrification is complete. In other words, after a certain distance, or more properly, after a certain time, a once polluted river water reaches a state of relative organic stability. In this condition it may be said to be chemically purified, and, unless fresh organic matter is introduced or is formed by algal growth, it is no longer capable of giving rise to offensive decomposition products. The process of chemical purification of a river not only removes or alters the organic compounds originally present, but, owing to the time necessary for its accomplishment throws a strong side-light upon the sanitary problem. In a recently polluted water, both free ammonia and typhoid bacilli may be present, but on standing, the free ammonia is oxidized to nitrate and the typhoid bacilli tend to die out. The greater the lapse of time the more probable is the consummation of both processes. The fact that complete chemical purification has occurred naturally lessens the likelihood that typhoid bacilli have survived.

The bacterial evidence is of a similar, though possibly more direct nature. One branch of the evidence consists of observations regarding the disappearance of the sewage bacteria as shown by the ordinary colony count. In the elaborate studies made on the Illinois river in connection with the St. Louis-Chicago drainage canal suit, for example, it was shown that the large number of bacteria present in the drainage canal and upper stretches of the Illinois river were materially diminished in the course of from 40 to 50 miles flow (from 2 to 3 days), and were reduced to the normal for tributary streams of this region after a further period (from 5 to 6 days). It is hard to believe that this enormous mortality among the sewage bacteria does not find a parallel in at least a similarly rapid dying out of typhoid bacilli.

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[19] Twenty-fourth Ann. Rep. State Board of Health, Mass., 1892, p. 701.

[20] Sedgwick: Loc. cit., p. 667.

The peculiar importance that has been shown to attach to the finding of the colon bacillus in bacterial water analysis has been utilized also in a study of the natural purification of streams. The evidence derived from a determination of the relative number of colon bacilli at different points along the course of a polluted river reinforces that obtained from chemical and quantitative bacterial examination. The colon bacilli which are present in large numbers in fresh sewage (70,000-100,000 per c.c.) disappear almost completely from the Illinois river in a flow of less than 150 miles.[21] If it is true, as it seems to be at present, that the fate of the colon bacillus in running water furnishes a satisfactory criterion of the continuance of vitality of the typhoid bacillus, there can be no doubt that a genuine self-purification of streams may and does occur. It must always remain true, however, that comprehensive generalizations are not possible. Each individual case involves a new and undetermined complex of factors. The rapidity and degree of self-purification in a given stream must be determined for itself and the conclusions reached in each case are not applicable to other rivers without renewed study and investigation.

The assertion is sometimes made that "water once polluted is unsafe for domestic use unless artificially purified." No such sweeping statement can be justified unless based on the belief of the practical immortality of disease germs once introduced into a water. On the other hand, implicit reliance on the natural purification of a river water is usually misplaced under actual conditions. A stream conceivably may rid itself of infection introduced at one point, but be so exposed to contamination at other points along its course as to be totally unfit as a source of public water supply. In general a stream large enough to afford a continuous supply drains an area so large that any effective control over the watershed is impracticable. These difficulties are often insurmountable. In Germany the use of unfiltered surface water for municipal supplies is entirely and righteously prohibited.

One established instance of the natural purification of a river, perhaps the most remarkable on record, may be cited here. The Mississippi river receives, as is well known, the drainage of a large part of the interior of the North American continent. On this stream or its tributaries are situated many large cities which continually discharge large quantities of crude sewage. In spite of this enormous pollution, the Mississippi river at New Orleans, from a sanitary standpoint, is unusually pure and wholesome. During the last few hundred miles of its flow it receives little additional contamination and, under these conditions, it frees itself, almost if not entirely, from the earlier contamination. The delicate test for the colon bacillus made on the Mississippi water at New Orleans failed to discover this organism even in quantities of water as large as 100-300 c.c.[22] There are probably few cases where the occurrence of natural purification is demonstrated so clearly.

(*To be Continued.*)

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[21] Jordan: The Self-Purification of Streams. The University of Chicago Decennial Publication, Chicago, 1903.

[22] Report on Water Purification, etc., New Orleans, 1903, p. 47.

Protecting Netting for Beds of Delirious Patients and Children.—The *Med. Klinik* for April 28 brings an illustrated description of a device to prevent injury from falling out of bed or the escape of delirious patients. A frame of gas piping fits over the bed and fastens below the mattress. At the foot and head the piping forms an arch—otherwise the frame does not show. A number of rings slide loosely on the two arches, and to these rings is attached a strong netting with very large meshes. When not in use, the netting and rings lie at the back of the bed, almost entirely out of sight. At night the netting is drawn up over the arches and fastened down on the opposite side of the bed, thus forming a tent of netting over the bed. The device has been in use for some time in the Budapest hospital, and Tornai, who writes the article, commends it in high terms, especially for children, as much safer than the ordinary child's bed.

Clinical Notes

CLINICAL NOTES ON SYPHILIS.

LABIAL CHANCRES.

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The literature on the subject of extragenital chancres is so extensive that one naturally hesitates before adding to the enormous number of cases already recorded. The fact that the profession at large does not, as yet, seem to appreciate the frequency of this clinical occurrence I believe to be sufficient reason to warrant a brief report of six cases of primary syphilitic lesion of the lip.

All the patients are women. The first three were seen in private practice during the past year and a half, and the other three at the Presbyterian Hospital Dispensary within the past five months. Cases 3, 4 and 5 were presented at recent meetings of the Society of Dermatology and Genito-Urinary Surgery.

Case 1.—A widow, aged 44.

Examination.—When first seen at her residence, she was suffering from severe frontal headaches, and complained of the annoyance and disfigurement caused by an obstinate sore in the center of the upper lip. This sore, she stated, had been present about seven weeks. It began as a hard pimple and gradually increased in size until it measured about three-quarters of an inch in diameter. The lesion showed some induration and there was considerable protrusion of the lip. The only glands palpable were the postcervical. Her throat was hyperemic, but no patches could be detected.

Course of Disease.—In about two weeks a well-marked macular eruption appeared and later there was moderate alopecia. All the objective symptoms of syphilis soon disappeared, but the patient suffered for a time from persistent occipital headaches and also from severe rheumatoid pains in her hands and feet. An acute iritis that developed later was thought by a consultant oculist to be of rheumatic origin, notwithstanding the history of recent syphilis.

Mode of Infection.—As in the majority of similar cases, this is of course purely conjectural. The patient remembered that one of her young women boarders had sores in her mouth and thought that when both were attending a certain dinner party they might have drunk wine from the same glass. This particular incident occurred, however, nearly two months before the sore was noticed. It is more likely that the woman was infected in a more direct manner.

Case 2.—A young woman, aged 25.

Examination.—When first seen she had an extensive, large, papular syphilide. There was a generalized hyperplasia of the superficial lymphatics, although the left submaxillary and sternomastoid were the glands particularly affected. The throat was congested and the tonsils enlarged. There were no lesions around the genitals. On the left side of the lower lip there was an indurated area and the patient stated that at this site there had been a hard sore about the size of a hazel nut that had been present for nearly eight weeks. She had previously consulted several physicians regarding this lesion, but apparently none of them had recognized its true character.

Mode of Infection.—This was not definitely determined, although the patient very frankly supplied pertinent information. It appeared that a young man with whom she had had frequent sexual intercourse and whom, by the way, she subsequently married, was then at Hot Springs being treated for syphilis. There was, however, another admirer whom she had often kissed. He was a youth of loose habits, and at the time suffered from sores on his lips and tongue.

Case 3.—A dressmaker, single, aged 30. She was born in England, but has lived in this country since early childhood.

Examination.—When she first consulted me there was presented for inspection an irregular granulating lesion occupying nearly the entire left side of the upper lip. There was very little induration, although the mass was firm to the feel.

It had existed for nearly two months and had been large since the first week. No possible source of infection could be traced.

Course of the Disease.—Shortly after coming under observation a small papular eruption appeared, accompanied by general adenopathy and mucous patches in the throat. Later there was considerable alopecia and examination of hair revealed a rather well-marked case of trichorrhexis nodosa. The hair was dry, fine and lusterless, and a majority of the hairs showed the characteristic nodes distributed at intervals varying from one-half to two inches. About three months after the appearance of the secondaries certain pigmentary changes were noticed on the neck and soon a typical so-called syphilitic leucoderma developed.

CASE 4.—A young woman, aged 21. Employed as a waitress in a private family.

Examination.—When she first applied for treatment at the dispensary she had an erosion nearly an inch in diameter on the right side of the upper lip about one inch from the center. The lesion was sharply defined and was decidedly hard to the touch. It had a smooth moderately raised surface of a vivid red color. The girl said that the sore began as a small blister three weeks before and had rapidly increased in size. No satisfactory history relating to possible method of infection could be obtained.

Course of Disease.—In about a month the patient developed a macular eruption and general adenopathy. The submaxillary glands, however, as is not uncommon in cases of chancre of the upper lip, were but very slightly enlarged. There was but slight alopecia in this case, although there was a pityriasic condition of the scalp and the hair was dry, short and thin.

CASE 5.—A German woman, aged 24 years, employed as chambermaid in a large household.

Examination.—When the patient first visited the dispensary she had a slightly indurated lesion in the center of the upper lip. It was nearly round, about half an inch in diameter, and covered with an adhesive brownish crust. She stated that her lips had been rough and cracked for the past six weeks, and that the sore was present for nearly the same length of time. The submaxillary, postcervical and epitrochlear glands were all palpable. The throat was hyperemic and a small superficial patch was noticed on the right side of the soft palate. A great maculo-papular eruption soon developed, and later the patient suffered considerably from extensive mucous patches in the throat.

Mode of Infection.—When the patient was first seen nothing could be learned as to the possible mode of infection. Recently, however, one of her female friends who consulted me for falling hair was found to have a marked and unmistakable syphilitic alopecia. History of a genital lesion was readily obtained, but a negative one as to secondaries. Chronologically, though in a rough way, it could be assumed that she had some patches in her mouth at the time when her friend must have acquired the labial chancre. As the girls had frequently kissed one another, it is not unreasonable to suppose that the disease was transmitted in this manner.

CASE 6.—A strong, well-preserved German woman, aged 38, the mother of six children. On last New Year's Day she terminated a short widowhood by marrying a man eleven years her junior. The marriage was decided on at a time when they were celebrating the holiday with mutual friends. There had been no previous courtship and no caresses were exchanged until the wedding night. About five weeks later the bride began to have chills and fever, and at the same time noticed a small sore on her lip. Her chills and fever continued and the sore gradually increased in size. Two weeks later another sore appeared on the upper lip. This was possibly an autoinfection.

Examination.—The woman was first seen in one of the medical rooms at the dispensary through the courtesy of Dr. Seward Erdman. There was an ulcerated lesion about half an inch in diameter, on the left side of the upper lip, nearly an inch from the median line. A similar lesion about one-third the size was on the upper lip just to the right of the center. Both showed marked induration. The submaxillary glands on the right side had been excised when the patient was a young girl, but those on the left were slightly enlarged and the epitrochlear glands were palpable. There had been no previous symptoms of malaria, but on examination the spleen was found to be large and there was a temperature of 101 F. A macular eruption developed later, and the patient suffered considerably from severe headaches.

Source of Infection.—It was ascertained that the husband had contracted syphilis from a prostitute several months before his marriage. The chancre had entirely disappeared, as well as the eruption, and he did not imagine that the few sores in his mouth could possibly communicate his disease to another.

The conclusions to be drawn from a report of the above cases are so apparent that any personal observations regarding them would be superfluous.

VERONAL DERMATITIS,

AND THE NEGLECT OF THE ANAMNESIS.

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In THE JOURNAL, April 20, is an account of an eruption caused by veronal which so exactly corresponds with that which I have recently observed that it seems well to corroborate the description, as drug eruptions are often the cause of much confusion in practice; and as far as I know this particular one has not been previously recorded.

History.—Mr. H., aged 67, had been under my care off and on for over ten years, with occasional attacks of eczema, principally about the face and arms. He is a wiry, fairly preserved man, though nervous, and having large business interests. I had not seen him for nine months; he had spent the summer in Europe, returning in September, and had been in good health all winter, excepting occasional indigestion. February 17 I was sent for to see him at his country home because of a sudden and very general eruption which had appeared, which caused much mental distress, together with considerable burning and itching. I learned then that he had been having some general itching of the wrists and legs, and being unable to sleep one night, he had on the next night, the 14th, taken 7½ grains of veronal at 10:30 p. m., and had repeated the dose at 1 a. m. and again toward morning. (I had never ordered the drug for him.) At about 6 o'clock he rang his bell and was found almost unconscious and cold; he may have had a rise of temperature later, but I did not learn of it; the eruption burst out quickly that day, February 15, and reached its height the next day.

Examination.—When I saw him, February 17, the eruption was still general, though most marked on the lower extremities, and answered very completely to the description given by Dr. House. In some places, especially on the body, it was an erythematous rash, somewhat resembling scarlatina, but on the limbs it was largely in separate flat maculo-papules, some of them nearly an inch in diameter, but most of them less than half an inch, slightly raised above the skin, like a papular erythema. The center of most of the lesions was darker red, and some appeared almost hemorrhagic; the eruption was fading somewhat by the time I saw it. The urine had been dark and scanty; the temperature then was 98 F., pulse 60. The eruption was recognized as being due to the drug, and under mild eliminative treatment it had about disappeared in four days, though there were still brownish stains in many places. The day after taking the veronal he was drowsy, and later he stated repeatedly that that day was a blank to him, and he has no memory whatever of what transpired, though the family were very anxious about him.

In the same issue of THE JOURNAL there is a communication from Dr. Bayard Holmes on "The Neglect of the Anamnesis," which has a certain bearing on the matter in hand, and which I would like to endorse most heartily. Dr. House does not give the antecedent history of his case, though he may have taken it very carefully. He states, however, that he learned later that the patient had twice before had a similar eruption from veronal, once from a 5-grain dose, repeated in three hours. In a case like this one, in which the patient has "been taking for months all kinds of nerve sedatives" it is often well to inquire if the patient has any peculiarities or susceptibilities in regard to any particular drug favorable or otherwise. Not infrequently this is found to be the case, and the information may be of much service.

Dr. Holmes does well to call the serious attention of the profession to the modern error of excessive laboratory and experimental work, especially in the colleges, to too much neglect of careful and minute clinical observation, study and record. While with him I would by no means underestimate the importance and the necessity of an accurate diagnosis, often obtained by instruments of precision, I would exalt, more highly than is often done, the very great value of a painstaking study of the patient in all particulars, however small. Only by fully and properly understanding the individual affected can we, in the best manner, cope with the derangements of function or tissue to which we give the name of different diseases.

531 Madison Avenue.

TECHNIC OF STUMP INVERSION IN APPENDECTOMY.

JOHN EGERTON CANNADAY, M.D.
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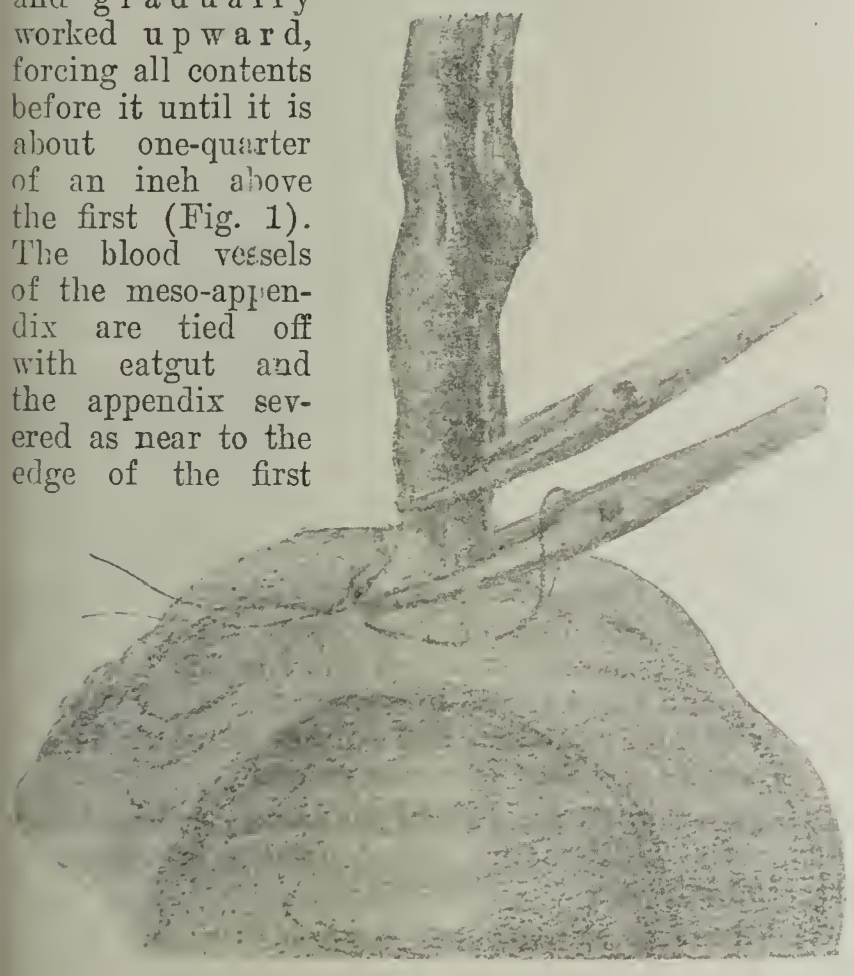
HANSFORD, W. VA.

After the completion of the incision one or two fingers are inserted and the appendix, with the cecum, is drawn out. The cecum is held by the assistant, the appendix is clamped in the jaws of a pair of hemostatic forceps applied just above the line of junction with the cecum. A second pair of forceps is applied just above the first and gradually worked upward, forcing all contents before it until it is about one-quarter of an inch above the first (Fig. 1). The blood vessels of the meso-appendix are tied off with catgut and the appendix severed as near to the edge of the first forceps as possible (Fig. 2), and the scissors, second pair of forceps and appendix are laid on a specimen tray. The stump of the appendix is lightly touched with a weak solution of iodin on a cotton-tipped applicator or a thermo-cautery is used for the same purpose, that of rendering the stump germ free. A purse string suture of ten-day catgut threaded in a round needle is placed about the base of the appendix. This suture is carried over and not under the handle of the forceps to facilitate inversion. The needle is carried deep enough to include all the coats of the bowel. At the base of the side of the meso-appendix there is sometimes an artery which might bleed after inversion; this is secured by passing the purse string suture under it. The operator loosens the hold of the forceps on the appendicular stump and reapplies them so that about one-eighth inch of the stump distal to the handle is left free (Fig. 3). The assistant elevates the handle of the forceps and depresses the point so that the stump is inverted into the lumen of the bowel while at the same time the operator makes traction on the two ends of the purse string, seesawing them slightly if necessary (Fig. 4); the sharp-pointed forceps are gently and slowly removed and the inversion is complete. The puckered line of removal is now buried by a superficial continuous suture of fine catgut, which is then continued so as to bury the remains of the meso-appendix. This particular method of invaginating the appendix precludes all possibility of escape of feces during the operation and is simple. I have tried the various appendix tuckers, but the forceps method works better.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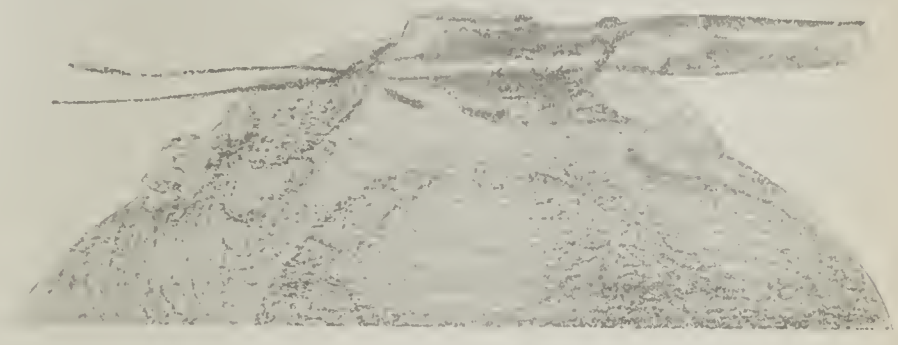
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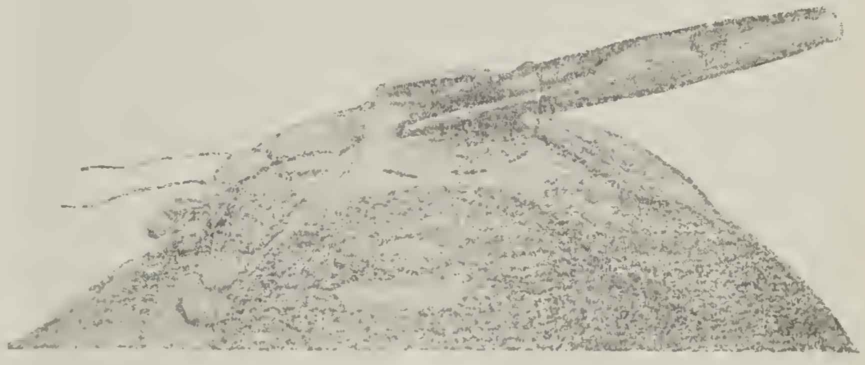
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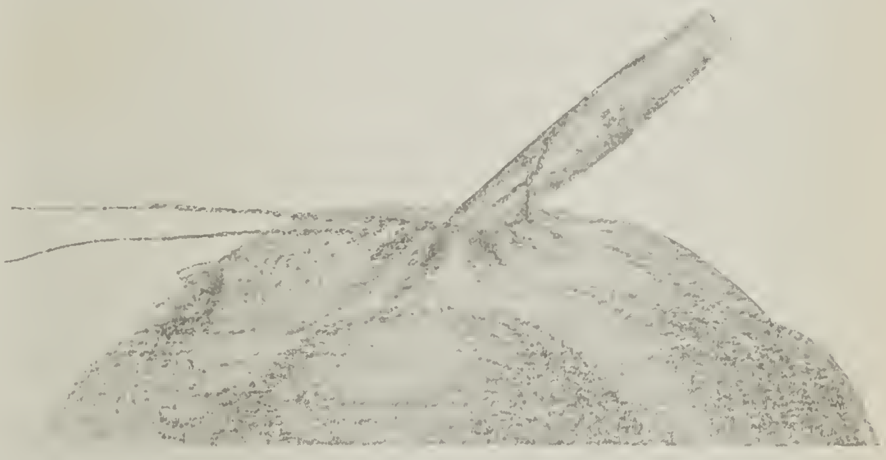
Figure 4.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.)

(Continued from page 1351.)

MEDICINAL FOODS.

The so-called "Liquid Foods," "Medicinal Foods" or "Predigested Foods," as found on the market, are solutions containing as the essential constituents small amounts of protein substances and carbohydrates, preserved by alcohol.

The protein substances should be rendered soluble, i. e., converted to peptones and proteoses, by means of enzymes. While the hydrolysis of proteids to soluble proteoses may also be effected by means of acids or superheated steam, these products should be excluded from medicinal foods because of the uncertainty as to their composition and behavior—being held toxic and dangerous by some. The protein content of these liquid medicinal foods (obtained by multiplying the total nitrogen content by 6.25) ranges from 0.5 to more than 6 per cent. The carbohydrates present in these foods are sucrose (cane sugar), maltose, glucose, invert sugar, dextrin and possibly also lactose (milk sugar). In these foods, as found on the market, the quantity of carbohydrates ranges from 0.55 to more than 15 per cent. The alcohol content varies from 12.0 to 19 per cent. of absolute alcohol by weight. Some contain large amounts of glycerin.

Actions and Uses.—The value of medicinal foods depends on the proteins and carbohydrates contained therein. Glycerin does not, so far as known at present, possess any recognized food value, although there are a number of experiments on record to indicate that it influences metabolism. While the value of alcohol in the treatment of disease is fully appreciated, its value as a food product, pure and simple, in disease is, however, an open question. It probably acts as a saver of fat and carbohydrate, but not as a tissue builder. The nutritive value of these medicinal foods, therefore, should be considered as based on their carbohydrate and protein content, exclusive of alcohol or glycerin. The calculated food value of a considerable number of medicinal foods, on the basis of the potential energy (calorific value) due to proteins and carbohydrates shows that some possess but one-third the value of milk, while the best have a trifle more than twice the calorific value. The Council has decided that no liquid medicinal or predigested food be given consideration which contains less nutritive value, exclusive of alcohol and glycerin, than milk; and at least one-fourth of this should reside in nitrogenous constituents.

Dosage.—None of the commercial liquid medicinal or predigested foods contain sufficient food material to maintain normal nutrition. A man doing moderate work requires an amount of food which furnishes energy equal to 3,000 calories per day, while, in sickness, this amount is not required it should not fall much below 1,500 calories per 24 hours. The examination of commercial liquid food shows that the average daily dose recommended supplies from 10 to 111 calories based on protein and carbohydrate. To sustain the vitality of a patient during a serious illness, 2,000 Cc. of milk, giving about 1,430 calories, are required; to supply the same number of calories, even if the alcohol is considered to have direct food value, from 700 to 1,500 Cc. of the medicinal foods will be required. In many cases the amount of alcohol exhibited by these quantities would keep the patient in an alcoholic stupor continually. It should, therefore, be remembered that the patient is receiving a starvation diet when these preparations are given in ordinary doses. Unless the daily dose advised contains at least 100 calories, exclusive of alcohol and glycerol, it should not be depended on to sustain life even for a limited period.

LIQUID PEPTONOIDS.

Liquid Peptonoids contain 4.5 to 5 per cent. nitrogenous matter (nitrogen x 6.25), 10.6 to 11.5 per cent. carbohydrates (glucose, lactose and sucrose) and 17.5 to 17.8 per cent. alcohol by volume (14 to 14.1 by weight).

It is said to be made from beef, milk and wheat by digesting the protein with pepsin and pancreatin and the carbohydrates with pancreatin and malt diastase.

It is a light brown fluid of aromatic taste and odor and acid in reaction. Its specific gravity is 1.047 to 1.049.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Liquid Peptonoids corresponds to 335 to 345.1 calories, of which 118.3 to 108.7 are due to protein and 216.7 to 236.4 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—15 to 30 Cc. (4 to 8 fluidrams) from 3 to 6 times a day. Children in proportion.

Manufactured by The Arlington Chemical Co., Yonkers, N. Y. U. S. trademark.

PANOPEPTON.

Panopepton contains 6.33 to 6.38 per cent. of nitrogenous matter (nitrogen x 6.25), 10.05 to 11.92 per cent. of carbohydrates and 17 to 20.9 per cent. alcohol by volume (15 to 18.5 per cent. by weight).

It is said to be prepared from beef and wheat by digestion with gastric and pancreatic juices. The substance obtained by the digestion is mixed in fixed proportion of protein and carbohydrate, sterilized, concentrated in vacuo and dissolved in fortified Spanish sherry wine.

It is a light brown fluid, acid in reaction and possessing largely the odor and taste of sherry wine. Its specific gravity is 1.063 to 1.023.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Panopepton corresponds to 359.1 to 396.3 calories, of which 151.9 to 153.1 are due to protein and 244.4 to 206 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—8 to 16 Cc. (2 to 4 fluidrams) several times a day and at bedtime; for infants from a few drops to 2 Cc. (30 minims).

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark.

(To be continued.)

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[*For other information see second page following reading matter.*]

SATURDAY, JUNE 1, 1907.

"VITAL ACTION" OF CELLS IN THE LIGHT OF MODERN RESEARCHES.

As we secure more insight into the exact nature of the processes by which living cells carry on their functions, we find that the phenomena ascribed to "vital action" become fewer and fewer, for this phrase is, in the last analysis, simply the lumber room into which we would throw all the manifestations of life which we are not yet able to explain. There seems, indeed, to be little ground left for opposing the dictum that all the so-called vital activities of cells are merely the result of natural and well-known forces acting according to commonly observed and easily understood laws, but which seem to us to be something mysterious and incomprehensible simply because the processes occur under extremely complex conditions. There will long be many who will hold in reserve certain fields in which, according to their belief, simple physical explanations will not be found adequate; but even they must admit that the phenomena ascribable to vital action are being steadily decreased in number.

One of the strongholds of the "vitalists" staggered when it was shown that many of the activities of living cells are due to intracellular enzymes, and fell when it was demonstrated that all enzymes act according to simple laws of physical chemistry and are quite the same in principle as the strictly inorganic catalyzers, such as platinum black. Still, the power of enzymes to disintegrate complex substances was not strikingly vital when compared with the power possessed by living cells, and apparently possessed by them alone, to build up these same complex substances from simpler ones—and so the gap between cell life and the action of intracellular enzymes seemed to be a wide one. But it soon developed that this gap was more apparent than real, for, as van t'Hoff had predicted, the action of animal enzymes was found to be the same as that of inorganic catalyzers—namely, their action consists merely in hastening chemical processes toward an equilibrium, no matter whether that equilibrium demands a breaking down or a building up of molecular compounds.

At first we knew of enzyme actions only as destructive processes, resulting in the disintegration of large molecules into smaller ones, and it was not until 1899, when Croft Hill demonstrated that the enzyme maltase not only splits maltose into glucose, but conversely will combine glucose molecules to form maltose, that we became assured that van t'Hoff's interpretation of enzyme action was correct. Soon after (1901) Kastle and Loevenhart of Kentucky showed that the lipase of animal tissues will not only cause esters, such as ethyl butyrate, to separate into their component alcohol and acid, but when acting on the free alcohol and acid themselves will cause them to unite and form the esters. Neilson soon found that inorganic catalyzers, such as platinum black, could accomplish the same synthesis. At first the attempts to synthesize by enzyme action such fats as occur in the animal body were unsuccessful, but in 1904 Taylor of California reported that by the action of lipase from the castor bean on oleic acid and glycerin he had obtained the formation of triolein, which is the most abundant of the human body fats. Here, at last, was a demonstration that a complex constituent of the animal body can be synthesized outside the body by the action of enzymes, conclusively proving that no vital action of cells is essential for the formation of fats; for this synthesis may be performed by enzymes which can be demonstrated to follow simple laws of physical chemistry, independent of any mysterious element.

The corresponding synthesis of a protein by means of the action of enzymes on its components might seem to be a hopeless task, were it not that we have always before us the evidence that such a synthesis is continually going on in the animal body. According to all the evidence obtainable, the proteins of the food are decomposed into their constituent amino-acids before passing through the wall of the intestine, and as they do not seem to be present in any considerable amount in the blood coming from the intestine it is considered probable that they are resynthesized into proteins in their passage through the intestinal wall. As proteins are known to be disintegrated into amino-acids in the wall of the intestine by the enzyme erepsin, it is possible that the synthesis represents merely a reversible process on the part of the proteolytic enzyme, just as fats are split and recombined in the wall of the intestine by the lipase of the mucosa. Nevertheless, many attempts to synthesize proteins in the laboratory by permitting proteolytic enzymes to act on the products of protein digestion failed; even the simple peptids of Fischer could not be obtained in this way. At a recent meeting of the Society for Experimental Medicine and Biology in New York, however, a successful synthesis of protein by this means was reported by A. E. Taylor of the University of California.[1] The protein formed was one of the "simplest proteins" of Kossel, or protamins, which are characterized by the relatively small number of different amino-acids contained in their molecule. Such a protamin was digested with trypsin, and the products of digestion, free from all protamin, were acted on for five months by a trypsin obtained from a marine mollusc, which is much more resistant to self-digestion than mammalian trypsin. At the end of this time enough protamin had been formed to identify as the same as the material originally used. This experiment, therefore, seems to fulfill the prediction that even the formation of proteins can be accomplished by the same enzymes which ordinarily disintegrate them, according to the general laws of the action of catalyzers. The assumption that similar syntheses occur in the living body is now certainly warranted, and we move a long step forward toward demonstrating that even so typically vital a process as the formation of cell proteins differs not at all in principle from the most simple synthetic processes of the chemical laboratory.

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[1] Journal of Biological Chemistry, May, 1907.

THE SHIP SURGEON.

Many internes have now completed their hospital services and are seeking a vacation before entering on active practice, and a much greater number of students will presently take their degrees after several laborious years. As only a small proportion of the latter can secure hospital appointments some way by which the others can combine remunerative work with wholesome recreation is desirable.

For such men positions as ship surgeons are ideal; these positions may be held for a few months. English graduates gladly take them. Students are often worn out by their long terms of mental and physical work, and a few trips across the Atlantic or to Indian and Chinese ports are of great benefit. As arrangements for this work are made in the home offices of the companies, British physicians have the advantage of us, for their merchant marine commands a far greater number of ships, which visit nearly every mundane port, and their ships, even those which come to our coast cities, naturally have English physicians. The ships owned by American companies have as naturally American physicians engaged.

The ship surgeon must be exceedingly well-equipped. He may be the only physician on board, and, of course, he is the only one in authority, having all the responsibilities which go with authority. He must be a competent surgeon, though he may not once in several voyages be called on for major work; nevertheless, at any hour a life may have to be saved entirely by his ability to remove an appendix or a dural blood clot. Among the crew fractures and dislocations may occur at any moment. His ideas concerning all the infections must be very precise; and he must have altogether adequate knowledge concerning sanitation and the principles of quarantine; else the blame for preventable deaths, not to speak of serious economic losses to his employers, would be laid on his shoulders. If there is a large steerage his obstetric abilities may be taxed, and he may devoutly hope that on such occasions there will not be a heavy sea. His skill in psychotherapeutics will be called into play in seasickness; probably no other means has ever proved really effective.

But apart from professional matters, an experience as ship surgeon should be very beneficial. The young physician has his views of life wonderfully expanded. His time for recreation is ample. During every trip he will meet most engaging people, cultivated men and women (many of them teachers) on their vacations, with whom conversation will be a continual delight; and citizens of European countries whose opinions will certainly have a liberalizing effect on his not yet matured mind. Between voyages he may make brief visits to great cities, which contain so much that is essential to a liberal education.

As we have intimated, however, we would not suggest such a position as a life career; the income can never be large and, taking it month in and month out, there is not enough professional work to fill in a live man's time.

PROTECTING THE FOOL FROM HIS FOLLY.

The believers in the *laissez-faire* principle in economics hold that the government exceeds its rightful functions when it makes laws for the protection of the individual against himself. The modern tendencies in some quarters toward paternalism in government have caused a reaction which expresses itself in the "let alone" principle of the French physiocrats. Abuses should be remedied, such economists hold, by a campaign of education through which the wrong will automatically right itself.

A correspondent recently raised the question[1] whether the campaign against the nostrum evil had not, from an educative standpoint, reached its limits. We are optimistic enough to believe that it has only just begun. But possibly, as our correspondent says, the time has arrived when the fool must be saved from his folly by laws conservatively made and stringently enforced. Such laws, however, must have their origin in the work of an enlightened public opinion such as can only be had as the result of a campaign of education. Laws are a success or a failure in direct ratio to the extent they are backed by public sentiment. It is the duty of the physician, with his peculiarly intimate knowledge of the wrong wrought by these medical frauds, to take the initiative in instructing the public. The use of that great educator, the daily press, is not available at present—for reasons sufficiently evident—or such laws would have been on the statute books long ago. In fact, to such an extent have the newspapers lost their sense of moral perspective in the acceptance of advertisements that, as was recently noted,[2] it became necessary for the United States Postoffice Department to interfere. It seems that permission to use the daily press for fraudulent and criminally indecent purposes was restricted only by the ability to pay advertising rates.

But there are signs of an awakening in this regard among the better class of newspapers, and the time is not far distant when they may be counted on to throw their great influence on the right side. With the public in its present temper on the question of medical fakes and fakirs the psychologic moment seems to have arrived for the medical profession to take a hand in the campaign against the nostrum evil and quackery. It is worthy of remark in this connection that a consistent cleansing of the Augean stables of self-doping on the part of the public will call also for a degree of housecleaning in the ranks of the medical profession. The intelligent layman who looks into the subject will begin to ask awkward questions. He will ask what is the difference between the woman who self-prescribes, let us say, Wine of Cardui on the strength of extravagant advertisements in the daily press and the physician who prescribes for the same woman Vin Mariani solely on the therapeutic claims made by its manufacturers in medical publications? He will wonder wherein lies the difference between Orangeine, with an acetanilid content frankly acknowledged, and the "ethical" (?) physician-prescribed proprietaries Labordine, Phenalgin, etc., which, while warning against the dangers of prescribing acetanilid, depend for their therapeutic effect on that drug? He will ask, in other words, why is not sauce for the lay goose condiment for the professional gander? And such questions are in themselves an answer to our correspondent's query as to whether educative methods have reached the limits of their usefulness.

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[1] Fridenberg (P.): The Great American Fraud, The Journal A. M. A., May 25, 1907, 1794.

[2] The Journal, May 25, 1907, 1780.

SEWAGE AIR INFECTION.

Some years ago sewer gas was a popular bugaboo and was credited with the origination of many ailments that we now know to be caused by germs, the conveyance of which can usually be more easily explained than by way of sewer emanation. It is admitted, of course, that noxious gases from putrefying sewage may have evil effects on health, and it is possible also that bacteria liberated through the bubbles from such escaping gas may be carried into human dwellings or separated from dried sewage in the pipes and also thus conveyed. The main factors, however, are now looked for elsewhere, at least to a greater extent than was formerly the case, and it is not usually believed that bacteria are liable to escape and be carried through the house pipes from a well-arranged sewerage system. Some recent experiments, however, by W. H. Horrocks[1] seem to show that even fresh sewage may still be dangerous under certain conditions. He found that the bursting of bubbles could liberate bacteria, and that these could be carried considerable distances by any air currents that were present. He also found that the same currents could also liberate and convey germs that had dried on the surface of the pipes. This was naturally expected, but he found, too, that typhoid bacilli could be given out by fresh sewage flowing through a well-drained sewer under natural conditions, independently of bubbles and the separation of dried particles from the walls. The sewer peril, therefore, still exists and disconnecting traps are sanitary necessities. It is possible that we may still have to look to sewer emanations as the occasional cause of mysterious outbreaks of disease. Air-borne typhoid is a reality under other conditions, and apparently we shall have to recognize a possibility, though perhaps a remote one, of its conveyance by the old-fashioned sewer gas.

A LEGAL OPINION OF THE MEDICAL PROFESSION.

The successful physician seems to be looked on as the legitimate prey of those blackmailers whose extortion takes the form of malpractice and damage suits. Too often the court seems disposed to place the burden of proof on the physician, requiring him, the defendant, to prove his innocence rather than have the plaintiff prove the physician's guilt. It is a matter for satisfaction, therefore, to find a jurist who gives the medical profession its rightful due. In the case of a malpractice suit reported[1] from Ohio, Judge Blair, after listening to the evidence of several local physicians, took the case from the jury and instructed a verdict for the defendant. The attorney for the plaintiff, in protesting against this action, said that it is impossible to make a case against a physician because the members of the medical profession are under obligations to endorse each other's statements. He intimated that medical men when testifying in damage suits presented an unequivocal denial of malpractice, regardless of the facts in the case. In his ruling Judge Blair stated that for years he had been a close observer of the members of the medical profession and as a class he had found them "possessed of every element of honor." In commenting on the fact that some of the best young men from his county had taken up medicine as profession, he said that he believes they had not "lost any of their manhood or moral make-up" in so doing. Neither did he think for moment that "any physician would perjure himself on the witness stand to shield another." It is but fair to say that the over-zealous attorney whose remarks called forth this caustic but appropriate comment disclaimed any intention of intimating that physicians would swear falsely.

ACUTE PANCREATITIS.

It can not be said that a final decision has been reached with respect to the etiology of acute pancreatitis. Many causes have been assigned for this disorder, but there has been so little constancy in the activity of any of the factors held responsible that for the present it must be concluded that a considerable number of these are operative under different conditions. These causative factors may be divided into three groups, comprising: (1) Obstruction of the biliary or pancreatic ducts, with retrojection of secretion; (2) infection from the gastrointestinal tract or contiguous disease or through the general system; (3) traumatism. Fat necrosis and glycosuria are not uncommon complications. As the result of an analysis of 105 cases of acute pancreatitis recorded in the literature,

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[1] Proc. Roy. Soc., Dec. 6, 1906, Nature, April 18, 1907.

[1] Portsmouth (Ohio) Daily Blade, May 11, 1907.

Dr. Anfin Egdahl,[1] who reports two additional cases, reaches the conclusion that gallstones are probably the most common single cause of acute pancreatitis—these two conditions having been associated in 42 per cent. of the cases. Gastrointestinal disorders were found to be the next most common cause—namely, in 30 per cent. Among other causative factors were typhoid fever, pulmonary tuberculosis, mumps, traumatism, syphilis, embolism, appendicitis, malaria and gastric ulcer. The organism most commonly present in the inflamed tissues was the *Bacillus coli communis,* streptococci and staphylococci occurring next in frequency. Of the acute febrile diseases typhoid was the most common antecedent, but in this connection some allowance must be made for the general frequency of that disease.

THE BLOOD PRESSURE IN RENAL TUBERCULOSIS.

The fact that in most forms of nephritis, in practically all chronic forms especially, the blood pressure is increased, is one which has been taken advantage of in diagnosis. That certain diseases of the kidney which may be confounded with nephritis are not associated with a rise in blood pressure is an observation not yet widely realized. Reitter[2] has recently studied a series of cases of renal tuberculosis, comparing them especially with the infectious types of nephritis with which they are most likely to be confounded, and finds that in the individuals with tuberculosis there is, practically without exception, a hypotonia. A rise of blood pressure was not present in all cases of pyelitis and pyelonephritis, but in none of these cases was there an absolute hypotonia. Observations of this kind indicate the value of exact measurement of the blood pressure in diagnosis, especially in the diagnosis of kidney lesions. Such estimations must, of course, be made by means of a sphygmomanometer, the inaccuracy attending digital estimation having been frequently demonstrated.

GONORRHEA AND VERTEBRAL RHEUMATISM.

The etiology of rheumatism is still in a rather hazy condition, though much has been done in recent years to dispel the mist. No one doubts, however, that there are still grouped under the generic term rheumatism a variety of joint lesions of unlike etiology. The spinal form of arthritis deformans is now well known in its severer forms, but the milder varieties of vertebral joint inflammation are often ascribed to rheumatism, or classed as lumbago or torticollis. Bouchard[2] has recently described a form of spinal arthropathy of a chronic nature which is usually mild in its manifestations, but may be severe, and then constitutes, he thinks, the so-called *"Spondylose rhizomélique"* of Marie. In its usual form the condition attacks one segment of the spinal column, the lumbar, the dorsal, or the cervical. The symptoms are limitation of movement, at times going on to ankylosis, deformity of the spine, and sometimes the formation of osteophytes. The picture described is familiar to clinicians in this country, and would doubtless be classified by most of them as arthritis deformans. Bouchard claims that such cases are gonorrheal in origin, and that they may develop years after an acute attack when there is no evidence of the disease, but some old focus of chronic inflammation in the prostate or vesiculæ seminales.

Medical News

ARKANSAS.

Personal.—Dr. Orange K. Judd has been elected city physician of Little Rock.——Dr. A. E. Tatum has been selected as president; Dr. J. Fred Bolton, secretary, and Henry Pace as a member of the board of health of Eureka Springs.

Commencements.—The twenty-eighth annual commencement exercises of the University of Arkansas, Medical Department, Little Rock, were held May 1, when a class of 26 was graduated. The annual address was delivered by Prof. J. H. Reynolds of the University of Arkansas, and the degrees were conferred by acting governor Hon. John I. Moore.——The first commencement of the College of Physicians and Surgeons, Little Rock, was held April 30, when a class of eleven received diplomas. The address was delivered by Hon. C. T. Coffman; the faculty valedictory was delivered by Dr. Stradder U. King, and the degrees were conferred by the dean, Dr. Joseph P. Runyan. At the annual banquet Dr. C. R. Shinault was toastmaster.

Society Meetings.—The Independence County Medical Society, at its annual meeting in Batesville, April 15, elected Dr. William D. Hankius, Salado, president; Dr. William B. Lawrence, Batesville, secretary, and Dr. R. H. Hodges, Newark, treasurer.——At the recent meeting of the Washington County Medical Society, held at Fayetteville, Dr. Dodson Christman, Springdale, was elected president; Dr. James Pittman, Prairie Grove, vice-president; Dr. J. R. Southworth, Fayetteville, secretary; Dr. Albert L. Moore, Fayetteville, treasurer, and Dr. Harvey D. Wood, Fayetteville, librarian.——At the recent meeting of the Jackson County Medical Society, held at Newport, Dr. Henry O. Walker was elected president; Dr. Oscar A. Jamison, vice-president; Dr. George K. Stephens, secretary, and Dr. Oscar E. Jones, treasurer, all of Newport.——At a meeting of the Desha County Medical Society, held at McGehee, Dr. Fred L. Duckworth, Walnut Lake, was elected president; Dr. R. R. King, vice-president; Dr. Jasper M. Stuart, McGehee, secretary.——The colored physicians and dentists of Jefferson County met at Pine Bluff, April 9, and organized a county association, electing Dr. John W. Rowland, president; Dr. George A. Flippin, vice-president; J. W. Parker, treasurer; F. P. Lytes, secretary, and Mr. F. W. Hunter, librarian, all of Pine Bluff.

CONNECTICUT.

Infectious Diseases.—During April, 355 cases of measles were reported from 47 towns; 162 cases of scarlet fever from 41 towns; 159 cases of diphtheria from 41 towns; 48 or more cases of whooping cough from 13 towns; 49 cases of consumption from 22 towns; 29 cases of typhoid fever from 16 towns, and 4 cases of cerebrospinal meningitis from 4 towns.

Society Meeting.—The Windham County Medical Association held its one hundred and fourteenth annual meeting in Willimantic, April 25. Dr. Charles J. LeClaire, Danielson, was elected president; Dr. Robert C. Paine, Thompson, vice-president; Dr. James L. Gardner, Central Village, secretary-treasurer; Dr. Frank E. Guild, Windham, councilor, and Dr. Theodore R. Parker, Willimantic, delegate to the state association.

Personal.—Dr. Charles A. Tuttle, New Haven, has been appointed a member of the consulting staff of the Bridgeport Hospital.——Dr. Lucy Creemer Peckham, New Haven, is reported to be seriously ill with heart disease at her home.——Dr. William N. Winne, Westville, has been appointed medical examiner for Woodbridge and Bethany, vice Dr. John W. Barker, Woodbridge, deceased.——Dr. Francis S. Skiff, Falls Village, is reported to be critically ill at the House of Mercy, Pittsfield, following a second operation for appendicitis.——Dr. Henry F. Stoll, Hartford, has contracted tuberculosis and has gone to Asheville, N. C., for his health.

April Deaths.—During the month of April 1,444 deaths were reported to the State Board of Health, 158 less than in March, 16 less than for the corresponding month of 1906, and 100 more than the average deaths for April for the five years preceding. This mortality is equivalent to an annual death

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1. Bull. Johns Hopkins Hosp., April, 1907, p. 130.
2. Ztschr. für klin. Med., lxii, 1907.

rate of 16.8 per 1,000. The deaths from infectious diseases were 261, or 18.4 per cent. of the total mortality. Pneumonia causes 208 deaths; heart diseases, 149; nervous diseases, 137; consumption, 125; accidents and violence, 74; influenza, 43; bronchitis, 35; diphtheria, 31; whooping cough, 19; measles and cerebrospinal meningitis, each, 9, and scarlet fever and typhoid fever, each, 8.

DELAWARE.

Anti-Spitting Ordinance.—Dr. Harrison W. Howell, Wilmington, president of the State Board of Health, has drafted an anti-spitting ordinance for Wilmington to make it unlawful to spit on any sidewalk or on the public floor of any hotel or lodging house, or on the floor, platform, steps or stairs of any public building, church, store, factory, street car, etc., and providing for a fine of from $5 to $20.

Tuberculosis Sanatorium.—The executive committee of the Delaware Anti-Tuberculosis Society met at Wilmington, April 12, when definite plans were arranged for the inauguration of a tuberculosis sanatorium, to be built near that city. There are to be ten plain wooden houses first erected, and during the summer an endeavor will be made to raise money to establish an administration building on the grounds.

ILLINOIS.

Personal.—Dr. and Mrs. Thomas C. McCord, Paris, sail for Europe, June 8.——Dr. Ralph T. Hinton, Quincy, has been appointed assistant physician at the Illinois Central Hospital for the Insane, Jacksonville.——Dr. John R. Tobin, Elgin, has been appointed surgeon for the Elgin & Belvidere Railroad.

Contagious Diseases.—Scarlet fever and diphtheria in mild type are prevalent in Bloomington, where 13 houses have been placed under quarantine.——The smallpox epidemic at Plainfield is reported to be subsiding. Out of a total of 27 families quarantined all have been released except six, and no new cases have developed.

Physicians Acquitted.—In the suit brought by John Gonsalve against Drs. Daniel M. Otis and Charles J. Graser, Springfield, to recover damages for a postmortem examination, alleged to have been made without the consent of relatives, the jury sustained the plea of the defendants that the deceased was a dependent person, and returned a verdict of not guilty.

Optometry Bill Vetoed.—Governor Deneen has vetoed the bill to regulate optometry. The Illinois State Medical Society, at its meeting in Rockford on May 23, extended a vote of thanks to Governor Deneen for his action. With the veto of this bill the medical profession of Illinois has succeeded in killing every objectionable bill introduced in the Forty-fifth General Assembly, including four "osteopathic," two "medicine peddler," two "optician," three "magnetic healer" and one "antivivisection" bill. Incidentally, every measure strongly supported by the medical profession became a law.

Chicago.

Fenger Memorial.—The Fenger Memorial Research Fund now amounts to about $5,000. It is the hope of the incorporators to raise the amount to $25,000, which will give an annual income of from $1,000 to $1,500 for the prosecution of original research work.

Death Report.—The deaths from all causes for the week ended March 25 numbered 641, or 66 less than for the preceding week, and 11 less than for the corresponding week of 1906. Pneumonia still led death causes with 158. Consumption caused 76 deaths; violence (including suicide), 49; nephritis, 42; heart diseases, 40; acute intestinal diseases, 30; measles, 15; scarlet fever, 11; diphtheria, 8; whooping-cough, 3, and typhoid fever and influenza, each 2.

Quack Advertisers Debarred.—The Assistant Attorney General for the Postoffice Department at Washington has notified the Chicago postmaster that the Postmaster-General has declared unmailable certain advertisements because they contain information as to where abortifacients and criminal operations can be obtained, in violation of the provisions of the statutes of the United States. It is ordered that any papers carrying these advertisements will be refused admission to the mails, and the newspapers of Chicago have been notified to this effect. The advertisements in question are of the following:

Dr. McGrath, 78 State Street.
Dr. E. J. Dennis, 163 State Street and 182 State Street.
Dr. Henry and Dr. R. Henry, 145 and 146 State Street.
Top Floor, Dr. Martha Walker and Dr. Martha Walker Remedy Company, 1448 State Street.
Woman's Remedy Company, 182 State Street.
Mrs. A. Becker, 595 West Monroe Street.
Mrs. Bing, 328 East North Avenue.
Mrs. Horta Faustman, 484 North Clark Street.
Mrs. Reb, 484 North Clark Street.
Dr. Lucy Hagenow, 480 North Clark Street.
Ida von Schultz, 480 North Clark Street.
Mrs. Malchrowitz, 385 Wells Street.
Private Hospital, 279 West Adams Street.
Dr. Josephine Rafferty, 1840 Indiana Avenue.
Mrs. Swift, 3326 Indiana Avenue.
Mrs. White, 2509 Wabash Avenue.
Dr. W. F. Briney, 182 State Street.
Dr. Carpenter, 148 State Street.
North Side Dispensary, 1841 Clark Street.
Private Medical Institute, 185 Dearborn Street.
Dr. Arnold, 182 State Street.

Directions have also been given by the Postmaster-General, under the provisions of the act of March 2, 1889, to treat as fictitious all mail addressed to the following of the above names, which are assumed and fictitious: Dr. Henry and Dr. R. Henry, Woman's Remedy Company, Top Floor, Dr. Martha Walker and Dr. Martha Walker Remedy Company, Private Hospital, North Side Dispensary, Private Medical Institute and Dr. Arnold.

INDIANA.

Commencement.—The commencement exercises of the Indiana University School of Medicine and the affiliated State College of Physicians and Surgeons were held at Indiana University May 18. The medical degree was conferred by Indiana University on a class of 25. The address, "Medical Education in America," was delivered by Dr. Arthur Dean Bevan of Chicago. At the banquet following the exercises announcement was made of the presentation by Dr. Bevan of a $75 microscope as a prize for the best student in anatomy next year.

Personal.—Dr. George C. Maughner, Kokomo, was dangerously injured May 19, by a collision between the autmobile in which he was riding and a street car.—Dr. Zelotus C. Wolfe, Corydon, who has been seriously ill with pneumonia, is convalescent and has gone to West Baden.——Dr. Philip Warter has taken charge of the department of nervous diseases at the Gilbert Memorial Sanatorium, Evansville.——Dr. John R. Mauk, Cambridge City, the oldest member of the Wayne County Medical Society, was presented with a cane at a meeting of the society, May 20.

LOUISIANA.

Personal.—Dr. Archibald B. Nelson, Arcadia, has been appointed coroner of Bienville Parish, vice Dr. John H. Givens, deceased.——Drs. Carrollton Cammack and C. C. Jauquet have been appointed resident surgeons at the Eye, Ear, Nose and Throat Hospital, New Orleans.

Society Meeting.—The Calcasieu Parish Medical Society held a meeting for reorganization at Lake Charles, April 26, of which Dr. Allen J. Perkins was temporary chairman. The following officers were elected: President, Dr. Valarion A. Miller, Lake Arthur; vice-president, Dr. Thomas H. Watkins, Lake Charles, and secretary-treasurer, Dr. Samuel Kreger, Lake Charles.

Hospital Notes.—The New Orleans Eye, Ear, Nose and Throat Hospital treated 6,464 patients during last year, 3,113 of whom were in the eye department, 3,283 in the ear, nose and throat department, 56 in the dermatologic and 12 in the dental. The total consultations were 43,840, an increase of 3,322 over the preceding year. The following staff was re-elected: Dr. Arthur W. DeRoaldes, surgeon-in-chief; Dr. Henry D. Bruns, surgeon in charge of the eye department; and Dr. Gordon King, surgeon in charge of the ear, nose and throat department.——The formal dedicatory exercises of the New Orleans Convalescent Home were held May 5. An address was given by Rev. W. T. Palmer, and the history of the home was given by Rev. John A. Rice. The institution has a capacity of 22 beds, of which 20 are for male patients.

MARYLAND.

Baltimore.

Against Mosquitoes.—Dr. William N. Hill, head of the "Mosquito Brigade," is delivering illustrated lectures before various business organizations of the city in prosecution of the war against mosquitoes.

Commencement.—The ninth annual commencement of the Maryland Medical College was held May 23, when a class of 29 was graduated. Dr. J. B. Schwatka conferred the diplomas and Dr. G. Milton Linthicum delivered the doctorate address.

Pure Milk Crusade.—The Babies Milk Fund Association, which was founded in 1904 and has eight stations in the city, and of which Dr. J. H. Mason Knox is medical superintendent, is seeking assistance in its work of furnishing pure milk, and instructing mothers as to the feeding of infants.

Personal.—Drs. E. H. Brannon, William W. Hala and William L. Brent of the Insane Department of Bay View Asylum have resigned.——Drs. Thomas S. Cullen, S. Griffith Davis and Nathan R. Gorter are taking a trip to Chicago and Rochester, Minn.——Dr. Newdigate M. Owensby, physician in charge of the insane department of Bay View Asylum, is inspecting the insane hospitals of England and Scotland.——Dr. William G. Simon, who has been in charge of the Henry Bower Chemical Company for 37 years, has resigned and will soon sail for Europe.

MASSACHUSETTS.

Meningitis.—The spread of cerebrospinal meningitis is alarming the physicians of Boston. During the first four months of the year, 45 patients were treated at the City Hospital, as against 31 cases during the first four months of 1905. The death rate for 1905 was 63 per cent. and for this year 75 per cent.

Personal.—Dr. William L. Richardson has resigned the chair of obstetrics and the deanship of Harvard University Medical School.——Dr. Samuel H. Durgin has been elected chairman of the Boston Board of Health.——Dr. Henry A. Christian has been appointed chief physician at the Carney Hospital, South Boston, and Dr. Thomas J. Leen, Charlestown, assistant.

To Suppress Rabies.—At the Boston Medical Library meeting May 1, the session was devoted to the consideration of rabies. Dr. Charles P. Sylvester spoke on "Hydrophobia and Its Prevention;" Dr. Austin Peters on "Rabies in Massachusetts, Its Prevalence and Methods of Prevention," and Dr. Langdon Frothingham on "The Diagnosis of Rabies." The number of cases of rabies in Massachusetts during the last year has been very large. In some localities the skepticism and inactivity of the public have been such that the enforcement of proper restrictive measures is difficult. It is believed that rabies can be eradicated in six months if the community will only insist on measures similar to those which have resulted in its suppression in Great Britain.

Society Meetings.—At the annual meeting of the Worcester North Medical Society, April 23, the following officers were elected: President, Dr. Alvaro Mossman, Westminster; vice-president, Dr. John G. Henry, Winchendon; secretary, Dr. Walter F. Sawyer, Fitchburg; treasurer, Dr. Eustace L. Fiske, Fitchburg; committee on trials, Dr. Luther G. Chandler, Townsend, and librarian, Dr. Atherton P. Mason, Fitchburg.——At the quarterly meeting of the Berkshire County Medical Society, held in Pittsfield, April 25, the following officers were elected: President, Dr. George L. Rice, North Adams; vice-president, Dr. John J. Hassett, Lee; secretary, Dr. Isaac S. F. Dodd, Pittsfield; treasurer, Dr. William L. Paddock, Pittsfield, and commissioner on trials, Dr. Albert T. Wakefield, Sheffield.——At the annual meeting of the Essex North District Medical Society, held at Lawrence, May 1, resolutions were adopted concerning insurance examination fees. The comprehensive form forwarded by the Kentucky State Association and approved by the American Medical Association was favored and a copy will be sent by the secretary to all legally qualified physicians in the jurisdiction of the society and to all insurance companies licensed in Massachusetts and paying less than $5 for medical examinations. The society will take up at the next meeting a discussion of the evils of contract and lodge practice. The following officers were elected: President, Dr. William J. Sullivan, Lawrence; vice-president, Dr. Charles E. Durant, Haverhill; secretary-treasurer, Dr. Maurice D. Clarke, Haverhill; corresponding secretary, Dr. Robert D. Hamilton, Newburyport, and commissioner of trials, Dr. John F. Young, Newburyport.——The following officers have been elected for the Massachusetts Emergency and Hygiene Association: President, Dr. James J. Minot; vice-presidents, Drs. Henry P. Walcott, Charles B. Porter, Frank Wells, William L. Richardson, Oliver F. Wadsworth and Elbridge G. Cutler; treasurer, Dr. Harry W. Goodall, and members of the executive committee, Drs. Arthur K. Stone, William H. Devine and Thomas J. Manahan, all of Boston.

MICHIGAN.

Tuberculosis Colony.—The city council of Kalamazoo has decided to establish a municipal tuberculosis colony on the hills near the city.

Commencement.—The thirty-ninth annual commencement of the Detroit College of Medicine was held May 30 at the Light Guard Armory.

Contagious Diseases.—Diphtheria has broken out at Big Rapids, where several cases and one death have occurred.——Seven cases of smallpox have been reported at Saginaw during the last week.——The smallpox patients at the Detention Hospital, Calumet, are doing well and a decrease in smallpox has resulted from the vigorous efforts of the health board.——Smallpox is said to have been prevalent in Sturgis since last fall, where it was known as "brass-molders disease." Dr. Frank W. Shumway, Lansing, secretary of the State Board of Health, who investigated, found 30 cases of smallpox.

MISSOURI.

Interne Examination.—A competitive examination for 32 interneships at the City and Emergency hospitals, St. Louis, was held May 20. Fifty-seven applicants took the examination.

Graduation Exercises.—The seventeenth annual commencement of the St. Louis University was held May 18, when a class of 56 was graduated. Prof. George Neil Stewart delivered the doctorate address on "The Outlook in Medicine."

Quarantine Boat.—The new quarantine boat of the health department made its initial trip to the Isolation Hospital, May 1. The boat has been built at a cost of about $5,000, and will be used for the conveyance of contagious-disease patients to the Isolation Hospital, two miles below Jefferson barracks.

Tuberculosis Sanatorium.—The Missouri State Tuberculosis Sanatorium, Mt. Vernon, will be formally opened June 1. The institution has accommodation for 50 patients. The Board of Managers met and organized May 16. Dr. Jesse L. Eaton, Bismarck, was elected president, and Dr. William Bayliss superintendent.

Personal.—Dr. Joseph P. Ghio has resigned as a member of the staff of the St. Louis City Dispensary. Dr. Arthur Friedeberg, who succeeded Dr. Ghio, resigned after two days' service.——Dr. Harry M. Thomas, St. Louis, has accepted an appointment as Sunday school missionary of the Presbyterian Church.——Dr. Albert H. Myerdick has been appointed assistant chief dispensary physician of St. Louis.——Dr. John C. Hickerson has been appointed emergency physician and Dr. Benjamin F. O'Daniel city physician of Independence.

Tribute to Ian Maclaren.—The St. Louis Medical Society at a recent meeting bore witness to its regret at the death of Rev. John Watson by adopting the following preamble and resolution:

> Whereas, In drawing the character of Dr. Weelum MacLure as a doctor of the old school, Ian Maclaren paid a well-merited tribute to the integrity, faithfulness and unselfishness of the medical profession—the justness and fidelity of which picture is evidence by the early, wide and continued popularity of his book, "Beside the Bonnie Briar Bush;" therefore,
>
> *Resolved,* That the St. Louis Medical Society testifies its deep regret at the sudden demise of the author, Rev. John Watson, which occurred on the 7th instant, and in recognition of his service to our profession would earnestly recommend to all medical men a study of the character of Dr. Weelum MacLure, depicted in the writings of Ian Maclaren, as a conspicuous example of the high standard of conscientiousness and devotion to duty which it is incumbent on all true physicians ever to uphold in their professional life and work.

NEW JERSEY.

School Physicians Authorized.—The school board of Atlantic City has authorized two physicians, at a salary of $400 per annum each, whose duty it will be to look after defective children and pupils who need medical attention.

Personal.—Dr. William H. Pounds was appointed president of the newly organized board of health of Paulsboro, and Dr. George C. Laws was appointed medical inspector.——Dr. Charles H. Braddock, chief medical inspector of the Siamese government, has returned to his home in Haddonfield.——Dr. Laban Dennis, president of the Newark Bureau of Associated Charities for 24 years, resigned at a meeting of the Bureau May 20.

State Tuberculosis Sanatorium.—Dr. Henry Davis of Camden was elected medical superintendent of the State Sanatorium for Tuberculosis, Glen Gardner, May 24. The position carries a salary of $3,600. The sanatorium, erected at a cost of $250,000, will be opened for the reception of patients in August. The Tuberculosis Commission reorganized for the year by electing the following officers: President, W. C. Jones, Camden, and vice-president, Dr. Elmer Barwis, Trenton.

NEW YORK.

New Convalescent Home.—The Society for Improving the Condition of the Poor has started a home at Hartsdale, N. Y., known as the Caroline Rest, where East Side mothers are sent after confinement to regain strength, and to learn how to care for their infants. The name of the donor of the funds for the founding and support of this work has been withheld from the public.

Two Bills for Legislature.—A new bill would make it a felony for a person having in his charge a human being, sick or disabled, to fail to provide attendance of a competent licensed physician, or, if unable, to notify the local board of health. In the latter case the board shall furnish a physician and medicines.——Another bill is being prepared which provides for the placing of physicians in police stations to examine prisoners charged with intoxication. This bill will be hurried in on account of Dr. C. A. Foster's death in a police station, where he had been taken by a policeman who supposed he was suffering from alcoholism, when in reality he had uremia.

New York City.

Lowest Death Rate of Year.—The death rate for the week ended May 18 was the lowest of the present year, being at an annual rate of 17.91 per 1,000, while that for the corresponding week of last year was 19.66. The number of deaths from typhoid fever was 18, as against 4 for the corresponding week of last year.

Personal.—Drs. and Mesdames S. Oakley Vander Poel, Walter B. James and John A. Robinson have sailed for Europe.——Dr. Willard Parker, who has been ill for some time with rheumatism, is better.——Dr. Charles W. Pilgrim has resigned as president of the state lunacy commission and has been reappointed as superintendent of the Hudson River State Hospital——Dr. Emanuel D. Lederman has given up the practice of medicine in New York City to accept the presidency of the Sterling Realty Co., San Francisco.

Hospital Reports.—The thirty-fifth annual report of Roosevelt Hospital shows that during the year ended Dec. 31, 1906, there were 4,404 patients under treatment in the wards, while 13,460 were treated in the emergency department, but not detained in a ward. These numbers are larger than for the previous year by 370 for the ward department and by 941 for the emergency department.—Plans have been filed for the enlargement of the House of Relief of the New York Hospital, at Hudson and Jay Streets. The annex is to be 25x53 feet and will cost $40,000.

Health Department Physicians Overworked.—The physicians employed by the health department have entered a protest, claiming that they have been very much overworked and underpaid. In some instances they have been forced to work eighteen hours when they should only have worked six hours. This state of affairs is brought about when a number of physicians are ill and others have to do their work. Dr. Darlington is making an effort to reorganize the department and to make it a model department, and has assured the physicians that as soon as there is enough money more appointments will be made.

To Inspect Watershed.—Dr. Darlington and Assistant Corporation Counsel Walker are to make a personal inspection of the watershed with the idea of getting exact data as to the conditions, the continuation of which are likely to cause pollution of the city water supply. It is said that 2,000 gallons of water infected by sewage run every hour from the Mount Kisco district into the Croton system. There are more than 2,000 suspected places to be examined. The corporation counsel is laboring with the State Board of Health to have this pollution stopped and the board has indicated a willingness to do its part.

Milk Commission Reports.—The commission appointed by Mayor McClellan to investigate the condition of the milk supply has submitted its report. The advisability of pasteurizing all milk that might come under suspicion was admitted, but the conclusion was reached that the primary need in order to prevent the sale of bad milk is the organizing of a comprehensive and thorough system of inspection at the dairies and shipping centers. The report states that at least 100 inspectors for country districts from which the milk comes, in addition to the 15 now employed, should be appointed to act in such capacity as the health department may decide. The commission recommends that the board of health should according to circumstances, require efficient sterilization or pasteurization of all milk which it finds unsafe for consumption on account of suspicion of tuberculosis, or other disease of the cows, or unsanitary conditions at the dairy, or a persistent high bacterial count. In every instance milk so heated should be rapidly cooled to 40 F. The pasteurization should be done only a few hours before delivery, and should be marked with the time and date of pasteurization and the duration of the temperature employed for the purpose. In the opinion of the commission not less than 25 additional inspectors should be provided for the inspection of milk in New York City; also five additional bacteriologists and five additional chemists, with remuneration adequate to secure competent men.——The ordinance for the regulation of the sale of milk in this city has failed of passage. The issue that was made was that if there was to be pasteurization, it would have to be done at the city's expense, for to permit large companies to pasteurize their own milk would crowd out smaller dealers.

NORTH CAROLINA.

State Sanatorium Site Bought.—The state tuberculosis commission has purchased a farm of 800 acres in Moore County, on which the State Tuberculosis Hospital, authorized at the recent session of the legislature, will be located.

Commencement.—The twenty-second annual commencement of the Leonard Medical College (colored) was held , Raleigh, May 9, when a class of 20 received diplomas. The address to the graduates was delivered by Rev. W. M. Weeks, D.D., Springfield, Mass.

District Society Organized.—At a meeting of the physicians of the ten counties composing the sixth councilor district the Sixth District Medical Association was organized at Durham, April 27, with Dr. Augustus W. Knox, Raleigh, as president, and Dr. Joseph Graham, Durham, secretary.

Hospital for Epileptics.—The state hospital commission has decided to proceed at once with the erection of suitable buildings at Raleigh for the care of white epileptics and also to erect a building at Goldsboro for the accommodation of colored epileptics. Dr. James W. McNeill, Hope Mills, of the commission, and the superintendents of the three state hospitals for the insane, were designated as a committee to visit the various hospitals for epileptics in other states, and report regarding the same before proceeding with the erection.

OKLAHOMA.

Personal.—Dr. and Mrs. L. Haynes Buxton and daughter, Oklahoma City, have gone to Europe.——Dr. Eckley G. Sharp, Guthrie, was thrown from his buggy in a runaway accident, May 11, breaking two ribs.

Society Meeting.—The Central Oklahoma Medical Association, at its meeting, held in Guthrie, April 10, elected the following officers: Dr. H. Coulter Todd, Oklahoma City, president; Drs. John H. Barnes, Helena, and Newton Rector, Hennessey, vice-presidents, and Dr. George A. Boyle, Enid, secretary-treasurer.

State Association Meeting.—At the annual meeting of the Oklahoma State Medical Association, held in Shawnee, May 15-16, the following officers were elected: President, Dr. Charles S. Bobo, Norman; vice-presidents, Drs. Walter C. Bradford, Shawnee, and Floyd E. Warterfield, Holdenville, and secretary-treasurer, Dr. Eugene O. Barker, Guthrie. Sulphur was chosen as the next place of meeting.

PENNSYLVANIA.

Philadelphia.

Hospital Enlarged.—A new building is to be added to the American Hospital for Diseases of the Stomach. The new structure will be a fire-proof, four-story building, containing 35 rooms.

Personal.—Dr. William J. Roe has been appointed oral surgeon to the Philadelphia Hospital.——Dr. H. H. Bethel sailed for Europe, May 24.——Mr. Joseph L. Baldwin was appointed assistant director of health and charities, May 23.

Commencement.—The fifty-fifth annual commencement of the Woman's Medical College was held May 22. The diplomas were presented by Dr. Clara Marshall, dean of the college, and the graduating class of 29 was addressed by Dr. Earl Barnes, Montclair, N. J., a staff lecturer of the American Association for the Extension of University Teaching.

Reception to A. M. A. Guests.—The Medical Club of Philadelphia will give a reception Friday, June 7, at 9 p. m. at the Bellevue-Stratford, in honor of Dr. Joseph D. Bryant, president of the American Medical Association, the president-elect of the Association, the presidents of the medical societies of the states of Pennsylvania, Delaware and New Jersey, and other prominent physicians from this country and abroad in attendance at the Atlantic City meeting of the Association.

Receptions.—Dr. Robert Jones of Liverpool, Eng., visited the medical colleges and hospitals of this city, May 21 and 22, with a view of establishing a children's hospital in Liverpool. Dr. Jones was given a reception by Dr. H. Augustus Wilson at the University Club, May 22, at which nearly 400 physicians were present.——Dr. Susan Hayhurst, the oldest living graduate of the Woman's Medical College, was given an informal reception, May 24, at the Woman's Hospital, in honor of the fiftieth anniversary of her graduation from the college. Dr. Hayhurst has been chief pharmacist of the Woman's Hospital since 1876.

Health Report.—The report of the bureau of health for the week ended May 25 shows that the total number of deaths reported aggregated 449. This is an increase of 14 over the number reported during the preceding week and a decrease of 24 from the number reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 9; diphtheria, 10; cerebrospinal meningitis, 9; consumption, 74; cancer, 20; alcoholism, 5; apoplexy, 12; heart disease, 38; acute respiratory disease, 55; enteritis, 21; hepatic cirrhosis, 7; appendicitis, 2; Bright's disease, 43; congenital debility, 10; suicide, 5; accidents, 20, and marasmus, 4. There were 177 cases of contagious disease reported, with 19 deaths, as compared with 182 cases and 31 deaths recorded in the previous seven days.

Tablet to Dr. Jacobi.—A tablet to the memory of Dr. Mary Putnam Jacobi was unveiled in the Woman's Medical College, May 23. The presentation address was delivered by Dr. Bertha Lewis on behalf of the Alumnæ Association, and Dr. William Welch, Baltimore, accepted the tablet on behalf of the corporators. The memorial tablet is composed of brass and inscribed as follows: "In memoriam, Mary Putnam Jacobi, class of 1864, Woman's Medical College of Pennsylvania; president of the Alumnæ Association 1888-1891 and 1894-1895. Ecole de Médecine, Paris, class of 1871; professor of materia medica and therapeutics, Woman's Medical College of the New York Infirmary; professor of the diseases of children, New York Post-Graduate Medical College and Hospital; fellow of the New York Academy of Medicine. A distinguished contributor to medical literature, and one of the most eminent women of her time in the medical profession."

RHODE ISLAND.

Physicians Ill.—Drs. Robert F. Noyes and Arthur T. Jones, Providence, are reported convalescent.

Ambulance for Newport.—Col. Delancey Kane, on behalf of the summer residents, has presented Newport with an ambulance, fully equipped with horses, drivers and attendants.

Medical Society Meeting.—The Pawtucket Medical Association, at its annual meeting, elected the following officers: President, Dr. George J. Howe, Central Falls; vice-president, Dr. John H. Bennett, Central Falls; secretary, Dr. Adolph R. V. Fenwick, Central Falls; treasurer, Dr. Bernard L. Towle, Pawtucket; and member of the standing committee and councilor to the state society, Dr. Augustine A. Mann, Central Falls.

WEST VIRGINIA.

Hospital Notes.—The contract has been let for the erection of a new building for the Sheltering Arms Hospital, Hansford. The hospital will have a capacity for about 125 patients and will cost about $75,000.

Election.—At the annual meeting of the Monongalia County Medical Society, held in Morgantown, the following officers were elected: President, Dr. Cyrus H. Maxwell; vice-president, Dr. Robert W. Fisher; secretary, Dr. Francis T. Haught; treasurer, Dr. Allen Bush; delegate to the state medical association, Dr. Robert W. Fisher, and alternate, Dr. Cyrus H. Maxwell, all of Morgantown.

GENERAL.

Medical Librarians.—The tenth annual meeting of the Association of Medical Librarians, of which Dr. George Dock, Ann Arbor, Mich., is president and Dr. Albert T. Huntington, Brooklyn, N. Y., secretary, will be held at the Marlborough-Blenheim Hotel, Atlantic City, N. J., at 3 p. m., June 3.

Tropical Medicine Meeting.—The American Society of Tropical Medicine will hold a meeting in Philadelphia at the close of the Atlantic City meeting of the American Medical Association, Friday evening, June 7, at 8:15, in the amphitheater of the Philadelphia Polyclinic Hospital, 1818 Lombard Street. Dr. J. H. White of the United States Public Health and Marine-Hospital Service, medical officer in command of the New Orleans Quarantine Office, will deliver an address on "The Prophylaxis of Tropical Diseases." All physicians who are stopping in Philadelphia are cordially invited to attend.

CANADA.

Hospital News.—Winnipeg has just completed a new quarantine hospital of fifty beds.——The smallpox hospital at Winnipeg has been closed, as all the patients have been released.

Society Meetings.—At the annual meeting of the Central Ontario Medical Society held in Peterboro, April 25, the following officers were elected: President, Dr. John H. Eastwood; vice-presidents, Drs. Joseph A. Morgan and Mars McClelland; secretary, Dr. J. Malcolm McColloch, and treasurer, Dr. William D. Scott, all of Peterboro.

Personal.—Dr. Gilbert Tweedie, for more than 20 years medical superintendent of Toronto Isolation Hospital, has resigned on account of advancing age and infirmity.——Dr. Amedée Marien, professor of histology at Laval University, has been appointed surgeon of the Hôtel Dieu, Montreal, vice the late Sir William Hales Hingston.——Dr. J. L. Robinson, medical superintendent of the Vancouver (B. C.) General Hospital, is inspecting the hospitals of the province of Quebec.——Dr. James Russell, superintendent of the Hamilton Asylum for the Insane, has retired.——Dr. Scott has been appointed health officer of Winkler, Manitoba, vice Dr. Nelson G. Cooper.——Drs. Allan R. Cunningham and Frank V. Woodbury have been appointed medical examiners of public school children for Halifax.——Dr. Fred L. Beer, Carlisle, Manitoba, has been appointed medical advisor to the Indians of the White Bear Reservation.

FOREIGN.

Gratuitous Care of Obstetric Patients in Turkey.—Accoucheurs for each municipal district in Constantinople will render gratuitous services to poor women in confinement. These physicians will be chosen by the faculty of the Haidar-Pasha School of Medicine, and a medical inspector will see that they conscientiously fulfill their obligations.

Expeditions to Study Sleeping Sickness.—The Liverpool School of Tropical Medicine has sent an expedition to Central Africa to study sleeping sickness and to advise means whereby it can be prevented from spreading into regions not yet infected. The expedition, which consists of Dr. Allan Kingford and Mr. R. Eustace Montgomery, will visit British East Africa, British Central Africa, Rhodesia, the Portuguese territories and the Congo Free State. The British government, the British South Africa Company, the Congo Free State, the Portuguese government, the Tanganyika concessions, the African Lakes corporation and others interested are cooperating. The Cape government is giving free transportation over its lines and much other valuable assistance is being rendered. The French expedition recently sent out for the same purpose is located at Brazzaville in the French Congo, while the German expedition, under Koch, has been at work on an island in the lake Victoria Nyanza for some months.

Extinction of Yellow Fever at Rio de Janeiro.—The *Brazil Medico* details the results accomplished by the mosquito brigades in charge of J. I. de Oliveria Borges. According to the tables given, the total mortality from yellow fever at Rio was seldom less than 800 and was often over 2,000 and 4,000, between 1872 and 1902. The prophylactic measures adopted in 1903-4 reduced the mortality to 48 and in 1906 it was only 42. Yellow fever has ceased to be endemic or epidemic. The mosquito prophylaxis has enabled imported foci to be stamped out at once, and no new cases occur the following year in houses that had sheltered the cases. Equally brilliant results were obtained in ships in the port. The results are the more remarkable as extensive public works have been under way, which, in former times, with the arrival of non-immune laborers, would have contributed to the importation and spread of the disease. There is considerable immigration at Rio. Over 23,000 immigrants entered this port last year, but this importation of non-immunes had no effect on the yellow-fever mortality.

Biologic Test to be Applied in Medicolegal Cases in Austria.—The authorities in Austria have announced by a recent decree that the various universities are to be equipped for the biologic test for blood, and the courts are instructed to apply to them for a decision in regard to the origin of blood in dubious cases. The decree states that the biologic test for differentiation of albumin has been proved reliable by numerous scientific experiences at home and abroad. The university institutes are to be supplied with the prepared serum from the central institute at Vienna, and they are instructed to supplement the biologic test with spectroscopic and microscopic examination. The details of the decree are given in the *Wien. klin. Wochschr.* for May 9, which also contains an article describing important research which has demonstrated that the biologic test seems to be equally specific and reliable when applied to fecal substance. The serum of rabbits injected with suspensions of animal dung acquired specific properties in respect to the dung of the species of animal in question. The character of the food is immaterial. The positive response is evidently due to a specific albumin in the feces, and the author, Brezina, is now studying to locate the special glands in the digestive tract which produce the biologically active substance.

Regulations to Correct Dispensary Abuse.—A committee of fifteen physicians has been studying this subject in Berlin, and according to its recommendations the following regulations have been tentatively tried at Borchardt's surgical policlinic. Every applicant is admitted and examined, but further treatment is given to applicants only in exceptionally interesting cases or those especially useful for teaching purposes, or when the applicants are unable to pay for treatment and have no claims on outside insurance companies or lodges for medical attendance. Each applicant receives a card from the doorkeeper which he hands the examining physician. The applicant's name, nationality, the diagnosis and mention whether he is to be allowed further treatment, are all entered in the dispensary records. The patient is then given a card with the diagnosis on the back, but if he is not to be admitted to further treatment a red stamp is pasted on the card. The dispensary is required to keep a record of the number of applicants, those treated and those rejected. This plan has been in operation at the policlinic since the beginning of the year. Without reducing the material needed for educational purposes, the work of the policlinic has been cut down one-fourth and will probably be still further reduced with wider experience. The *Med. Klinik* states further that time has shown that as many as 75 per cent. of the patients who were refused further treatment were sent back again to the policlinic by their physicians.

LONDON LETTER.

(From our Regular Correspondent.)

London, May 8, 1907.

Recovery of Speech Lost Six Years.

A remarkable case of recovery of speech after a shock has occurred in the Croydon workhouse. The patient is a man, aged 42, who in 1901 lost his speech in consequence of the shock of falling over a dog in coming downstairs. He was treated by several doctors without success. They could only hold out to him the hope that his speech might be restored by a second shock. He entered the workhouse in March, 1904. While at his work he pulled over a lemonade syphon from a high shelf, but caught it as it fell. The shock was only slight, but in the excitement he made an exclamation. He then realized that he could speak. His former employers offered to take him back.

Outrage on a Doctor for Certifying a Lunatic.

Some twelve months ago Dr. Carswell of Glasgow certified as insane a man, who accordingly was confined in an asylum. On his release he brought an action for damages against the doctor. After a prolonged trial a verdict was given for the latter entirely exonerating him. No costs could be recovered from the plaintiff, who was impecunious, and the doctor lost several hundred pounds in defending himself. Not satisfied with this injury the man lay in wait for the doctor and shot him with a revolver. By good fortune the doctor escaped with his life, one of the bullets just missing the femoral artery.

The Epidemiology of Malta Fever.

A commission sent by the Royal Society to investigate Malta fever has achieved remarkable results. This disease offers a serious problem to the military authorities, as it causes invaliding among the soldiers to the extent of 3.76 per cent., and among the sailors of 2.85 per cent. The commission determined that the *Micrococcus melitensis* did not gain entrance by contact, for no case was known of its arising among patients or nurses from any of the cases invalided home. There was no evidence that inhalation of dust or the bites of mosquitoes played any part. But the disease can be conveyed to animals by the alimentary canal. A single drink of fluid containing a few micrococci is sufficient. While at first the water supply and food supply were not suspected, it was found that the goats of Malta were a veritable reservoir for the fever. Fifty per cent. of them responded to the agglutination test and 10 per cent secreted the micrococcus in their milk. Monkeys fed from an infected goat almost invariably contracted the disease. Confirmatory evidence of the part played by the goat was the fact that the disappearance of Malta fever from Gibraltar was associated with the disappearance of the Maltese goat from that locality. Accordingly, preventive measures were begun in June, 1906, and a remarkable diminution of the fever at once began. The cases have dropped in the island to 10 per cent. of their normal number, and since discontinuance of the use of goat's milk in the Naval Hospital not a single case has occurred there.

Pharmacology

OFFICIAL PREPARATIONS ON EXHIBIT AT ATLANTIC CITY.

The Philadelphia branch of the American Pharmaceutical Association, in cooperation with pharmacists elsewhere, is proposing to display in the Exhibit Hall at Atlantic City a line of official preparations compounded by retail pharmacists. The object is to show what the ordinary retail pharmacist can do; we understand that most of the preparations will be similar to some of the much advertised proprietaries. In connection with the exhibit a pamphlet will be distributed calling attention to some of the phases of the proprietary business. We have been favored with an advanced copy of some of the matter that is to appear in this pamphlet, and we shall probably take occasion to publish some of the matter in this department. This week we publish the chapter on the clay poultices, which is as follows:

THE CLAY MIXTURES.

With the possible exception of the acetanilid mixtures, the glycerin-mud poultice, in the form of the proprietary mixtures now on the market, has probably been fraught with more deception and harm than any other type of preparation.

The popularity or the widespread use of mixtures of this type is best exemplified by the fact that the Committee on Revision of the United States Pharmacopeia has seen fit to introduce into the present Pharmacopeia a modification of the Glycerin Plasma, official thirty or more years ago. This mixture, it is expected, will replace many of the proprietary mud poultices that are now being exploited, under proprietary names, such as antiphlogistine, creta-methyl and Mey's poultice.

Before taking up the discussion of the ridiculously false claims of originality made by the manufacturers of one of the mixtures, it may be worth while to call attention to the assertions that are made as to the therapeutic efficaciousness of the clay poultice.

As a type of the character of the advertisement of these substances, we may quote from one of the pamphlets published by the Denver Chemical Manufacturing Company:

> "Incipient pulmonary tuberculosis, especially that consequent upon unresolved pneumonia, can always be greatly benefited and very often cleared up by the continuous use of Antiphlogistine."
>
> "Pelvic peritonitis, metritis, endometritis, ovaritis, ovarian neuralgia and dysmenorrhea are some of the diseases in which the use of Antiphlogistine is indicated."
>
> "Amputations are sometimes avoided by the use of Antiphlogistine in cases of threatened gangrene."

For fear that the average medical practitioner, or the layman into whose hands the pamphlet falls, would not know which disorders are amenable to this wonderful remedy, the manufacturers have added, on a succeeding page, with glowing headlines, the following list:

RELIEF QUICK AND CERTAIN.

ANTIPHLOGISTINE
WILL GIVE INSTANT RELIEF IN

PNEUMONIA,
BRONCHITIS,
PELVIC INFLAMMATION,
OSTITIS,
INFLAMED BREASTS,
TUMORS,
PERITONITIS,
CHRONIC ULCERS,
ORCHITIS,
TONSILLITIS,
PILES (external),
BOILS,
ERYSIPELAS,
PERIOSTITIS,
POISONED WOUNDS,
DYSMENORRHEA,
SPRAINS,
BURNS,
SYNOVITIS,
SUNBURN,
FROST-BITE,

AND WHEREVER INFLAMMATION AND CONGESTION ARE A FACTOR.

This formidable list, coupled with a host of other conditions mentioned in the pamphlets issued by the manufacturers of antiphlogistine, will readily account for the widespread popular use of this particular preparation.

To insure its continued use among the laity, each package of antiphlogistine contains a circular with full directions how to use the preparation, in 30 specified conditions, and a lengthy dissertation on the advantages of antiphlogistine.

In this connection it is interesting to call attention to the experiments by Dr. Augustus H. Roth, carried out in the University of Michigan and published in The Journal of the American Medical Association, April 15, 1905, page 1185. It is evident that any curative powers that these agents may possess is chiefly as carriers of heat and moisture, the statements of the wonderful effects of their hygroscopic power being so manifestly absurd as to be unworthy of refutation. In the experiments by Dr. Roth, it was shown that the kaolin mixture, either in the form of the official cataplasm or of the proprietary article, does not retain heat as well as an ordinary flaxseed poultice under similar conditions.

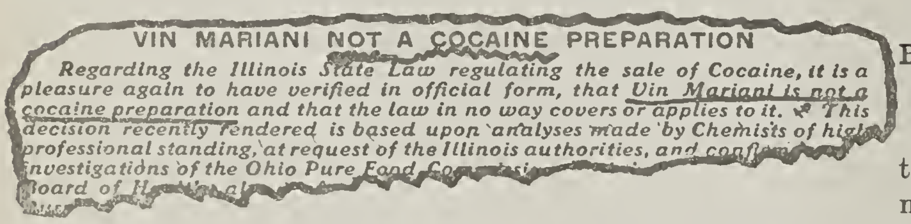
Among the most interesting features in connection with these proprietary mud poultices are the various claims for originality. One of the standard arguments of the manufacturer of proprietary mixtures is that the origin and perfection of these preparations has entailed much experimentation and research and has led to the acquisition of such extraordinary skill, in the production of the preparation, that even after the formula is known the ordinary druggist is unable to make them. Another argument that is frequently advanced relates to the immense benefit that has been done the human race by the stimulation of legitimate pharmacy through the introduction of proprietary mixtures. The general falseness of these arguments is particularly well demonstrated in the case of preparations of the mud-poultice type.

In 1857 Dr. G. F. Schacht introduced into England glycerin starch plasma as an ointment base, a similar preparation having been in use on the Continent for several years. This preparation was objected to by some on account of the starch, and in 1858 Mr. James T. W. Smith (*Pharmaceutical Journal*, London, March, 1858) proposed as a substitute a mixture of equal parts of glycerin and Fuller's earth.

The use of glycerin plasma as a poultice was also established many years before it was discovered by the Denver Chemical Company. In the first edition of the National Dispensatory, published in 1879, we find under glycerin starch plasma, the assertion: "It answers the purpose of a light poultice in erythema, furuncle, intertrigo and various other local inflammations of the skin."

As a poultice the glycerin clay mixtures have the advantage over the flaxseed meal poultice, chiefly, if not entirely, in their ease of application. In order to meet a legitimate demand for a preparation of this kind, and to permit of unbiased experimentation or trial, the committee on revision of the United States Pharmacopeia have included in that book a formula for Cataplasma Kaolini or Cataplasm of Kaolin, containing 57.7 per cent. of kaolin, 4.6 per cent. of boric acid and 37.5 per cent. of glycerin scented with thymol methyl salicylate and oil of peppermint.

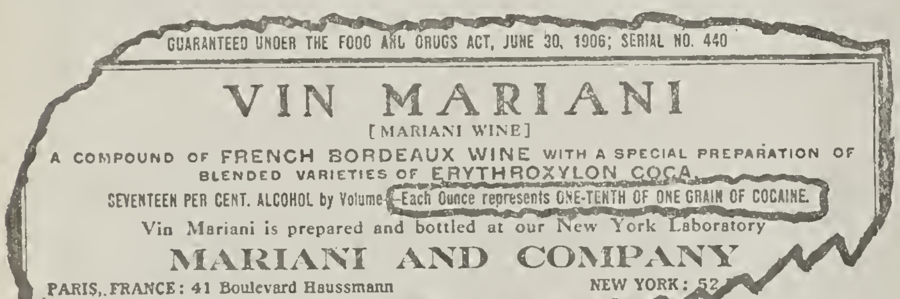
IT DOES AND IT DOESN'T.



VIN MARIANI NOT A COCAINE PREPARATION

Regarding the Illinois State Law regulating the sale of Cocaine, it is a pleasure again to have verified in official form, that Vin Mariani is not a cocaine preparation and that the law in no way covers or applies to it. This decision recently rendered is based upon analyses made by Chemists of hig professional standing, at request of the Illinois authorities, and conf investigations of the Ohio Pure Food Co Board of H

BEFORE.*



GUARANTEED UNDER THE FOOD AND DRUGS ACT, JUNE 30, 1906; SERIAL NO. 440

VIN MARIANI

[MARIANI WINE]

A COMPOUND OF FRENCH BORDEAUX WINE WITH A SPECIAL PREPARATION OF BLENDED VARIETIES OF ERYTHROXYLON COCA.

SEVENTEEN PER CENT. ALCOHOL by Volume—Each Ounce represents ONE-TENTH OF ONE GRAIN OF COCAINE.

Vin Mariani is prepared and bottled at our New York Laboratory

MARIANI AND COMPANY

PARIS, FRANCE: 41 Boulevard Haussmann NEW YORK: 52

VIN MARIANI IS MADE AT OUR LABORATO N NEW YORK ITIVE CUSTOMS TARIF IT OF TH SAM

AFTER.*

The above are reproduced to illustrate the reliability of nostrum advertisements. Vin Mariani does contain cocain and it doesn't contain cocain—"you pays your money and takes your choice."

Evil of Prescribing Original Packages.

Both abroad and in this country the evil of prescribing original packages has reached an extent that should arouse the opposition of physicians and lead them to greater care in regard to such prescriptions. The objections to the practice are well stated by G. A. Büllmann in the *Medizinische Klinik*. He shows how the circular wrapped around the bottle gives both the indications for the use of the remedy and the dose, so that the patient is easily led to self-medication when he thinks he has the same or similar symptoms. Not only does such a patient use the medicine for himself, but he advises his friends also to employ it when they think that they are similarly afflicted. This practice is not only detrimental to the physician, but it is often injurious to the patient, who, not knowing the need of care, may easily take a remedy in excessive doses. He notes that a large number of remedies have found their way into use by the public in this way. To be sure the manufacturer, in his regard for the medical man, adds to his instructions the clause that the medicine should be taken under the direction of a physician; but why a patient should consult a physician, when the manufacturer has already had the medicine tested by eminent medical men, and so states in the literature that the patient gets, is not explained. The advantages which are urged as reasons for the ordering of these original packages are, in fact, disadvantages. Under the rules of the Council on Pharmacy and Chemistry governing the admission of articles to the list of New and Non-official Remedies this point is specifically dealt with. Rule 4 is especially designed to prevent this method of making physicians the unpaid agents of proprietary houses.

Association News

Banquet of Laryngology Section.

The banquet of the Section on Laryngology and Otology will be held at the Hotel Strand, Tuesday evening, June 4. Dr. George L. Richards, 84 North Main Street, Fall River, Mass., wishes to receive, as early as possible, the names of those who will attend the banquet. Those who do not see this notice until too late to notify Dr. Richards at Fall River should notify Dr. James W. Snowball, Atlantic City, chairman of the committee on alumni and section entertainments.

SECTION OFFICERS.

Brief Biographies and Photographs of the New Officers of the Sections.

We take pleasure in presenting in this issue photographs of the officers of the various sections, whose faces have not previously appeared in The Journal. These men were elected to their present positions at the last session. Brief biographic sketches of the subjects of these illustrations are given below, which we feel will give to them an added interest.

A portrait of Dr. Joseph D. Bryant, President-elect of the Association, also accompanies The Journal. It is inserted loose for the convenience of those who wish to frame it.

Arthur Howard Wentworth, Boston.

SECRETARY OF SECTION ON DISEASES OF CHILDREN.

A. H. Wentworth, M.D., was born in Boston in 1864. He received both his preliminary and medical education in that city, and in 1891 was graduated by the Harvard Medical School. He was assistant in chemistry and in pathology in the Harvard Medical School for two years each, and for six years he was assistant in pediatrics in the same institution. Dr. Wentworth is assistant physician to the Children's Hospital and also to the Infants' Hospital in Boston.

Thomas D. Coleman, Augusta, Ga.

CHAIRMAN OF SECTION ON PRACTICE OF MEDICINE.

T. D. Coleman, M.D., was born in Augusta, Jan. 13, 1865. He was graduated by the Richmond Academy, Augusta, and then matriculated at the University of Kentucky, where he received in 1885 the A.B. degree. In 1902 his alma mater conferred on him the master's degree. He took a two years' graduate course in science at Johns Hopkins University and then entered the Medical Department of the University of the City of New York, where he was graduated in 1890. In 1893 he became professor of physiology and director of the pathologic laboratory in the Medical Department of the University of Georgia, and in 1900 was made professor of medicine. Two years later he was elected to the senior chair of principles and practice in the same institution, which position he still holds.

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* Before and after the national Food and Drugs Act went into effect.

Meyer L. Heidingsfeld, Cincinnati.

SECRETARY OF SECTION ON CUTANEOUS MEDICINE AND SURGERY.

M. L. Heidingsfeld, M.D., was born Sept. 6, 1871, at Greenfield, Ohio. He received an academic degree and his preliminary education at the University of Michigan, and completed his medical studies at the Medical Department of the University of Cincinnati. He served as house physician in the Cincinnati Hospital in 1895 and 1896, and in 1898 was assistant in the clinic of Max Joseph in Berlin.

Morris I. Schamberg, New York City.

CHAIRMAN OF SECTION ON STOMATOLOGY.

M. I. Schamberg, D.D.S., M.D., was born in Philadelphia in 1875. He was graduated by the University of Pennsylvania in dentistry in 1896, and in medicine by the Medico-Chirurgical College, Philadelphia, in 1898. He was acting assistant surgeon in the United States Army during the Spanish War and did service in Porto Rico in 1898-1899. For about five years he was assistant to the professor of oral surgery at the University of Pennsylvania, and he has been assistant in the surgical clinic of the Philadelphia Polyclinic Hospital and Post-Graduate School of Medicine. He is now oral surgeon to the Medico-Chirurgical Hospital and to the New York Nose, Throat and Lung Hospital, and is in charge of the Roentgen-ray work in that institution. He is also professor of oral surgery in the Dental Department of the Medico-Chirurgical College.

J. Wesley Bovée, Washington, D. C.

CHAIRMAN OF SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

J. Wesley Bovée, M.D., was born at Clayton, N. Y., Dec. 31, 1861. His preliminary education was obtained in the public and high schools of his native county, and he was graduated in medicine by the Medical Department of Columbian University in 1885. He was visiting physician to the Washington Asylum from 1889 to 1897, and since 1891 has been connected with Providence Hospital and Columbia Hospital for Women, to both of which institutions he is still gynecologist. He has been on the consulting staff of St. Ann's Infant Asylum for the Washington University Hospital since its organization about eight years ago. He is attending gynecologist to St. Elizabeth's Hospital for the Insane and is professor of gynecology in George Washington University. In 1904 he was elected delegate to the American Medical Association by the Section on Obstetrics and Diseases of Women.

Morton Prince, Boston.

CHAIRMAN OF SECTION ON NERVOUS AND MENTAL DISEASES.

Morton Prince, M.D., was born in Boston, Dec. 21, 1854. He was educated in the Boston Latin School, and in 1875 was graduated by Harvard College with the degree of A.B.; in 1879 he was graduated by the Harvard Medical School. Since 1885 he has been physician for diseases of the nervous system to the Boston City Hospital. Formerly instructor in nervous diseases in Harvard Medical School, he is now professor of neurology in Tufts College Medical School. He is editor of the *Journal of Abnormal Psychology* and author of "The Nature of Mind and Human Automatism," "The Dissociation of a Personality" and numerous papers on general medical, neurologic and psychologic subjects.

Prince A. Morrow, New York City.

CHAIRMAN OF SECTION ON HYGIENE AND SANITARY SCIENCE.

Prince A. Morrow, M.D., was born in Christian County, Ken-ucky, Dec. 19, 1846. He received from Princeton College, Kentucky, the degree of A.B., and later from the University f New York the degree of A.M. He was graduated in medicine y the Medical Department of the University of New York in 873. He is emeritus professor of genito-urinary diseases in the University and Bellevue Hospital Medical College and is consulting dermatologist to the City Hospital and to St. Vincent's Hospital. Dr. Morrow was editor of the *Journal of Cutaneous and Venereal Diseases* for ten years, and is the author of "Venereal Memoranda," "Drug Eruptions," "Atlas of Skin and Venereal Diseases," a "System of Genito-Urinary Diseases, Syphilology and Dermatology," "Social Disease and Marriage," and other works of like character.

W. B. Cannon, Boston.

SECRETARY OF SECTION ON PATHOLOGY AND PHYSIOLOGY.

W. B. Cannon, M.D., was born at Prairie du Chien, Wis., Oct. 19, 1871. He was educated in the public schools of Milwaukee and St. Paul, in 1892 entering Harvard College, by which he was graduated in 1896. In 1900 he completed his medical course at the Harvard Medical School. He was for some years instructor in physiology in Harvard University, and in 1906 he was elected to the George Higginson professorship of physiology in the same institution. He has made several contributions to physiologic science, mainly along the line of the mechanical factors in digestion.

H. C. Wood, Jr., Philadelphia.

CHAIRMAN OF SECTION ON PHARMACOLOGY AND THERAPEUTICS.

H. C. Wood, Jr., M.D., was born in Philadelphia in 1874. He was graduated by the University of Pennsylvania in 1896. He is demonstrator of pharmaco-dynamics in the University of Pennsylvania and assistant visiting physician to the Philadelphia General Hospital. He is co-author of "Therapeutics; Its Principles and Practice" (editions 11, 12 and 13), and sub-editor of the "United States Dispensatory" (edition 19), and author of a number of articles on pharmacologic and therapeutic topics.

G. C. Savage, Nashville, Tenn.

CHAIRMAN OF SECTION ON OPHTHALMOLOGY.

G. C. Savage, M.D., was born Jan. 15, 1854, in Alcorn County, Mississippi. He received his preliminary education in the public schools and at Henderson Masonic Institute, and was graduated in medicine by the Jefferson Medical College in 1878. In 1886 he was elected to the chair of diseases of the eye, ear, nose and throat in the medical department of Vanderbilt University, which position he still retains. Dr. Savage was largely instrumental in organizing the Association of Southern Medical Colleges. He was secretary of the Section on Ophthalmology in 1889, and was elected first vice-president of the American Medical Association in 1903. The *Ophthalmic Record* was founded by him in 1891, with the editorial department of which journal he is still connected. He is the author of "New Truths in Ophthalmology," "Ophthalmic Myology" and "Ophthalmic Neuro-Myology," as well as of numerous papers on similar subjects.

Arthur Dean Bevan, Chicago.

CHAIRMAN OF SECTION ON SURGERY AND ANATOMY.

Arthur Dean Bevan, M.D., was born in Chicago in 1861. He prepared for medical study at Yale Scientific School and was graduated by Rush Medical College in 1883. From this date he served in the United States Marine-Hospital Service until 1888, at which time he was called to the chair of anatomy at Rush Medical College. In 1902 he succeeded the late Christian Fenger as a full professor of surgery, in 1906 becoming joint head of the surgery department with Prof. J. B. Murphy. Dr. Bevan is one of the joint authors of a text-book on "Anatomy by American Authors" and also of Keen's "System of Surgery" and of the "American System of Surgery" by Bryant and Buck. He has written a number of monographs on general surgical and medical subjects. Dr. Bevan is chairman of the Council on Medical Education.

S. MacCuen Smith, Philadelphia.

CHAIRMAN OF SECTION ON LARYNGOLOGY AND OTOLOGY.

S. MacCuen Smith, M.D., was born in Hollidaysburg, Pa., March 6, 1863. He received his preliminary education in Hollidaysburg Academy, and was graduated in 1884 from Jefferson Medical College, Philadelphia. Immediately following his graduation he served as resident physician in the Germantown Hospital for eighteen months. In 1886 a department for ear, nose and throat work was established at the Germantown Hospital, to which he was elected surgeon-in-charge. The same year he was also elected clinical chief of the department of otology at the Jefferson Medical College, which position he held until 1893, when he was elected clinical lecturer on otology in the same institution. In 1894 he was elected clinical professor of otology and given a place in the faculty. In 1904 Dr. Smith was elected professor of otology, which position he holds at the present time, and in the same year he became aurist to the Jewish Hospital of Philadelphia.

Medico-Chirurgical Clinics.

The Medico-Chirurgical College of Philadelphia has arranged the following series of clinics for visiting physicians before and after the meeting of the American Medical Association at Atlantic City:

SATURDAY, JUNE 1.

11:00 to 12:00 Surgical Clinic, Prof. William L. Rodman.
12:00 to 1:00 Medical Clinic, Prof. James M. Anders.
1:00 to 2:00 Surgical Clinic, Prof. Ernest Laplace.

MONDAY, JUNE 3.

11:00 to 12:00 Orthopedic Clinic, Prof. James P. Mann.
12:00 to 1:00 Medical Clinic, Prof. John V. Shoemaker.
1:00 to 2:00 Ophthalmology Clinic, Prof. L. Webster Fox.

SATURDAY, JUNE 8.

9:30 to 10:30 Oral Surgery Clinic, Prof. M. I. Schamberg.
11:00 to 12:00 Surgical Clinic, Prof. William L. Rodman.
12:00 to 1:00 Surgical Clinic, Prof. Ernest Laplace.
1:00 to 2:00 Medical Clinic, Prof. Judson Daland.

MONDAY, JUNE 10.

11:00 to 12:00 Genito-Urinary Diseases Clinic, Prof. H. M. Christian.
12:00 to 1:00 Diseases of Skin Clinic, Prof. John V. Shoemaker.
1:00 to 2:00 Ophthalmology Clinic, Prof. L. Webster Fox.

Temple College Clinics.

The Temple College will give clinics in Philadelphia June 3, 7, 8 and 10, in the Samaritan Hospital, Broad and Ontario Streets. A schedule of clinics may be obtained at the college, Broad and Berks Streets, or at the hospital, or by addressing the dean, Dr. I. N. Snively.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending May 25, 1907.

Taylor, Blair D., deputy surgeon general, left Cuba en route to the United States on thirty days' leave of absence.

Purviance, William E., surgeon, will proceed to Fort Douglas, Utah, for station, instead of Fort Logan, Colo.

Fife, James D., asst.-surgeon, granted thirty days' leave of absence.

Davis, William R., asst.-surgeon, ordered to report in person on July 22, 1907, to Major Thomas U. Raymond, surgeon, president examining board, Manila, P. I., for examination to determine his fitness for advancement.

Hansell, H. S., asst.-surgeon, relieved from further duty in Cuba, and ordered to Fort Snelling, Minn., for duty.

Webb, Walter D., asst.-surgeon, relieved from duty at Fort Snelling, Minn., and ordered to the Army General Hospital, Washington Barracks, D. C., for duty.

Russell, Frederick F., asst.-surgeon, is detailed as a member of the board of medical officers appointed by Paragraph 22, S. O. 38, War Dept., to determine the results of preliminary examinations of applicants and for final examination of candidates for admission to the Medical Corps of the Army.

Richard, Charles, Straub, Paul F., surgeons, detailed to represent the Medical Department of the Army at the 58th annual meeting of the American Medical Association to be held at Atlantic City, N. J., June 4 to 7, 1907.

Porter, Elias H., contract surgeon, granted fifteen days' leave about May 30.

Springwater, Samuel A., contract surgeon, ordered from Chicago, to Fort Morgan, Ala., for duty.

Enders, William J., contract surgeon, relieved from duty at Fort Morgan, Ala., and ordered to Fort Snelling, Minn., for duty.

Wall, Francis M., contract surgeon, granted an extension of one month to his sick leave of absence.

Van Kirk, Harry H., contract surgeon, granted leave of absence for twenty days.

Richardson, William H., contract surgeon, granted leave of absence for one month, about May 25.

McPheeters, Samuel B., contract surgeon, ordered from Fort Leavenworth, Kans., to Fort Mackenzie, Wyo., for temporary duty.

Trotter-Tyler, George, contract surgeon, ordered from Philadelphia, to Fort Jay, N. Y., for temporary duty.

Delacroix, Arthur C., contract surgeon, ordered from New York, N. Y., to San Francisco, Cal., for duty in California.

McLeod, Harlow C., contract surgeon, ordered from Chicago to San Francisco, and thence to Manila, P. I., for Philippine service.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for week ending May 25, 1907.

Taylor, J. S., P. A. surgeon, ordered to Naval Hospital, New York.

Short, W. H., asst.-surgeon, ordered to the Naval Hospital, New York.

Chapman, R. B., asst.-surgeon, resignation accepted to effect July 1, 1907.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending May 22, 1907:

Geddings, H. D., asst.-surgeon general, directed to proceed to Ellis Island, New York, for special temporary duty; on completion of which to rejoin his station, in Washington, D. C.

Kerr, J. W., asst.-surgeon-general, designated to represent the service at the meeting of the American Medical Association, and to attend meetings of the Section on Hygiene and Sanitary Science, at Atlantic City, N. J., June 4-7, 1907.

Woodward, R. M., surgeon, detailed to represent the service at the meeting of the American Medical Association, and the meeting of the House of Delegates of said Association at Atlantic City, N. J., June 3-7, 1907.

Banks, C. E., surgeon, granted extension leave of absence for one month from May 20, 1907.

Rosenau, M. J., P. A. surgeon, directed to proceed to New York for special temporary duty, on completion of which to rejoin his station at Washington, D. C.

Rosenau, M. J., P. A. surgeon, reassigned to duty as director of the Hygienic Laboratory, Washington, D. C., effective April 27, 1907.

White, M. J., P. A. surgeon, relieved from duty in Hong Kong, China, and directed to proceed to Seattle, Wash., assuming charge of the service at that port.

Corput, G. M., P. A. surgeon, granted leave of absence for seven days from May 25, 1907.

Ramus, C., P. A. surgeon, granted leave of absence for 5 days from May 6, 1907, under Paragraph 191 of Service Regulations.

Trotter, F. E., P. A. surgeon, granted extension leave of absence for 10 days from May 17, 1907.

Lloyd, B. J., P. A. surgeon, granted leave of absence for 4 days from April 15, 1907, on account of sickness.

Bahrenburg, L. P. H., P. A. surgeon, relieved from duty at Delaware Breakwater Quarantine Station, and directed to proceed to Ellis Island, N. Y., reporting to the Chief Medical Officer for duty.

Creel, R. H., asst.-surgeon, directed to report to P. A. Surgeon V. G. Heiser, chairman of a board of examiners, at Manila, P. I., July 15, 1907, for examination.

Ebersole, R. E., asst.-surgeon, directed to report to P. A. Surgeon V. G. Heiser, chairman of a board of examiners, at Manila, P. I., July 15, 1907, for examination.

Trask, J. W., asst.-surgeon, granted leave of absence for 1 month from May 30, 1907.

Salmon, T. W., asst.-surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Boston, reporting to the medical officer in command for duty and assignment to quarters.

Boyd, Frank, acting asst.-surgeon, granted leave of absence for 9 days from June 2, 1907.

Hunter, W. R., acting asst.-surgeon, granted leave of absence for 1 day, May 21, 1907.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for 1 day, May 16, 1907, under Paragraph 210 of the Service Regulations.

Kennard, K. S., acting asst.-surgeon, granted leave of absence for 1 day, May 7, 1907, on account of sickness.

Safford, M. V., acting asst.-surgeon, directed to proceed to Westboro, Mass., for special temporary duty, on completion of which to rejoin station at Boston.

Wilson, J. G., acting asst.-surgeon, granted leave of absence for 1 day, May 9, 1907, on account of sickness.

Allen, G. C., pharmacist, granted leave of absence for 29 days from May 27, 1907.

APPOINTMENT.

Dr. Charles W. Allen appointed acting asst.-surgeon, May 15, 1907.

BOARDS CONVENED.

A board of medical officers to meet at Stapleton, N. Y., for the medical examination of an officer of the Reveune-Cutter Service. Detail for the board: Surgeon P. H. Bailhache, chairman; P. A. Surgeon H. W. Wickes, recorder.

A Board of Medical Officers to meet in San Francisco, for the medical examination of an officer of the Revenue-Cutter Service. Detail for the Board; Surgeon H. W. Austin, chairman; P. A. Surgeon J. D. Long, recorder.

A Board of Medical Officers, to meet in Manila, P. I., July 15, 1907, for the purpose of examining Asst.-Surgeons Creel and Ebersole to determine their fitness for promotion to the grade of P. A. surgeon. Detail for the board: P. A. Surgeon V. G. Heiser, chairman; P. A. Surgeon F. B. McClintic and P. A. Surgeon C. W Vogel, recorders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General Public Health and Marine-Hospital Service, during the week ended May 24, 1907.

SMALLPOX—UNITED STATES.

California: San Francisco, April 27-May 11, 5 cases.
Florida: Hillsboro County, Tampa, May 4-11, 2 cases.
Georgia: Augusta, May 7-14, 2 cases.
Illinois: Danville, May 7-14, 3 cases.

Indiana: Indianapolis, May 5-12, 9 cases; La Fayette, May 6-13, 3 cases.

Kansas: Kansas City, May 4-11, 1 case; Topeka, 2 cases.

Kentucky: Louisville, May 9-16, 3 cases.

Louisiana: New Orleans, May 4-11, 4 cases.

Massachusetts: Chelsea, May 4-11, 2 cases; Lawrence, 3 cases.

Michigan: Detroit, May 11-18, 6 cases; Grand Rapids, May 4-11, 1 case; Highland, March 1-May 14, 2 cases.

Minnesota: 45 Counties, March 11-April 30, 323 cases, 1 death.

Missouri: St. Joseph, May 4-11, 18 cases.

New York: New York, May 4-11, 1 case, 1 death.

North Carolina: Charlotte, May 11-18, 1 case; Greensboro, May 4-11, 6 cases.

Ohio: Cincinnati, May 10-17, 2 cases; Columbus, April 1-30, 11 cases; Hamilton, May 9-16, 4 cases.

Tennessee: Nashville, May 11-18, 2 cases.

Virginia: Richmond, May 4-11, 1 case.

Wisconsin: Milwaukee, May 4-11, 1 case.

Washington: Spokane, May 4-11, 18 cases (2 imported); Tacoma, May 4-11, 3 cases.

SMALLPOX—FOREIGN.

Africa: Lorenzo Marquez, March 1-31, 5 cases.

Brazil: Pernambuco, March 1-15, 72 deaths; Rio de Janeiro, April 14-28, 3 cases, 3 deaths.

Canada: Sherbrooks, May 11-18, 6 deaths.

Chile: Coquimbo, April 20, 1 case; Iquique, present.

China: Hankau, April 6-13, 1 case; Hongkong, March 31-April 6, 24 cases, 18 deaths.

Columbia: Barranquilla, April 20-27, 1 death.

Ecuador: Guayaquil, April 20-27, 2 deaths.

Egypt: Cairo, April 15-22, 4 cases, 1 death.

Germany: Bremen, April 20-27, 1 case.

Great Britain: London, April 20-27, 1 case; Southampton, 1 case.

India: Bombay, April 16-23, 3 deaths; Calcutta, April 6-13, 94 deaths; Madras, April 13-19, 2 deaths; Rangoon, April 6-13, 1 death.

Italy: General, April 25-May 2, 13 cases; Naples, April 26-May 4, 2 cases; Rome, Feb. 23-March 2, 1 death.

Java: Batavia, March 30-April 13, 5 cases.

Madeira: Funchal, April 21-May 5, 291 cases, 96 deaths.

Mexico: Aguas Calientes, April 20-May 4, 37 deaths; Mexico City, April 6-20, 26 deaths.

Portugal: Lisbon, April 20-May 4, 18 cases.

Russia: Moscow, April 13-20, 4 cases, 1 death; Riga, April 20-27, 5 cases;

Siberia: Vladivostok, March 14-21, 1 case; San Feliu de Guixols, April 28-May 4; 1 death.

Turkey: Bagdad, March 23-April 6, present; Bassorah, April 13-20, 2 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 14-28, 4 deaths.

Cuba: Habana, May 16, 1 case (brought from Union de Reyes).

Ecuador: Guayaquil, April 13, 6 deaths; Guatemala: Zacapa, May 16, 1 case; Venezuela: La Cudira, Feb. 16-March 30, present.

CHOLERA.

India: Bombay, April 16-23, 2 deaths; Calcutta, April 6-13, 61 deaths; Madras, April 13-19, 1 death; Rangoon, April 13, 5 deaths.

Straits Settlements: Sinagpore, March 30-April 6, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 15-21, 5 cases, 5 deaths.

PLAGUE—FOREIGN.

Brazil: Pernambuco, March 1-15, 2 deaths; Rio de Janeiro, April 14-28, 4 cases, 1 death.

Chile: Antofagasta, April 20, 16 cases, 6 deaths; Santiago, present; Taltal, present.

Egypt: Assiout Province, April 22-30, 25 cases, 17 deaths; Beni Souef Province, April 23-May 2, 12 cases, 5 deaths; Girgeh Province, April 22-May 1, 11 cases, 10 deaths; Keneh Province, April 20-May 1, 11 cases, 17 deaths; Minieh Province, April 21-May 1, 5 cases, 2 deaths.

India: General, April 6-13, 87.561, cases, 75,472 deaths; Bombay, April 16-23, 376 deaths; Calcutta, April 6-13, 383 deaths; Rangoon, April 6-13, 103 deaths.

Japan: Formosa, April 6-13, 95 cases, 78 deaths.

Mauritius: March 7, 3 cases, 3 deaths.

Peru: Chepen, April 17, 4 cases, 4 deaths; Chiclayo, 1 case; Lima, 6 cases, 3 deaths; Mollendo, 1 case; Palta, 9 cases, 5 deaths; Trujillo, 4 cases, 5 deaths.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

MEDICAL PAPERS IN SOUTH AMERICA.

———, MAY 12, 1907.

To the Editor:—What medical publication has the largest circulation in Brazil, Argentine, and other South American countries.

T.

ANSWER.—The representative medical journal in Brazil is the *Brazil Medico*, Rio de Janeiro, Brazil, 100 rua do Rosario: weekly, $11 a year. In Argentina the *Semana Medica* is the chief one, Buenos Aires, Callao 737; weekly, $5 a year. The latter is printed in Spanish and the *Brazil Medico* in Portuguese.

GRADUATE WORK IN VIENNA.

PITTSBURG, PA., May 17, 1907.

To the Editor:—Will you give me some details about graduate work in Vienna, especially as regards work in neurology.

WILLIAM J. MCADAMS.

ANSWER.—The present term at the University of Vienna began April 15 and continues until July 15. Among the lectures to be delivered in the hospitals and clinics during this term the following are open to students and graduates alike at a cost not exceeding $4 for the term: Internal medicine, two hours daily, by Professors Neusser, von Noorden and von Schrötter; surgery by von Eiselsberg and Hochenegg; dermatology and venereal diseases by Finger and Riehl; gynecology and obstetrics by Schauta and Chrobak; pediatrics by Escherich. On the faculty of the University as professors are Wagner on psychiatry and neuropathology, Obersteiner on the physiology and pathology of the central nervous system and Johann Fritsch on psychiatry. Among the privat docents are Holländer, Ritter, Hirschl, Sölder and Bischoff, all well-known men in nervous and mental diseases. After the summer term is over a series of "vacation courses" will be given during the months of August and September. No clinical lectures will be held and the entire material is at the disposal of the assistants. The fees for special courses vary according to the subject and the duration, but seldom exceed $20. The summer courses cost about $15, last twenty hours, and are really graduate lectures. During the winter term several graduate classes are conducted in English at the clinics of the General Hospital. There also is another group of classes, not, in English, however, offering certain advantages which is held by the *Aertzekammer* (medical council). The duration of the class is either six or twelve hours, held either weekly or semi-weekly, from 6 to 8 p. m. They cost about $4 for men holding foreign diplomas. The Vienna General Hospital—the *Allgemeine Krankenhause*—has over 2,000 beds. The children's department—St. Anna's Kinderspital—is situated but a short distance from it and the Polyclinic with about 200 beds is but one block from the General Hospital. See "Vienna from the Medical Student's Point of View," in THE JOURNAL for Oct. 27, 1906, p. 1391.

TREATMENT OF CEREBROSPINAL MENINGITIS.

SUNCOOK, N. H., May 20, 1907.

To the Editor:—What is the latest treatment of cerebrospinal meningitis? Is there anything in the serum treatment?

A. M. LAVALLEE, M.D.

ANSWER.—The treatment of cerebrospinal meningitis does not differ materially from that described in standard treatises on the practice of medicine. The use of diphtheria antitoxin introduced some years ago has not fulfilled the hopes of its discoverer. A serum treatment has been tried on monkeys by Flexner (THE JOURNAL, Aug. 25, 1906, p. 560), but it is still in the experimental stage.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

Results of Organization Shown in the Work of the Councils on Pharmacy and Education.

In the May *Lancet-Clinic*, of Cincinnati, appears an editorial on the value of organization in medicine which very forcibly summarizes the advantages gained and the results accomplished through effective organization. The editor says:

> The days of isolation in small communities have passed. Independence and intense individualism were possible in the days of the stage coach, but with the annihilation of time and space, interdependence has been established. Organization is the order of the day. Physicians of the United States are being organized and welded together in the American Medical Association. Every county in every state has or should have a medical society, and every physician in the county should be enrolled as an active member. These county societies are the nuclei on which the entire structure is based. As a result a thorough organization, an authoritative body, has been created (the House of Delegates of the American Medical Association) to which can be referred all subjects of material scientific interest. Three standing committees are doing splendid work in the interim between the annual sessions. These are the Judicial Council, the Council on Medical Education and the Council on Pharmacy and Chemistry.

The editor then considers the work of each of these committees and concludes that the amount of good accomplished by the Council on Medical Education is best attested by the discussion and, in some quarters, the opposition which it has created, and that the work of the Council on Pharmacy and Chemistry has been of incalculable benefit to the public and to the profession. He says:

> The disclosure that the medical profession is in a great measure responsible for the existence of nostrums has been disconcerting, but it must prove salutary. The labors of the Council have been iconoclastic. We are coming to a greater simplicity in therapy. This reaction is in large measure due to the labors of the Council and the end is not yet.

The editor rightly concludes that one of the most encouraging signs of the times so far as the progress of medicine is concerned is that men can be found who are giving largely of their time and means for the furtherance of these reforms. He says:

> That order is being created out of chaos is beyond dispute. How the accomplished results would be possible without the complete reorganization of to-day is beyond comprehension.

Successful Conference of Secretaries.

In the May *Ohio State Medical Journal* is an extended report of the meeting of the secretaries of county and district societies at Columbus, April 25. As this was the first meeting of the sort to be held, it has naturally attracted much attention. There seems to be no doubt as to the value of the plan. The editor says:

> It is needless to state that this meeting was a grand success. The most remarkable thing was the enthusiasm which was manifested everywhere and all the time. A more enthusiastic meeting of physicians never took place in Ohio. That it will result in much good to the profession and, through its improvement and advancement, will be of great advantage to the people of the state, admits of no argument.

Discuss Medical Frauds.

Mr. Samuel Hopkins Adams was entertained recently by the Santa Barbara (Cal.) Medical Society. Dr. W. T. Barry, secretary, writes: "We had a most pleasant and instructive evening. Among others were present members of the legal profession, including one district judge. Following Mr. Adams' interesting address we had an open discussion of medical frauds and the like. I am sure that the meeting will be productive of much good."

Magnetic Healers Want a Separate Board.

The Peoria *Transcript* reports that the magnetic healers of Illinois met and organized on May 10, at Peoria. About 75 persons were in attendance. The object of the meeting, it is stated, was to secure an enactment of a law by the state legislature that will permit the practice of magnetic healing. No doubt, the next session of the legislature will see a bill introduced establishing a board of examiners for magnetic healers. It is truly a poor fad now-a-days which can not ask for a separate board of examiners. Of making many Boards there is no end.

Contract Practice in Rhode Island.

Recent reports from Westerly, R. I., indicate that the physicians are adhering to the positive stand taken regarding contract and lodge practice. The contracts of the resident physicians expired April 1. The local lodges then made a united effort to secure an outside man and arranged with a physician who recently located in the town to do their medical work under contract. The outcome of the situation will be watched with much interest.

The Seattle Intelligencer and Oren Oneal.

An advertisement of Oren Oneal, the quack exponent of the "dissolvent method," appeared recently in the Seattle *Post Intelligencer*. On seeing it Dr. H. W. Howard, of Prosser, Wash., wrote a letter of gentle protest to the business manager of that paper. The reply quoted below indicates the evident desire on the part of the better class of newspapers to purge their pages of the grosser forms of medical frauds. It is an encouraging sign of the times.

> SEATTLE, WASH., April 17, 1907.
>
> *Dr. H. W. Howard, Prosser, Wash.*
>
> *Dear Sir:*—We acknowledge the receipt of your favor of April 15 calling our attention to the advertising of Dr. Oren Oneal. We thank you for bringing this matter to our attention. I have issued instructions that there be no more insertions of this advertising.
>
> Yours truly,
> POST INTELLIGENCER CO.,
> S. P. Westou, Business Manager.

A little effort often accomplishes much.

Book Notices

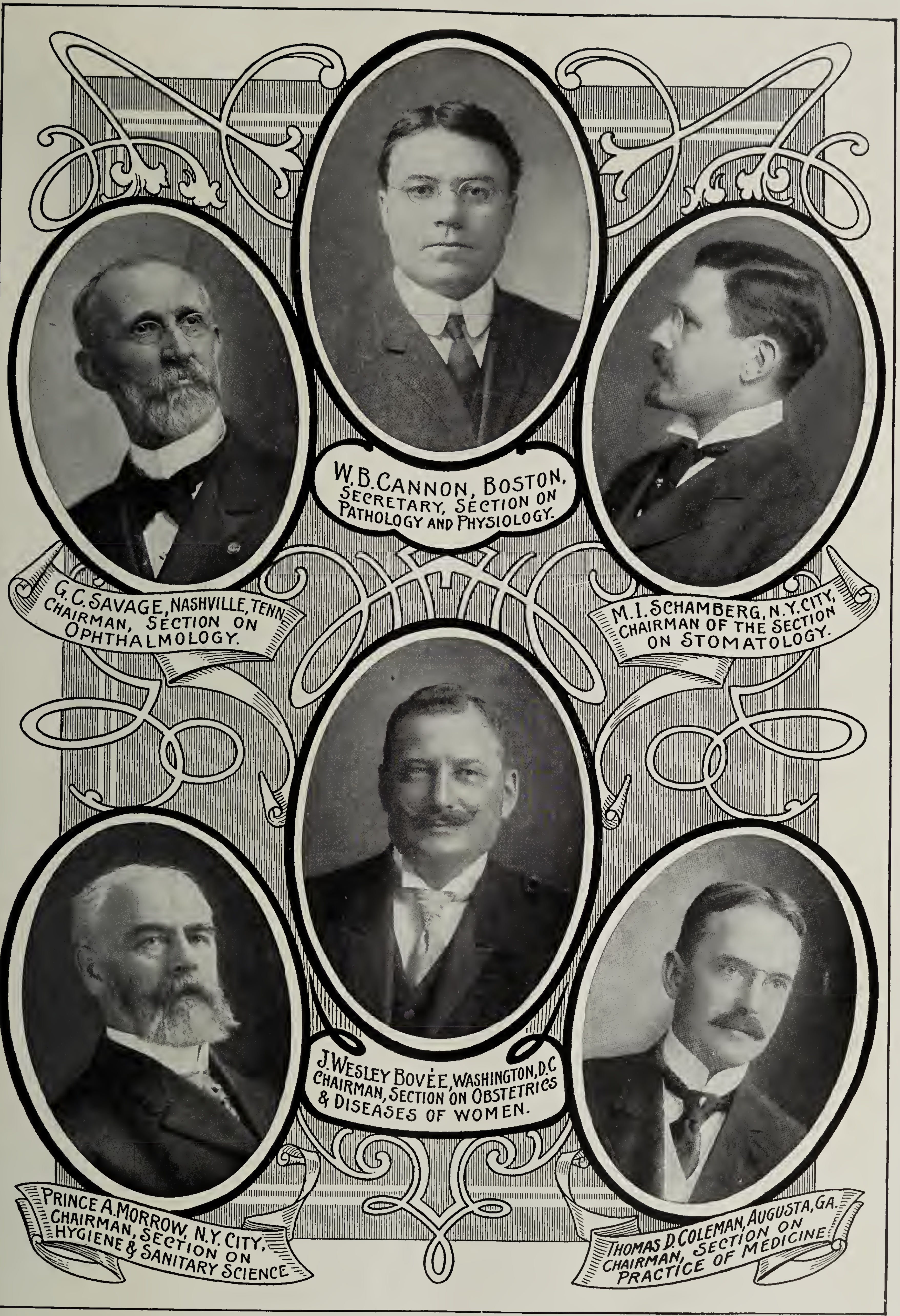
TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE. By Arthur R. Edwards, A.M., M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Northwestern University Medical School, Chicago. Illustrated. Cloth. Pp. 1328. Price, $5.50 net. Philadelphia and New York: Lea Bros. & Co., 1907.

A text-book of medicine requires great merit to take an equal place with the excellent ones we have already and a newcomer must expect to be closely inspected. It may be said at once that Dr. Edwards has succeeded in keeping up the high standard which has been set by the best American works. The objects which he has kept before him are to associate the causative pathology with the clinical feature, to give reasons for facts, not to magnify exceptions, and to avoid typical pictures and dogmatic generalizations. In doing this it must not be inferred that he has not given general descriptions, although more attention is placed on the assembling of the various parts of the whole picture. The work contains an enormous amount of detail, and many of the sections might be put in a work on physical diagnosis. This, however, may be an advantage to the book before us. As an illustration of the detail, take the description of the physical signs in pericardial effusion, in which every possible point seems to be included. There is an enormous amount of detailed information given in this way and the whole literature has evidently been carefully studied. These features should make the work especially useful to teachers. There are many tables of differential diagnosis as to the value of which, however, there may be a difference of opinion. Do they not savor a little of the dogmatic generalizations which are condemned on the same page?

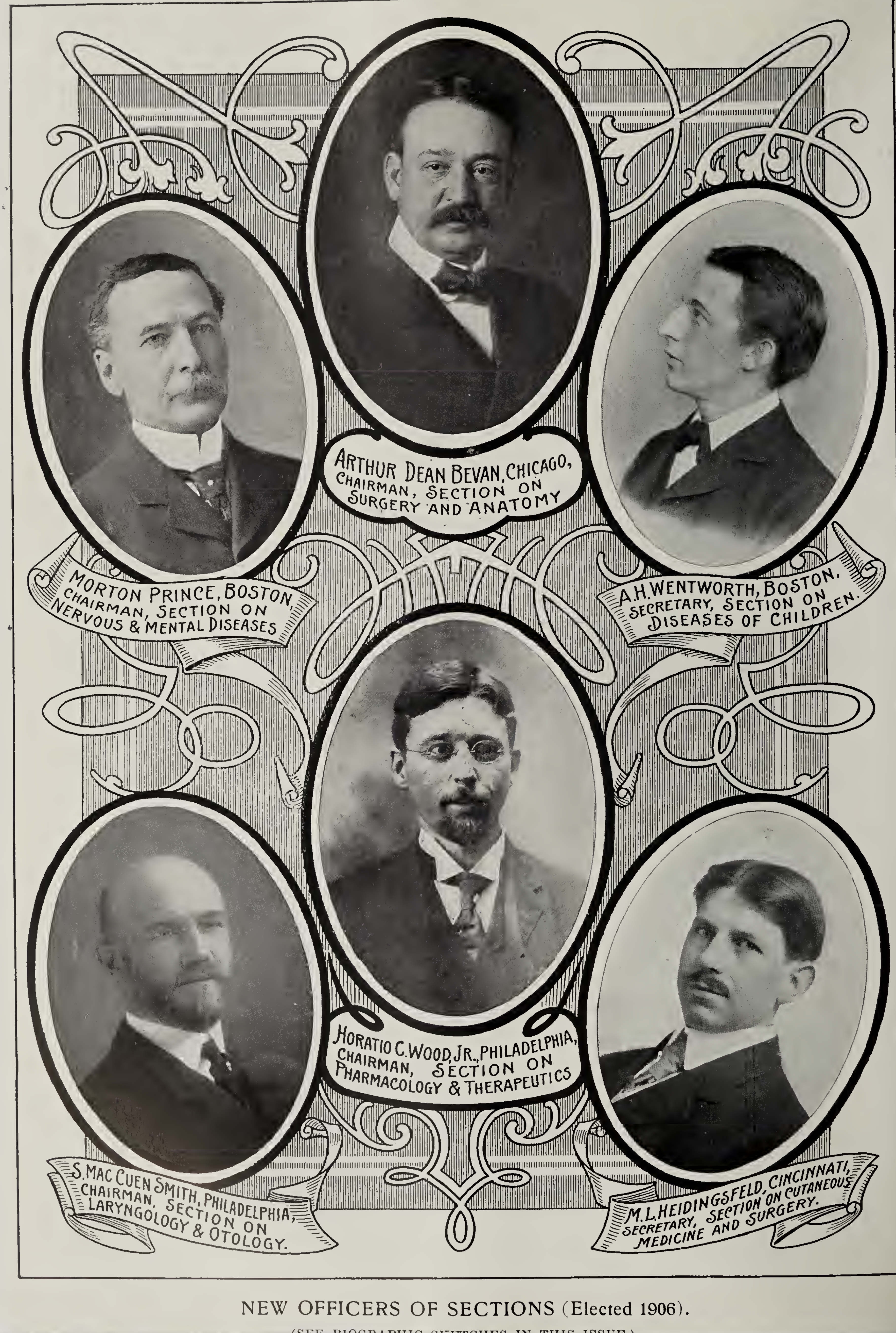
The general arrangement and discussion of each disease is well done, but it is rather difficult to see the advantage of considering epidemic cerebrospinal meningitis among the diseases of the nervous system. There are many historical notes which add interest and are valuable, even though they are necessarily brief. Thus in a great many places the name of the individual who described a condition or first used a treatment, such as the use of the salicylates in rheumatic fever, is given with the date. It is a pleasure to see the complete account which is given of syphilis, a disease above all others on which the student and general practitioner should be well informed. There are good sections on conditions such as hematemesis, in which the various causes are considered and the general knowledge brought together. The section on the diseases of the nervous system must be a source of much worry in the preparation of a text-book, but the author has given a clear discussion of this intricate group of diseases. The sections on treatment are very satisfactory. They are complete and show a common-sense attitude toward therapy.

There are some points which require criticism and which, in our opinion, would be the better for correction. Thus under typhoid fever is the statement that the urine is febrile and that water is retained in fever. Does this mean that the urine has a high temperature? Is there any evidence that water is retained in fever? It is usually thought that the amount of urine voided in typhoid fever depends on the quantity taken. Under one of the pernicious forms of malarial fever, it is stated that the course is usually benign, but the same sentence gives the mortality as from 10 to 25 per cent.! Is it not a mistake to use the term "gonorrheal rheumatism"? Is not "gonorrheal arthritis" better? The first sentence in the section on mitral stenosis suggests that mitral insufficiency is almost always accompanied by mitral stenosis, whereas the meaning intended is that mitral insufficiency is usually present when mitral stenosis exists. A rather pessimistic view is taken of the frequency with which bronchiectasis is recognized—a view which we do not consider justified. The statement that "chronic rheumatism" follows acute rheumatism seems open to question. Some of the illustrations might be improved, as for example, the plate showing tubercle bacilli, opposite page 320.

These are comparatively minor points, and when the general work is so good it may seem captious to criticise. There


W. B. CANNON, BOSTON,
SECRETARY, SECTION ON
PATHOLOGY AND PHYSIOLOGY.
G. C. SAVAGE, NASHVILLE, TENN.
CHAIRMAN, SECTION ON
OPHTHALMOLOGY.
M. I. SCHAMBERG, N.Y. CITY,
CHAIRMAN OF THE SECTION
ON STOMATOLOGY.
J. WESLEY BOVÉE, WASHINGTON, D.C.
CHAIRMAN, SECTION ON OBSTETRICS
& DISEASES OF WOMEN.
PRINCE A. MORROW, N.Y. CITY,
CHAIRMAN, SECTION ON
HYGIENE & SANITARY SCIENCE
THOMAS D. COLEMAN, AUGUSTA, GA.
CHAIRMAN, SECTION ON
PRACTICE OF MEDICINE.

NEW OFFICERS OF SECTIONS (Elected 1906.)


ARTHUR DEAN BEVAN, CHICAGO, CHAIRMAN, SECTION ON SURGERY AND ANATOMY
MORTON PRINCE, BOSTON, CHAIRMAN, SECTION ON NERVOUS & MENTAL DISEASES
A. H. WENTWORTH, BOSTON, SECRETARY, SECTION ON DISEASES OF CHILDREN.
HORATIO C. WOOD, JR., PHILADELPHIA, CHAIRMAN, SECTION ON PHARMACOLOGY & THERAPEUTICS
S. MAC CUEN SMITH, PHILADELPHIA, CHAIRMAN, SECTION ON LARYNGOLOGY & OTOLOGY.
M. L. HEIDINGSFELD, CINCINNATI, SECRETARY, SECTION ON CUTANEOUS MEDICINE AND SURGERY.

NEW OFFICERS OF SECTIONS (Elected 1906).

(SEE BIOGRAPHIC SKETCHES IN THIS ISSUE.)

will undoubtedly be future editions in which such points can be changed. Dr. Edwards is to be congratulated on having given us another excellent work on medicine. The publishers have done their work well and the page is clear and easily read. The book opens well at any page, which is a comfort.

Metabolism and Practical Medicine. By Carl von Noorden, Professor of the First University Medical Clinic, Vienna. Anglo-American Issue Under the Editorship of I. Walker Hall, Professor of Pathology, University College, Bristol. Vol. I.—The Physiology of Metabolism, by Adolf Magnus-Levy, Berlin. Cloth. Pp. 450. Price, $4.00 net. Vol. II.—The Pathology of Metabolism, by Carl von Noorden, Fr. Kraus, Ad. Schmidt, W. Weintraud, M. Matthes and H. Strauss. Cloth. Pp. 525. Price, $6.00 net. Chicago: W. T. Keener & Co., 1907.

First issued as a text-book on metabolism, this work has grown to almost cyclopedic proportions, being now issued in three volumes, the first two of which are before us. It has not, however, outgrown the importance of the subject, of which it is to-day probably the best exponent. The present edition represents the labors of a number of authors. It is divided into two parts, one on the physiology of metabolism by Magnus-Levy and the other on the pathology of metabolism by von Noorden, Kraus, Schmidt, Weintraud, Matthes and Strauss. The English editor is Prof. I. Walker Hall, who has incorporated such new material as has been necessary to bring the subject up to date. Acting on the principle which governed the construction of the original work, there are presented a compilation of facts and a critical discussion of hypotheses, rather than a mere enunciation of theories. The new material is introduced into the text without brackets and any question of sponsorship must be settled by reference to the German copy. The bibliography includes a considerable number of English and American publications and von Noorden notes with pleasure the fact that the last twenty years have shown a remarkable increase of interest among English speaking physicians in the problems of metabolism.

To undertake a critical examination of the work in detail is impossible within the limits of a book review. The value of the work to the investigator can not be too highly estimated, and yet at the same time it is of practical value to the physician. Some old errors are definitely refuted as, for instance, the idea that lack of bile favors intestinal putrefaction. The account of the action of iron in the synthesis of hemoglobin is favorable to the inorganic salts of that metal indicating that it is fully equal to organic iron in hemoglobin-forming power, but decidedly inferior to the iron of the nucleo-proteids found in the food. The old method of estimating intestinal putrefaction by comparing the ethereal sulphates with the total sulphates is shown to be unreliable as the total sulphates are determined by the amount of albumin consumed and have nothing to do with the amount of putrefaction. We might cite many other instances in which the facts recorded have a definite bearing on the practice of the physician, but only a careful reading of the work can enable one to appreciate it at its full merits.

The translation, though the work of different hands, has been so well done that one fails to notice differences of style, although in places traces of the German origin of the work appear. One feature is open to just criticism. We refer to the introduction of quotations of various authorities without translation. It is bad enough when a literary author intersperses his language with foreign words and phrases, but a scientific treatise intended for English readers should at least give the translation of the quoted sentences.

The book is printed on exceptionally good paper, which greatly promotes the ease of reading.

Modern Medicine, Its Theory and Practice, in Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England, assisted by Thomas McCrae, M.D., Assistant Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. Volume I.—Evolution of Internal Medicine—Predisposition and Immunity, etc. Illustrated. Cloth. Pp. 937. Price, $6.00 net. Philadelphia: Lea Bros. & Co., 1907.

There are many difficulties in the way of a really critical and searching review of a work of the scope of Modern Medicine. Thus, to cite only one difficulty, the number of different topics covered by Volume I is so large that it absolutely precludes the possibility of any one person being possessed of so diversified knowledge as to be entitled to express authoritative judgment on the manner of their presentation. The reviewer consequently must content himself with the attempt to point out the essential general features of the work in so far as they are disclosed by this volume, which is the first of seven. In the words of the publisher's note, it aims to place the present world knowledge in medicine at the command of all. Concerning the fitness of the editor of this system for his important task, there can be no question. It is, indeed, fortunate that one so pre-eminently qualified from all points of view has been secured for the editorship. That he has succeeded in enlisting the cooperation of recognized leaders in the investigative and practical sides of medicine is evident from the general list of contributors, and this fact is well illustrated in the following summary in outline of the contents of the first volume:

Dr. Osler writes the introduction. Dr. Adami contributes the chapter on inheritance; Dr. Alfred Gordjon those on diseases caused by light, Roentgen-ray, electricity, air, heat and cold; and Dr. Edsall those on diseases caused by chemical agents. Dr. Alexander Lambert writes on alcohol, opium, morphin and cocain as causes of diseases; Dr. Novy on food poisons; Dr. Noguchi on snake venoms; Dr. A. E. Taylor on autointoxications; Dr. J. H. Wright on diseases of vegetable parasites other than bacteria; Calkins, Howard, Craig, Stephens, Bruce and Strong furnish the section on diseases caused by protozoa. Stiles writes the chapter on animal parasites; Chittenden and Mendel that on metabolism; Futcher presents diabetes and gout; Anders, obesity; Still, rickets, and Robert Hutchison, scurvy.

We see at once that practically every chapter in this volume is the production of a recognized leader in the study and investigation of the special field occupied by him. As particular illustrations of this fact, as well as of the attention given the newer developments in medical sciences, it may be permitted to mention first the excellent discussion by Adami of the newer views of heredity; the elaborate sections by Taylor, and by Chittenden and Mendel on autointoxication and on metabolism; and the chapter by Calkins on protozoa in general, by Howard on mosquitoes, by Craig on malaria, by Stephens on black-water fever, by Bruce on trypanosomiasis, and by Strong on amebic dysentery. The presentation by Stiles of the diseases caused by animal parasites gives a fine summary of our present knowledge and in full accord with accepted zoologic teaching with respect to the naming and description of the parasites. The editor contributes an introduction covering some twenty pages, in which the evolution of internal medicine is traced by a skilful hand in a most interesting and instructive way. We hope that his arraignment of the present organization of our hospital staffs will bear fruit soon. Volume I of Modern Medicine indicates that it will be an unusually well balanced, carefully planned work of its type, written by especially competent men, and destined to be of great service.

Marriages

Robert C. Forsyth, M.D., to Miss Bettie Glover Way, both of Kirkwood, Mo., May 8.

Vern S. Fildes, M.D., Parkersburg, Ill., to Miss Lucile Smith of West Salem, Ill., May 10.

Muret N. Leland, M.D., to Miss Josephine Homan, both of Minneapolis, Minn., May 15.

John P. Ward, M.D., Waukesha, Wis., to Miss Mary J. Pothaur, at Milwaukee, May 15.

William C. Herman, M.D., to Miss Irene Augusta Chapman, both of Cincinnati, April 24.

Thomas Whitehead Murrell, M.D., to Miss Gertrude Clark, both of Richmond, Va., May 14.

T. L. Baxter, M.D., Athens, Ohio, to Miss Lulu M. Bingham, at McConnelsville, Ohio, April 24.

Lyman Robert Forgrave, M.D., to Miss Elvira Emille Eckel, both of St. Joseph, Mo., May 15.

Dillon B. Haworth, M.D., Dexter, Kan., to Miss Alice May Carter of Kansas City, Mo., May 19.

Stanley M. Beck, M.D., Dayton, Ohio, to Miss Martha Joanna Kelso of Xenia, Ohio, May 14.

Hanson H. Marsh, M.D., to Miss Mary Morris, both of Seven Mile, Ohio, at Chicago, May 17.

William Darrach, M.D., New York City, to Miss Florence Borden of Fall River, Mass., May 22.

George Sumner Crampton, M.D., Philadelphia, to Miss Hazel Smedes of Vicksburg, Miss., May 16.

Gilonza Wyatt, M.D., White Sulphur Springs, Va., to Miss Kathleen Dickson, at Richmond, Va., May 14.

William Wallace Will, M.D., Bertha, Minn., to Miss Mariana Adella Bishop of Mapleton, Minn., May 14.

Harry W. Vickers, M.D., Little Falls, N. Y., to Miss Susan J. Sullender, at Saratoga Springs, N. Y., May 16.

Deaths

John Hooker Packard, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1853; later demonstrator on anatomy at that institution; a member of the Medical Society of the State of Pennsylvania and the Philadelphia County Medical Society; acting assistant surgeon, U. S. Army, throughout the Civil War; for many years surgeon to the Philadelphia Episcopal Hospital and later surgeon to the Pennsylvania Hospital and to the Woman's Hospital; secretary of the College of Physicians of Philadelphia from 1862 to 1877; president of the Philadelphia Pathological Society in 1867 and 1868, and of the Philadelphia Obstetrical Society; author of various text-books on surgery; one of the best known men of his profession, died at Atlantic City, N. J., May 20, aged 74.

Henry S. Turrill, M.D. Medical Institution of Yale College, New Haven, Conn., 1864; who served as assistant surgeon of the Seventeenth Connecticut Volunteer Infantry until the close of the Civil War; was commissioned lieutenant and assistant surgeon in the United States Army, June 26, 1875; was promoted to captain and assistant surgeon five years later and to major and surgeon, April 7, 1893; served as lieutenant-colonel and chief surgeon of volunteers from Nov. 7, 1898, until Feb. 28, 1899; was made lieutenant-colonel and deputy surgeon general, U. S. Army, June 28, 1902; promoted to brigadier general March 28, 1906, and was retired the following day, under provision of the age limit, died at his home in New York City, May 24, from heart disease, aged 64.

John W. Trader, M.D. Missouri Medical College, St. Louis, 1860; member and in 1876 president of the Missouri State Medical Association; a member of the Pettis County Medical Society; for several years curator of the State University; one of the commissioners for Missouri to the Paris Exposition of 1867; surgeon of the First Missouri State Cavalry and later brigade surgeon of General Pleasanton's cavalry brigade in the Civil War; chief surgeon of the Missouri, Kansas & Texas Railroad; for several years member of the medical examining board of the State University; one of the most prominent practitioners of Central Missouri, died at his home in Sedalia, May 16, from general debility, aged 70.

Sollace Mitchell, M.D. Bellevue Hospital Medical College, New York City, 1885; of Jacksonville, Fla.; a member of the American Medical Association; formerly president of the Duval County (Fla.) Medical Society; for 12 years chief surgeon of the Jacksonville, Tampa & Key West Railroad, and later consulting surgeon to the Plant System; local surgeon in Jacksonville of the Florida East Coast Railroad for many years; who during the yellow fever epidemic of 1898 had charge of the Sand Hills Hospital, died at Reedville, Maine, May 15, after an illness of nearly a year, from progressive pernicious anemia, aged 48.

John T. McShane, M.D. Medical College of Indiana (University of Indianapolis) 1871; a member of the American Medical Association; formerly assistant port physician to the city and port of Philadelphia and physician to the Bedford Street Mission, Philadelphia, who took supplemental medical courses at Jefferson Medical College in 1885, and at the Medical Department of Tulane University of Louisiana, New Orleans; for several years surgeon for the Chicago, Indianapolis & Louisville and Lake Erie and Western railways, died at his home in Indianapolis, May 20, from Bright's disease, after an illness of eight months, aged 59.

Moses Newton Elrod, M.D. Kentucky School of Medicine, Louisville, 1864; hospital steward of the Twenty-fourth Indiana Volunteer Infantry and acting assistant surgeon, U. S. Army, during the Civil War; postmaster of Orleans, Ind., for six years and some-time assistant state geologist; a member of the Indiana State and Bartholomew County medical societies and first president of the latter body; a member of the Indiana Academy of Science; died at his home in Columbus, May 20, from Bright's disease, after an illness of several months, aged 68.

Josiah P. Lewis, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1878; a member of the American Medical Association; first health officer of Shawnee County, Kan.; city physician of Topeka; a member of the medical staff of Christ Hospital, and professor of anatomy and gynecology in Kansas Medical College; one of the oldest and best known practitioners of Topeka, died at his home May 20, from aneurism of the aorta, after an illness of five months, aged 58.

D. Howell Shields, M.D. Bellevue Hospital Medical College, New York City, 1869; a Confederate veteran; for many years grand medical examiner and supreme medical examiner of the A. O. U. W.; from 1880 to 1884 sergeant-at-arms of the United States Senate; vice-president of the ex-Confederate Association of Missouri and director of the Confederate cemetery at Springfield, died at his home in that city, May 14, aged 60.

David H. Goodwillie, M.D. University of Vermont, College of Medicine, Burlington, 1868; a member of the medical societies of the state of New York and county of Westchester, the New York Academy of Medicine; honorary member of the Canadian Medical Association and delegate to the International Medical Congress in London in 1881; specialist on diseases of the nose and throat, died at his home in Yonkers, N. Y., May 15, aged 73.

John Martyn Harlow, M.D. Jefferson Medical College, Philadelphia, 1844; for many years a member of the school committee of Cavendish, Vt.; a member of the Massachusetts Senate in 1885 and 1886; a member of the governor's council in 1895 and 1896; trustee of the Woburn (Mass.) public library; a member of the Massachusetts and Middlesex County medical societies, died at his home in Woburn, May 13, aged 87.

Augustus C. Bernays, M.D. University of Heidelberg, Germany, 1876; a member of the Western Surgical and Gynecological Association, Mississippi Valley Medical Association, and life member of the German Society for Surgery; chief surgeon of the Lutheran Hospital, St. Louis, and consulting surgeon of the Frisco System, died suddenly at his home in St. Louis, May 22, from cerebral hemorrhage, aged 52.

George G. Duggins, M.D. St. Louis Medical College, 1866; surgeon of Well's Regiment, King's Brigade, Magruder's Division, throughout the Civil War; for many years head of the medical department and division surgeon for the Missouri Pacific Railway at Pueblo; a member of the Colorado State and Pueblo County medical societies, died at the home of his daughter in Denver, May 17, aged 67.

Walter Day Trenwith, M.D. College of Physicians and Surgeons in the City of New York, 1895; a member of the medical societies of the state and county of New York, the West End Medical Society and the Riverside Practitioners' Society; genitourinary surgeon to the outpatient department of the New York Hospital, died at his home in New York City, May 16, from typhoid fever, after a short illness, aged 35.

Heman H. Gillett, M.D. Dartmouth Medical School, Hanover, N. H., 1847; supposed to be the oldest graduate of that institution; for three years member of the Vermont legislature, and surgeon of the Eighth Vermont Volunteer Infantry throughout the Civil War; who had practiced medicine in Post Mills Village, Vt., for 45 years, died at his winter home in Dorchester, Mass., recently.

Charles Simpson, M.D. College of Physicians and Surgeons in the City of New York, 1871; some-time health commissioner and a member of the board of education of Minneapolis, Minn.; a member of the Minnesota State and Hennepin County medical societies; from 1895 to 1898 a member of the State Board of Medical Examiners, died at his home in Minneapolis, May 16, aged 63.

Eugene Wiley, M.D. Jefferson Medical College, Philadelphia, 1869; a member of the Medical Society of the State of Pennsylvania and Philadelphia County Medical Society; one of the founders and secretary of the Red Bank Sanatorium Association, died at his home in Philadelphia, May 17, from cerebral hemorrhage, after an illness of several weeks, aged 61.

Richard Caldwell Brewster, M.D. Long Island College Hospital, Brooklyn, N. Y., 1890; prominent as a physician and dentist of Brooklyn; a member of the Medical Society of the State of New York, Kings County Medical Society, and many other medical and dental societies, died at his home in Brooklyn, May 18, after a prolonged illness, aged 62.

Albert R. Rhea, M.D. Medical Department of Western Reserve University, Cleveland, 1880; of Long Beach, Cal.; while riding his bicycle near his home, was struck by an electric car, his left knee and thigh were fractured and the left side of his chest was crushed in, and died an hour later, from his injuries, May 10, aged 54.

Edgar Poppleton, M.D. Miami Medical College, Cincinnati, 1861; a member of the Oregon State Medical Association and Multnomah County Medical Society; a pioneer resident and practitioner of Oregon; for several years coroner of Multnomah County, died at his home in Portland, May 15, from an internal tumor, aged 74.

William T. Leachman, M.D. University of Louisville, Medical Department, 1867; one of the oldest practitioners of Louisville, Ky.; a member of the faculty of the University of Louisville for many years; for a long time a member of the general council and of the school board, died at his home in Louisville, May 18, aged 73.

Frank Lowber James, M.D. University of Munich, Germany, 1861; St. Louis College of Physicians and Surgeons, 1882; of St. Louis; scientific editor of the *National Druggist;* noted as a linguist and microscopist; a Confederate veteran, died at Bethesda Hospital, St. Louis, May 19, from erysipelas, after a short illness, aged 66.

James E. Casey, M.D. Albany (N. Y.) Medical College, 1852; a member of the medical societies of the state of New York and of Herkimer County; who had been in practice in Mohawk, N. Y., for more than 50 years; once superintendent of schools of Montgomery County, died at his home in Mohawk, May 19.

Samuel L. Dally (Years of Practice, Pa.); hospital steward and surgeon of the First Ohio Volunteer Light Artillery throughout the Civil War; a practitioner of Oakdale, Pa., for 37 years, died at his home in that place, May 2, from cerebral hemorrhage, after an illness of seven weeks, aged 73.

George Rufus Preston, M.D. Eclectic Medical Institute, Cincinnati, 1903; a member of the Keuka Lake Medical and Surgical Association and of the Dansville (N. Y.) Medical Association, died at his home in Dansville, May 16, from scarlet fever, after an illness of one week, aged 30.

William Rodes, M.D. College of Physicians and Surgeons, Baltimore, 1876; of Lexington, Ky., who had suffered from rheumatism for the last four years and had spent his winters in Clear Water Harbor, Fla., died suddenly at that place, May 14, from rheumatic endocarditis, aged 56.

Joseph Addison Burke, M.D. Saginaw Valley Medical College, Saginaw, Mich., 1903; of New Lathrop, Mich., and formerly a practitioner of Judd's Corners, Mich., died at the Nichols Hospital, Battle Creek, from a general breakdown, May 2, after an illness of two weeks, aged 31.

William H. Paul, M.D. Miami Medical College, Cincinnati, 1882; a member of the American Medical Association, and a prominent practitioner of Danville, Ill., died at St. Elizabeth's Hospital in that city, May 15, from cerebral hemorrhage, after a short illness, aged 59.

Aaron Morris, M.D. Medical College of Ohio, Cincinnati, 1868; surgeon of the Second Ohio Volunteer Infantry during the Civil War; formerly of Goshen, Ohio, died at his home in Madisonville, Cincinnati, May 5, after a short illness, aged 69.

John A. Riggen, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878; a veteran of the Civil War; formerly a resident of What Cheer, Iowa, and state senator, died May 12, at his home in Siloam Springs, Ark., after a long illness.

R. R. Dashiel, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1837; formerly a resident and postmaster of Jackson, Tenn., died at the home of his son-in-law, at Lexington, Tenn., May 17, after a lingering illness.

Edward M. G. Moore (Years of Practice, Ky.); said to have been the oldest practitioner of Bullitt County, Ky., died at his home in Mount Washington, May 14, after an illness of more than a year, from disease of the stomach, aged 82.

James H. Stamper, M.D. Louisville (Ky.) Medical College, 1889; a member of the Kentucky State and Wolfe County medical societies, died at his home in Campton, Ky., May 14, from pneumonia, after an illness of three weeks.

John H. Wengert, M.D. College of Physicians and Surgeons, Baltimore, 1879; formerly a practitioner of Fredericksburg, Pa., died suddenly at his home in Windber, Somerset County, Pa., May 12, from heart disease, aged 49.

William E. Whitworth, M.D. University of Nashville (Tenn.) Medical Department, 1877; for many years a practitioner of Davidson County, Tenn., died at his home near Donelson, Tenn., May 13, after a long illness.

William Barnard Graves, M.D. College of Physicians and Surgeons, Baltimore, 1901; died at his home in Dubois, Pa., May 10, from typhoid fever following pneumonia, after an illness of seven weeks, aged 33.

Archibald Cleghorn Bass, M.D. Bellevue Hospital Medical College, New York City, 1880; of Columbus, Ga., died at the Rankin House in that city, May 14, from nephritis, after an illness of two years, aged 49.

Milton See Sherwood, M.D. Yale Medical School, New Haven, Conn., 1898; of New York City; a member of the medical societies of the state and county of New York, died at Pocantico Hills, N. Y., May 14.

Richard R. Sale, M.D. University of Iowa, College of Medicine, Iowa City, 1858; a practitioner of Colona, Ill., for 45 years, died at his home in that city, May 20, from angina pectoris, aged 73.

Frederick W. Hicks, M.D. Southern Homeopathic Medical College and Hospital, Baltimore, 1907; of Ohio, died in St. Luke's Hospital, Baltimore, May 15, from pneumonia, aged 30.

R. D. C. Dood (License, Arkansas, 1903); a Confederate veteran; for many years a practitioner of Polk County, Ark., died at his home in Mena, March 26, from heart disease, aged 65.

Philip Gross Havice, M.D. Fort Wayne (Ind.) College of Medcine, 1895; is reported to have committed suicide by gunshot wound, at his home in Wren, Ohio, May 18, aged 35.

Ossian Sumner, M.D. Jefferson Medical College, Philadelphia, 1842; for more than 60 years a resident of Providence, R. I., died at his home in that city, Nov. 11, 1906, aged 87.

Calvin J. Woods, M.D. Starling Medical College, Columbus, 1849; of Centerville, Ind., died May 14, at De Funiak Springs, Fla., where he was spending the winter, aged 88.

Philip G. Zapp, M.D. Marion-Sims-Beaumont Medical College, St. Louis, 1903; of St. Louis, died in Denver, Colo., May 13, aged 44.

Death Abroad.

Sir Joseph Fayrer, K.C.S.I., LL.D., F.R.S., M.D. Edinburgh, 1849; F.R.C.P. London, 1872; F.R.C.S. Edinburgh, 1858; F.R.C.S. England, 1878; M.R.C.S. England, 1847; honorary physician (military and physician extraordinary to the King of England; surgeon general, retired; who entered the Bengal medical service in 1850, served through the Burmese War, the Indian Mutiny and the defense of Lucknow; professor in the Medical College of Calcutta, and president of the medical board in the India office from 1874 to 1895; a prolific writer, who made especial studies and researches on the snakes of India, and whose work on "The Thanatophidia of India" is a classic, died at his home in Falmouth, Eng., May 21, aged 82.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

NEW MEXICO Board of Health, Santa Fe, June 3. Secretary, Dr. B. D. Black, Las Vegas.

MINNESOTA State Board of Medical Examiners, St. Paul, June 4. Secretary, Dr. W. S. Fullerton, St. Paul.

MARYLAND Homeopathic Board of Examiners, Baltimore, June 4. Secretary, Dr. Joseph S. Garrison, 848 W. North Ave., Baltimore.

OHIO State Board of Medical Registration and Examination, Cleveland, Columbus and Cincinnati, June 10-12. Secretary, Dr. George H. Matson, Columbus.

KENTUCKY State Board of Health, Louisville, June 11. Secretary, Dr. J. N. McCormack, Bowling Green.

SOUTH CAROLINA State Board of Medical Examiners, Columbia, June 11. Secretary, Dr. W. M. Lester, Columbia.

OKLAHOMA Board of Medical Examiners, Guthrie, June 11-12. Secretary, Dr. J. W. Baker, Enid.

KANSAS State Board of Medical Registration and Examination, Kansas City, Kansas, June 11-13. Secretary, Dr. F. P. Hatfield, Grenola.

IOWA State Board of Medical Examiners, Des Moines, June 11-13. Secretary, Dr. Louis A. Thomas, Des Moines.

MICHIGAN State Board of Registration in Medicine, Ann Arbor, June 11-13. Secretary, Dr. B. D. Harison, 205 Whitney Building, Detroit.

Florida Homeopathic Board of Medical Examiners, Jacksonville, June 18. Secretary, Dr. C. W. Johnson, Jacksonville.

Delaware Board of Medical Examiners, Dover, June 18. Secretary of the Medical Council, Dr. P. W. Tomlinson, Wilmington.

Delaware Homeopathic Board of Medical Examiners, Wilmington, June 18. Secretary, Dr. C. M. Allmond, Wilmington.

New Jersey State Board of Medical Examiners, State House, Trenton, June 18-19. Secretary, Dr. J. W. Bennett, Long Branch.

Virginia State Medical Examining Board, Lynchburg, June 18-21. Secretary, Dr. R. S. Martin, Stuart.

Wyoming Board of Medical Examiners, State Capitol, Cheyenne, June 19. Secretary, Dr. S. B. Miller, Laramie.

Maryland Board of Medical Examiners, Baltimore, June 19-22. Secretary, Dr. J. McPherson Scott, Hagerstown.

Pennsylvania State Board of Medical Examiners, 708 Locust Street, Philadelphia, and in Pittsburg Academy, Ross and Diamond Streets, Pittsburg, June 25-28. Secretary, Dr. Winters D. Hamaker, Meadville.

Pennsylvania Homeopathic Board of Medical Examiners, N. W. Corner 15th and Cherry Streets, Philadelphia, June 25-28. Secretary, Dr. C. S. Middleton, 1523 Girard avenue, Philadelphia.

Pennsylvania Eclectic Board of Medical Examiners, Harrisburg, June 25-28. Secretary, Dr. W. H. Blake, 2116 N. Marvine Street, Philadelphia.

Texas State Board of Medical Examiners, Austin, June 25-27. Secretary, Dr. T. T. Jackson, San Antonio.

To the Medical Students Graduating in 1907.—*Medical Notes and Queries* gives the following advice to the new graduates: "Those who enter on the practice of medicine this year will do so under conditions that have never previously prevailed in the history of medicine. The wonderful progress that has been made in medical and surgical subjects renders it impossible for even the specialists to keep abreast of the time, and yet, owing to the education of the laity in matters pertaining to medicine, more and more knowledge on a greater variety of subjects is expected from the physician. That there has been an awakening of the public conscience in regard to certain abuses which have crept into the medical profession and that the medical profession is more united than ever before are well-known facts to the most careless observer of what is going on around him. You will probably graduate from your college with a greater variety of theoretical knowledge than you will ever have again. It is to be hoped that your ideals are high; but you have not been taught what is essential to success, the so-called ethics of the profession and the business details necessary to bring you in a suitable income from the practice of your profession. It is well to remember at the outset of your career that if you start to practice in the city the ultimate returns will be greater than in the country, but that it will take at least five years in the city to secure an amount of money from your practice that you might obtain by a one year's sojourn in a well-selected country practice.

"If you possibly can, secure a hospital interneship, and if your funds permit go abroad for a year and study the languages and pathology along with some subject in which you may be interested. Do not stay there too long, nor while abroad get into certain habits which you will be unable to throw off on your return to America. Join your county medical society, your state medical society, and the American Medical Association. You will probably, within five years, see the reunion of all the so-called medical sects into one. The only difference to-day is in therapeutics, and there are but few who think alike in regard to this matter. If you join the American Medical Association you will secure, free of charge, The Journal of the American Medical Association, one of the best medical weeklies published in the world, containing in its issue of March 2 one hundred pages of selected reading matter. You should, in addition to this paper, subscribe to one or more of the more local journals and this along with your state medical journal will keep you fully informed as to what is happening in your own neighborhood. In addition, subscribe to one journal in a foreign language; even if you are unable to read it, the constant reminder by the regularity in its coming will make you ambitious to master its contents.

"After you have decided on your locality call on the physicians in your neighborhood. This is the old English custom and is a proper one to pursue. You may be received with formal dignity by certain members of the profession, but you will be discourteously treated by only a few. Do not have too long office hours, and immediately try to connect yourself with a teaching institution, a dispensary or a medical journal. Make it a point to spend at least one hour a day in reading medical works and another hour on general literature. Do not let your stock of books run down. Be sure to purchase at least six well-selected works each year. A book that is five years old to-day is out of date, and except as a reference work, or if it be a classic, should not be consulted for the latest medical thought.

"There is a return to the United States Pharmacopeia, the National Formulary, and the well-written prescription for the giving of medicine. The new Food and Drugs Act of the United States will do much to prevent the giving of ergot or nux vomica containing an insufficient quantity of its active ingredients. Live and let live should be your rule in dealing with the pharmacist, but let there be no dealing with the druggist who sells abortifacients to the women, and alcoholic drinks and cocain at the soda-water fountain.

"You will probably not be out long in practice before you will be asked to perform an abortion, often under the plea that it is essential for the health of the mother. But it is an undisputed fact in these cases that they are most often unmarried, and this in itself should lead one to be most careful. In those rare instances where an abortion must be performed to save the life of the mother, be sure that it is only done after proper consultation and with the full consent and knowledge of the next of kin. One of the most important facts to remember is, on all occasions make a postmortem examination of those who have died under your care. There is nothing more interesting than to see the pathologic appearances of the organs which have given rise to symptoms which you have diagnosed during life. But, alas, it happens more often that the conditions are not those which you have diagnosed or the suspected lesions represent but a small part of those found.

"The great question of the value and practicability of uniformly carrying on laboratory methods must be considered as *sub judice*. It is certainly impossible, however, for any one conscientiously to practice medicine without using them more or less frequently. Besides the examination of the urine, blood and alimentary contents, the tests undertaken by our various boards of health are those which are most frequently needed, namely, the Widal test, and the examination for tubercle bacillus, and the diphtheria bacillus.

"One should remember that at the present time the cost of the automobile is practically more than that of a horse; that the expenses of living were never so high as they now are; and that the number of physicians in proportion to population is greater than ever before; that the decrease in sickness, owing to the control of certain epidemics and the increase of popular knowledge of certain sanitary measures, causes less work than ever before. You will, therefore, find that it is much easier to decrease your expenditures rather than to increase your income. Protect yourself in every way from malpractice suits.

"Keep a careful record of your cases, preferably on the card-index system, and be sure that, whatever method of bookkeeping you adopt, it be such that it may be used in court. Be ever ready to attend the poor, and remember that there is more real and hidden poverty among the so-called gentility than is to be found even in the outward manifestations of the slums. Be courteous to those with whom you come in contact; respect the opinions of your elders, and do not be too hasty to enter into partisan politics. Avoid stimulation and be most careful in regard to the use of morphin by injection and the renewal of prescriptions containing harmful ingredients."

Classification of Colleges.—In The Journal, May 18, pages 1704 and 1705, was published a classification of medical schools based on state board examinations for the two years 1904 and 1905. The figures included old practitioners taking the examinations as well as recent graduates. There are a number of colleges included in the lists which have made combinations with other schools or have undergone reorganization, thereby greatly improving their facilities for teaching medicine. Special attention is therefore called to another classification published in The Journal of May 25, on pages 1785 and 1786, which is based on the examination of *recent graduates* during 1906. It is an encouraging sign that instead of only 41 having less than 10 per cent. of failures there are 62 now in that class.

New York's New Practice Act.

The new medical practice act has been signed by Governor Hughes and goes into effect at once. The law provides that in place of the three separate boards there shall be one examining board, composed of nine members appointed by the regents. In constituting the first board three members shall be appointed for one year, three for two years and three for a term of three years. Each year thereafter three members shall be appointed for a term of three years. The regents are not restricted in their choice of members except that the appointee shall be eligible to receive a license to practice medicine and must have been in active practice in the state for at least five years. The regents have the power to remove any member of the board at any time for misconduct, incapacity or neglect of duty. A secretary to the board is to be appointed by the regents, who holds office during their pleasure. He must be a licensed physician, but is not a member of the board of examiners.

Examination questions are prepared by the board of examiners and submitted to the regents, who select from them the questions to be asked at the examinations. Each examination is conducted by a regents' examiner, who is not to be a member of the examining board. After the examination the papers are graded by the board of examiners and the results turned over to the regents. Examinations will be held in four or more convenient places and at least four times each year. Candidates failing at one examination may, after not less than six months, have a second examination without fee. Each applicant must have paid an examination fee of $25, must be 21 years of age, of good moral character, must have completed his preliminary education, the equivalent of graduation from a registered high school, prior to beginning his second year of medicine, and must have graduated from a reputable medical college acceptable to the regents. He must have studied medicine four years of at least seven months each, and must pass the examination required by the regents. Provision is made for examining in anatomy, physiology, hygiene, sanitation and chemistry, at the end of the sophomore year, this credit to be acceptable toward the examination for license after four years in a medical college have been completed. The licensing examination covers the subjects named above unless applicant has already passed examination in them, as well as surgery, obstetrics, gynecology, pathology including bacteriology, and diagnosis. Provision is made for reciprocity with states having equal standards and for the accepting of candidates of known eminence and ability regardless of reciprocity. For graduates from colleges of osteopathy, applicant must have studied at least three years, including three satisfactory courses of nine months each, in a college of osteopathy maintaining at the time a standard satisfactory to the regents. After 1910 osteopathic candidates must present credentials similar to those required of other candidates. Each osteopath now in practice must present evidence of graduation from a regularly conducted college of osteopathy in the United States which at the time of his graduation required a course of study of two years or longer, including the subjects of anatomy, physics, pathology, hygiene, chemistry, obstetrics, diagnosis and the theory and practice of osteopathy, with actual attendance of not less than 20 months, which facts shall be shown by the diploma and an affidavit. Then, after paying a fee of $10, the applicant will be issued a license without examination. The license to practice osteopathy shall not permit holder to administer drugs or perform surgery with the use of instruments, but he will be entitled to the use of the degree D.O., or doctor of osteopathy.

Licenses must be registered in the county where applicant locates, and careful directions are given in order to prevent fraud, misrepresentation or mistakes. The regents have the power at any time to inquire into the identity of any person claiming to be a licensed physician and to revoke any license for cause. Among the causes mentioned for revocation are: Fraud or deceit, crimes or misdemeanors, habitual drunkenness, the habitual use of morphin, opium, cocain or other drugs having a similar effect, and the performance of criminal operations. Action may be begun on charges preferred by any person or corporation or by the regents themselves. After licenses have been revoked they may be restored in the discretion of the regents. This article is not to be construed to affect medical officers of the United States Army, Navy or Marine-Hospital Service while so commissioned; or any one engaged in the practice of dentistry, or who fits or sells lenses, artificial eyes, limbs or other apparatus, or to affect any doctor from an adjoining state who shall be called in consultation with a local legally registered physician.

Any person who practices without first being duly registered or who shall practice under any unlawful means shall be guilty of a misdemeanor, while practicing under an assumed name or impersonating another constitutes a felony and any one so practicing is subject to a fine in accordance with penal code for such offense. Fines collected will go toward the expense of the prosecution.

The practice of medicine is defined as follows: A person practices medicine within the meaning of this act, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake, by any means or method, to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition.

Society Proceedings

COMING MEETINGS.

American Medical Association, Atlantic City, June 4-7.

American Academy of Medicine, Atlantic City, N. J., June 1-3.
American Association of Medical Examiners, Atlantic City, June 3.
American Gastro-Enterological Association, Atlantic City, June 3.
American Proctologic Society, Atlantic City, June 3-4.
American Urological Association, Atlantic City, June 3-4.
Maine Med. Assn., Lewiston, June 12-14 (changed from June 5-7).
Massachusetts Medical Society, Boston, June 11-12.
Medical Society of North Carolina, Morehead City, June 11-13.
Rhode Island Medical Society, Providence, June 13.
Medical Society of New Jersey, Cape May, June, 25-27.
Oregon State Medical Association, Seaside, July 12-13.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at Washington, D. C., May 7-9, 1907.

The President, Dr. Dudley P. Allen, Cleveland, Ohio, in the Chair.

The Teaching of Surgery.

Dr. Dudley P. Allen, in his address as president, urged the training of surgeons; first, thorough and broad instruction; second, prolonged hospital residence and postgraduate study, and third, the establishment of some standard of attainment which must be reached by men to gain them general recognition by the profession. If these ends be attained, the community and the general profession will not long remain in doubt as to the men who are deserving of their confidence and support. Such a standard, he said, would do much to protect the public from incompetent men, and to place in the hands of capable surgeons those facilities, which they alone are able to utilize to the best development of their profession and the best interests of humanity.

Spinal Anesthesia.

Prof. E. Küster, Marburg, Germany, dealt particularly with novocain, as a spinal anesthetic. He presented his conclusions, based on about 300 cases. His results have been most convincing to him that in operations on the lower extremities, and in fact, in operations up as high as the umbilicus, spinal anesthesia is justifiable. He also believes it very suitable for examinations, and for the introduction of instruments. Although he has frequently gone above the line of the umbilicus when using novocain, he finds that it sometimes is necessary to induce general narcosis. Patients feel absolutely no pain. There is, however, generally a feeling of sickness and desire to vomit. On the average, at the end of an hour and a half the action of the anesthetic will be over, and the patient will begin to experience genuine sensations of pain.

Some patients, who during the anesthetic experience motor paralysis, later assert that they still feel a sensation of weakness in their legs which does not prevent their walking, but makes them limp a little. In a few hours this is completely overcome. It is noteworthy that sensation returns more quickly than does motion. The principal ill effect following lumbar anesthesia by novocain is headache, which appeared in 14 per cent. of Küster's first 200 cases. He states, however, that this can readily be relieved by puncture of the dural cavity and the withdrawal of about 10 c.c. of fluid. The author has only once seen pneumonia follow the use of this anesthetic, and it is noticeable that in this case a general narcosis was finally necessary.

Continued Passive Hyperemia in Delayed Union of Fractures.

Dr. John B. Roberts, Philadelphia, called attention to the fact that continuous hyperemia, produced by a rubber bandage placed around the limb above the seat of fracture, has a tendency to cause the formation of callus in cases of delayed union of fractures. During the use of the rubber bandage calcium salts, phosphorus in some form, and tonics should be given, and the patient is to be encouraged to live as much as possible in the open air. Where there is a mechanical impediment to union, incision with readjustment of the relations of the soft tissues and the bone, is necessary. Fixation with nails or staples can then be employed, and continuous hyperemia used as an adjuvant.

Resection of the Sound Femur in Gigantism and Asymmetry.

Dr. Robert W. Johnson, Baltimore, suggests the shortening by operation of sound femora in order to decrease height, or to make even the legs of those suffering from shortening due to previous fracture or other causes. His proposal is as follows: After the patient has accepted the operation with a full knowledge of its possibilities, under the most rigid asepsis and careful constitutional building up, the surgeon should cut down on the femur at the junction of its middle and lower third, and from that region excise from two to two and a half inches from the shaft, then bring the proximal and distal ends together by chromicized catgut, silk or silver wire. The wound should be dressed either with or without a drain, encasing the limb from toe to pelvis in plaster-of-Paris, so to remain until union becomes firm. Without infection the limb should unite in about ten weeks. When performing this operation for excessive height Dr. Johnson suggests an interval of at least three months between the operations on the two femora.

Temporary Resection of Both Superior Maxillæ for Nasopharyngeal Tumor.

Dr. Frederick Kammerer, New York, reported a case of removal of a fibroid tumor of the nasopharynx by temporary resection of both superior maxillæ after the method of Kocker. The patient had already undergone an attempt at removal of the tumor by the Chassaignac-von Bruns method, at the hands of another surgeon. The operation by the author was done in 1904. Several months ago he examined the patient and could find no recurrence of the growth. No injury resulted to the upper row of teeth, and no deformity in the upper jaw.

A New Method of Rhinoplasty.

Dr. J. M. T. Finney, Baltimore, reported two cases of reconstruction of the nose by means of the ring finger. In both cases the bony support of the nose, including the septum, was entirely destroyed; the integument remained, but was retracted and distorted. Instead of the usual prominence of the nose there was a depression. The first patient was operated on in 1902. On last report the operation had proved most satisfactory. The second patient was a young woman, 16 years of age, on whom he operated some six months ago.

(To be continued.)

MISSOURI STATE MEDICAL ASSOCIATION.

Semi-Centennial Meeting, held at Jefferson City, May 15-17, 1907.

The President, Dr. C. H. Wallace, St. Joseph, in the Chair.

Officers Elected.

The following officers were elected: President, Dr. W. F. Allee, Olean; vice-presidents, Drs. O. F. Piles, Memphis; C. E. Hough, Jefferson City; C. V. Cook, Rayville; A. H. Vendervert, Bethany; secretary, Dr. J. W. McAllister, Kansas City; treasurer, Dr. J. Franklin Walsh, Salisbury; delegates to the American Medical Association: for two years, Drs. C. M. Nicholson, St. Louis; F. E. Murphy, Kansas City; for one year, Drs. F. R. Anthony, Maryville; O. B. Campbell, St. Joseph; alternates, Drs. W. E. McKinley, W. T. Elam and Frank Keith.

Report of Secretary.

The secretary, Dr. C. M. Nicholson, reported that nearly all the counties in the state have been organized and that the membership of the association numbers 2,437.

Committee on Tuberculosis.

The association adopted the report of its committee on tuberculosis, recommending the organization of a society for the investigation and control of tuberculosis, consisting of members of the association and others. The organization was effected and Dr. George Homan of St. Louis was elected chairman.

The meeting was well attended and many interesting papers were read.

Springfield was selected as the place for holding the next annual meeting.

COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION.

Third Annual Conference, held at Chicago, April 29, 1907.
(Concluded from page 1807.)

EDUCATION IN THE SOUTH.

At the afternoon session the first speaker was Chancellor J. H. Kirkland, of Vanderbilt University, who addressed the conference on "Conditions Controlling Education in the South."

His experience in connection with literary education and as an official member of the faculty of medicine of his university has shown the difficulty of advancing educational standards in the South. Twenty years after Vanderbilt University established a high entrance requirement the Carnegie foundation for the advancement of teaching issued a bulletin defining the preliminary requirements necessary for a high-grade college in fourteen units, and the Carnegie foundation cited the course of Vanderbilt University alone of all the colleges in the South as meeting those requirements. The explanation is that the South covers a large territory that is mostly agricultural, not well provided with public schools, and with practically no system of public high schools. Many of the so-called high schools are of low standard, beginning sometimes with the sixth or seventh grade and giving not more than one year of real high school work. The entrance requirements of the best institutions are not what they should be, since scarcely more than a dozen institutions in the South come up to a respectable standard, while there are scores below it. The Southern College Association for Literary Schools, after fourteen years of effort, has been able to secure only eighteen colleges that would agree to require a three years high school course as a standard of admission to college. The speaker said he could point to a university whose charter stated as its express purpose the preparation of boys for college, and there were other institutions not so honest as to express their purpose that did not give even that preparation.

These are the conditions under which the educators of the South have had to work. While he was profoundly interested in the elevation of professional education, the question always, as propounded to him, is a practical rather than a theoretical one, and any proposition along that line must stand the test of practical adjustability in order to commend itself to his judgment. He has advocated openly the regulation by the state of all degree-conferring institutions. He has advocated a board of education that could take away from literary institutions the right to confer degrees and that should, by establishing some slight requirement, put all of our institutions on a plane, if not creditable, at least respectable, but it is very hard to get such a thing enforced.

An educational revival should express itself, first of all, in getting rid of a number of institutions, literary as well as professional; and yet the question is, How can it be brought about? A law may be passed, for example, that no student shall be received into a medical college without having received an A.B. degree; there are enough colleges in the South to fill the medical schools with A.B. graduates, not one of whom could pass a high school examination and get into the freshman class of a high grade college. That, however, would not be promotive of sound standards, of honest work, or of the real elevation of professional standards in medical education. He would like to see the requirement of a thorough high school course enforced. He would like very much to see a method devised by the council of inspecting institutions to see whether such a requirement is enforced. There is not much advantage in making higher requirements until those now demanded are, to some extent at least, being lived up to. There is a Southern Medical College Association that attempts to have a requirement of two years' high school work for admission to a medical college, but the speaker had not heard of any student removed from any Southern medical institution through the enforcement of this standard.

One of the greatest services that this conference can render is to devise some plan by which the state will assume the responsibility for the admission of medical students as well as for their graduation and admission to practice. It can not be left to the institutions alone, but if the state intervenes a high school preparation might be enforced as the minimum requirement for the study of medicine.. Chancellor Kirkland does not believe, however, that the interests of medical education in the South would allow the establishment of a much higher standard at present. Suppose, for instance, that an attempt were made by outside influences to demand of all medical colleges a preliminary course in the sciences that have been outlined here. It would mean a two years' college course in a reputable institution, and there are few institutions in the South capable of giving the kind of course that has been outlined. There are few Southern colleges prepared to teach biology. Students who had not had even a high school education would present certificates from chartered colleges, stating that they had had two years of academic work and had done work in physics, chemistry and biology, when, in fact, it would have been far better for them if they had been studying English, Latin, algebra and geometry, instead of putting in their time on biology, physics and chemistry, for which they were not fit. The cause of medical education would by no means be promoted if a premium were put on the continuance of such methods of instruction, and it would be a step backward rather than forward to insist on it. It would be putting a premium on deceit, for the poorer colleges would undertake to do the work with poor equipment and inefficient teachers and certify that the courses had been taken. It is well for the Council, which stands for education in all parts of our country, to deal with these things as facts and meet them in a way that will be operative.

It is to be remembered that the ultimate power in these matters rests with our state boards and state legislatures. It has been hard to get some of the states in the South to make and enforce a standard that all agree on demanding. This has been true of pharmacy and of law, as well as of medicine. If we undertake too rapidly or too violently to put on these boards a standard higher than they can enforce, the result will be a reaction. The present laws will be repealed, medical education disorganized, and the legislature will say, "We do not propose to make laws to satisfy the demand of Minnesota or Massachusetts; we will make our own laws, and we will simply do away with what we have and let all young men go into practice who want to."

Education in the South lacks funds, and we must seek both public and private endowment, but all our efforts must be practical; they must be directed to some end. In a spirit of enthusiasm we should not go beyond what can be administered, and, above all things, we should try to make good the ground we have gained before we assume to move out from our base and strive for additional territory. That ground is the requirement that the Council has suggested, of a thorough high school education, as a preparation for medical education. There is great hope in inspection. If this Council would inspect and tell the truth about all our institutions, point out their defects, point to their equipment, and give the facts as regards them, and as regards their manner of teaching, the moral force that would be exerted by such inspection would be a tremendous power and would have an uplift that could not be calculated or realized, and would be more efficient in the long run than an attempt by too drastic legislation to secure results that might work disaster to the cause we all have so dearly at heart.

INSPECTION OF PRELIMINARY CREDENTIALS BY AN OFFICER OF THE STATE EXAMINING BOARD.

In the absence of Dr. Dudley Tait, California, who was to have read a paper on this subject, the Chairman called on Dr. S. D. Van Meter, Colorado.

Dr. Van Meter said:—Mr. Chairman, it is rather difficult for me to reply to an important subject like this without preliminary preparation. But having had some little experience in the inspection of preliminary and other documentary evidence of qualification, I will attempt to offer a few suggestions which I hope may be of value.

In the first place, it may be stated the average executive officer of a board of medical examiners is not equipped or prepared to examine high school graduates for entrance to medical colleges or to pass on the documentary evidence, diplomas and certificates. In this Council I have urged for a number of years the establishment of inspection of medical colleges and institutions giving a preliminary education for entrance to medical schools. I believe it is a financial impossibility for a board, or an executive officer, or any committee of that board, to inspect the different institutions of the country and give anything like an intelligent report thereon. As a member of the Colorado Board, I welcome the support of the Council regarding the inspection of different medical schools; let it be extended to the institutions giving preliminary instruction. The speaker who just preceded me has mentioned a sad dilemma in the South as to its medical educational institutions. I am sorry that such things still exist, but I believe that the solution of the dilemma which he has so graphically portrayed lies in the careful administration, by the state examining boards, of the questions that come before them. This inspection, based on the credentials, preliminary and otherwise, will be effectual in direct ratio to the personnel of these boards, and while I do not like to be considered a "knocker," I must say that I am ashamed of many of my confrères who are on the examining boards in the different states. I do not believe they are appointed from the best timber the profession affords. The organized profession of every state should begin long ahead of the time the appointments are made to select men with judicial minds, men who are trained and unqualified to pass on credentials and to pass on the qualifications of applicants before the boards. In my opinion, the solution lies in this Council collecting data from year to year, imperfect at first as it must be, but as it accumulates year after year it will become a most reliable reference from which the boards may determine what a high school diploma and what an A.B. from that or this institution means as to qualification.

In this connection I would like to speak of the advisability of having some record kept by this Council, or by some department of the American Medical Association, of the different men throughout the country who have been crooked in their dealings or who have failed in applications for licensure. Nothing would assist the examining boards more when such people apply for license in those states. In the last quarter we turned down, in Colorado, four men who were advertising to cure sexual diseases. We sent one man to prison for making a false record as to graduation. He claimed to have taken three courses at one of the Chicago medical colleges and one course at Omaha, while as a matter of fact we were informed that he entered the fourth year of the Chicago college on credentials of three years' attendance at another Chicago college. Another man we discovered, by inspection of his record, was a fugitive from justice. If every board reported monthly to this Council or to some other department, and such data were collected and kept on record, the secretary or executive officer in inquiring as to what credit should be given for preliminary and college education could easily find out many things or points about the applicant's moral character that would be invaluable in deciding the important question of education and moral qualification to practice medicine.

WHAT CONSTITUTES A REPUTABLE MEDICAL COLLEGE?

Dr. Howard J. Rogers, First Assistant Commissioner of Education, New York, who was to have spoken on this subject, was absent, and Dr. Victor C. Vaughan, Michigan, was asked to present the subject briefly. Dr. Vaughan said:

The science of medicine is a collection and classification of facts gathered from the various sciences which can be utilized in the cure or prevention of disease. The practice of medicine is the utilization of facts contributed by various sciences in the treatment or prevention of disease. With this as my text, I will say that there are two methods of teaching medicine. The one is reputable, and the other is not. All of us gray-headed men, who graduated twenty-five years or more ago, received our medical education in a class of schools that would now hardly be called reputable. We feel this. We suffer from it every day. I say there are two ways to teach medicine. One is to take the isolated facts from the various sciences which are utilized in the treatment or prevention of disease and to teach them as isolated facts. That is the way we studied medicine. When we studied anatomy we did not know anything about the development of the human body. We knew nothing about embryology; possibly we saw a few models, but we knew nothing about the evolution of the different parts of the human body. We were taught regional and surgical anatomy that we might have this knowledge, so that we could utilize it in any surgery we might do. We were not taught any of the principles of chemistry; we were taught that it was not a good thing to mix acetate of lead with sulphate of zinc, because a precipitate would be formed, but we had no idea of the general principles of chemistry at all. We were taught that morphin, strychnin and similar bodies are alkaloids and obtained from plants, but as to the nature of the alkaloids we knew nothing. We were taught to use this knowledge by rule of thumb. Now, there are some medical schools still teaching medicine in that way. They are not teaching bacteriology as a science at all. They show this student how to stain the tubercle bacillus; they have a few microscopes, and the teacher gets out a culture of the tubercle bacillus, makes a stain, and shows the students how to stain tubercle bacilli. But they could not make a culture of it; they would not know how to go about it.

I think I am not violating any confidence when I say that there are certain men who teach bacteriology and who start at the beginning of their lectures with a lot of tubes already made. They do not know enough about bacteriology to make cultures. They hold up these tubes and say, "This is a diphtheria culture; this is a culture of tubercle bacillus," and if by any chance a culture goes bad they send and get another. That knowledge is worth something, of course. I have seen a man who had no special training, working as a carpenter, cut a brace to fit an angle with accuracy every time. He never made a mistake, but he did it by rule of thumb. I have been at sea with men who could take the latitude and longitude of ships, but they did it by rule of thumb. They knew nothing about astronomy. That is one way of teaching medicine. Unfortunately, it is a method that is still followed to some extent.

The other way of teaching medicine is to teach the student the fundamental principles of these different sciences which have contributed to medicine; the fundamental principles of physics, of chemistry, of biology, embryology, of bacteriology, and to teach them as sciences apart from their practical application. When a man has been instructed in this way he has within him the capability of growth. He has the foundation; of course, it is not possible for a man to be expert in any one or two of these branches, but every medical student should have the fundamental principles of chemistry, of bacteriology ground into him. He should not only know how to stain the tubercle bacillus, how to recognize the diphtheria bacillus, but he should know how to make culture media, how to grow them, how to differentiate, how to inoculate animals, how to study lesions induced in these animals. It seems to me that right here, in the difference between these two methods of teaching medicine we have a distinction between reputable and a non-reputable college, as we look at it to-day. One is a scientific training; the other is a rule of thumb training; the one is building on the rocks; the other is building on the sand.

I am free to admit, and I am glad to testify, that the old method of medical education has given us many splendid results. But it has given us these results because the men who studied medicine in the old way did not stop its study when they left school; they have continued, and they have learned scientific methods, have adopted them, and carried them out, and I am perfectly willing and glad to testify that there are many of the poor schools to-day which are turning out men that will be capable practitioners of medicine. There are some men who will succeed in the practice of medicine, I do not care where they graduate. But the point I want to make is, for the great mass of medical students, for the average student, it is absolutely impossible to give him the scientific education that he ought to have, that he has a right to demand without, in the first place, his having the proper qualifications to build on; and, in the second place, without the school being able to furnish the equipment, the apparatus, the facilities necessary to teach medicine in a scientific way; and, in the third place, and probably this is quite as important as anything else, and that is, he should have as teachers scientifically trained men. I think this is the fundamental difference between the proper way of teaching medicine and the improper way of teaching it. I do not like the words "reputable" and "non-reputable."

While I am on my feet, I want to say one word more. I was much interested in what Chancellor Kirkland, of the Vanderbilt University, said about the condition of things in the South. I have no fear whatever that the South will, if you give it a little time, recuperate itself and bring forth good medical men. When I am called on by my students to hold up to them the name of some illustrious American physician, I frequently go to the South. Who was Ephraim McDowell? Who was Bradshaw, who made the first, or one of the first, successful amputations of the hip joint? Who was J. Marion Sims, a practicing physician in the then village of Montgomery, Ala.? Who was Long, who first utilized anesthesia in the removal of tumors? Above all, who was Walter Reed, a graduate of a Southern medical school; a man who wrote the brightest, and, I might say, the only bright page in the history of American intervention in the affairs of Cuba? So I am not at all afraid that the South will not do its duty in medicine as it has in many other things.

METHODS OF CONDUCTING STATE BOARD EXAMINATIONS.

Dr. Beverly D. Harison, Detroit, read a paper on this subject, as follows:

My time recently has been so much occupied with other very immediate and necessary duties that I have had no opportunity to give to this very interesting, important and practical subject the thought and preparation it deserves. I will, therefore, not attempt to cover the subject in a thorough or exhaustive manner, but rather from such a standpoint and briefly as will tend to bring out discussion and the opinions of those present who are better qualified than I to review the subject.

THE WRITTEN EXAMINATION.

The almost universal method of written state board examinations in this country has its advantages and disadvantages. From the point of view of utility and perhaps necessity at this time, the written examination takes precedence over all other forms, and the reason for this seems very clear, and is due to several seemingly uncontrollable circumstances and conditions, which may informally be enumerated as follows:

1. Conditions involving a board membership representing the several schools of medicine recognized by law. This condition is suggestive of embarrassment in selecting any one-school hospital, clinic or laboratory for the purposes of examination.
2. Membership on a medical board is usually limited to practitioners in general practice and who have no active connection with schools or hospitals as teachers, and who, in order to qualify legally for membership, are required to have been several years in active practice. While the above limitations covering membership presume absolute independence of medical college influence, they are not qualifications necessary for a high-grade examiner.
3. The written examination is the easier and more convenient method, allowing members to prepare the questions at leisure before leaving their homes, and also not absolutely requiring their presence at an examination.
4. The usual board member receiving no compensation from the state, feels that two or three days' absence from his field is as much time as he can afford to give to an examination.
5. The expense and difficulty connected with the obtaining of proper clinical facilities necessary in this form of an examination, and also the greatly increased time necessary in such an examination.
6. The expense and difficulty in connection with the obtaining of suitable laboratories and the added expense and difficulty of obtaining qualified examiners, especially from the board members, and also the increased time required in such an examination.
7. The additional time required in an oral examination added to the written one.

THE IDEAL EXAMINATION.

I think no one will take issue with me when I state that an ideal state board examination should include, in addition to the usual written one, an oral, a laboratory and a clinical examination. The combination examination included in the written, oral, clinical and laboratory is the usual method in Great Britain, Germany and other foreign countries, and this method of examination is also in force in Ontario. It is also the usual medical college method in institutions of the first class. A written examination is by far the most ineffective test of all the usual forms of examination, for it is a well acknowledged fact that candidates who are incapable of demonstrating practically a proper knowledge and training very often succeed in obtaining a high standing in a solely written test. The results obtained in examinations where the requirement of graduation from a reputable medical school is not demanded will conclusively prove this statement. A fairly thorough course in quiz compends and published examination questions and their answers will usually obtain good results in the written examination.

It must be taken for granted that the usual board method of a solely written test of qualification is unsatisfactory and non-effective from the standpoint of thoroughness and absolute testimony of an applicant's actual acquirements of knowledge necessary in the profession. The question naturally arises, therefore, is it possible and practicable to overcome the objections I have enumerated which have heretofore prevented the state board examination from being as thorough and practical as it should be, having in view the theory that the state should review the work and examinations for degree of the medical colleges? I believe under certain limitations it is not only possible, but also a comparatively easy problem for boards to conduct their examinations along more practical lines than has been the rule heretofore.

The following method proposed is merely suggestive, and undoubtedly could be improved on in relation to its detail. The examination, in order to be thorough and practical, should cover four divisions, namely (a) the writen, (b) the oral, (c) the laboratory, and (d) the clinical. Every subject listed should require an examination in at least two of these four divisions, with the total requirement of percentage divided, having in view the number of divisions in which the subject is listed. For example: Anatomy should be written and oral or laboratory; histology and embryology, written and laboratory; physiology, written and oral; chemistry, written and laboratory; bacteriology, written and laboratory; practice, written and clinical; pathology, written and laboratory; gynecology, written and clinical.

THE TIME ELEMENT.

In connection with the above suggestive division, the questions in the written examination could be reduced in number, say from the usual ten questions to five questions, and these could also be reduced in scope and the time required if necessary to the extent of 50 per cent.; therefore, a written examination formerly covering a period of three days could be reduced to one and a half or a two-day examination. Nearly all state board examinations are conducted in cities having sufficient outdoor clinics for the purpose of examination, and it would be a comparatively easy matter to obtain the use of such clinics for examinations by boards. Proper committees made up of board members could take charge and conduct the clinical and oral examinations necessary, without adding more than a day to the time taken now in the written examination. Under ordinary conditions it may be taken for granted that it would be impossible to obtain from board members any member or members sufficiently qualified to examine properly qualified applicants in laboratory work and methods. This difficulty, however, could be overcome by the appointment of one or more local laboratory men unconnected with medical schools and who could examine applicants either prior or subsequent to the regular examination, and who could also report their findings to the board when completed.

It does not seem to me to be essential or necessary that a state board examination should be either in part or wholly conducted by its members. Under the system of the identification of candidates by number the board could very properly, covering the written examination at least, appoint especially qualified examiners residing throughout the state, who would furnish the questions on the several subjects listed for examination. These examiners would be appointed with especial reference to their qualifications in the subjects assigned. The answers, when completed under the supervision of the board, could then be sent to these examiners for marking and report. There would be no necessity for these examiners to personally attend the examinations, as the answer papers would be returned by examiners to the board for filing and future review if necessary. This method in itself would be a guarantee of fair and effective work on the part of such examiners.

Including this very superficial review of the question of methods of conducting state board examinations, I believe the method at this time employed by the majority of boards to be very defective from the standpoint of accuracy in determining the qualifications of applicants for state license. The difficulties I have enumerated as hindrances to a reformation of method I think could easily be overcome in time. I would emphasize the great importance of this question and suggest to the Council on Medical Education the immediate necessity of furnishing the boards, in the very near future, with a well defined plan for their study and action.

SHOULD LICENSURE EXAMINATION BE IN TWO PARTS, AND HOW SHALL THEY BE CONDUCTED?

Dr. W. J. Means, chairman of the judicial council, Association of American Medical Colleges, followed with a paper entitled "A Plea for a Licensure Examination in Two Parts."

Medical education in the United States is in a transitional stage, and there has never been a time when more activity has been manifested than at the present. The last decade has been made an epoch of phenomenal progress toward higher standards of professional requirements. The methods of teaching are being studied carefully with the view of securing the best results. This educational movement has been brought about primarily by conscientious educators and broad-minded, progressive, unselfish men of the profession, individually and collectively.

Collectively, much credit must be given to the leaders of the American Medical Association for their thorough and admirable organization of the profession, also to the colleges that are members of the Association of American Medical Colleges. Through these great scientific and pedagogic bodies a sentiment has been created for higher professional standards which has been far reaching. Through this activity and sentiment the legislators of the various states of the union have been aroused to the necessity of protecting the public against ignorance and quackery under the guise of legalized practice, hence the enactment of laws governing medical education and medical practice. We need not contrast generations to see evidences of the great work accomplished and in progression. The student of a decade ago knows that the methods of teaching and of practice have radically changed since he received his license to practice the healing art.

RELATION OF LICENSING BOARDS TO MEDICAL EDUCATION.

It is not my purpose to mention the laws of the various states governing medical education and practice. They differ more or less, but none have reached the ideal as yet. It will be sufficient for my purpose now to consider in a general way the relation of the existing examining and licensing boards to medical education. It may be said that in most of the states medical laws take full control of medical education in that they prescribe minimum preliminary educational requirements to begin the study of medicine, the number and length of annual courses, and, finally, a licensure examination to practice. The laws in some cases prescribe the number of teaching weeks and even the subjects that must be taught, the equipment of laboratories and clinical facilities, and then a diploma from the college that complies with these requirements, before an examination for licensure will be granted. The law, therefore, in a measure, makes a medical student a ward of the state. It leaves to the college the privilege alone of instruction. The interval from the time permission to study medicine is given until the finished product presents himself for a license to practice is quite a segment in an educational cycle. It seems to me that it is out of the question for an examining board by a few questions to determine very accurately the proficiency of the applicant, and, in particular, the character of the work done during the college years.

I assume that we are all agreed as to the value of the basic subjects as a foundation for a medical education, and I believe we are all agreed that these subjects should be taught not only theoretically but by actual laboratory experience. Anatomy should be taught not alone from charts, but from the natural body. Chemistry, to make it worth while, should be taught in the chemical laboratory. Histology, bacteriology, pathology and physiology can not be taught theoretically alone if they are to be of any practical value in the prosecution of clinical diagnosis and for preparing students for the practice of medicine and surgery. Therefore, I believe examining boards should look in on the young men to whom they have granted permission to study medicine during their college course, and determine whether they are receiving proper instruction at a time when it will be of the most value in laying the foundation for future practice.

LACK OF KNOWLEDGE OF THE FUNDAMENTALS.

I am satisfied that any one who will take the pains to study the grades given by the different examining boards of the states can not help being impressed with the lack of preparation of students in the subjects taught in the first and second years. To ascertain, if possible, the average grades in the subjects of anatomy, physiology, pathology, bacteriology and chemistry given by the various examining boards, I corresponded with the secretaries from some twenty-five states. My inquiry met with a generous response. From this data collected I have made a summary that emphasizes this deficiency. The summary includes the results of all examinations in some fifteen states in 1905.

The average grade of those who passed in anatomy was 74. The average grade of those who failed in anatomy was 58.5. The average passing grade in pathology was 78. The average failing grade was 69. The average passing grade in chemistry was 84.5. The average failing grade was 58. The average passing grade in physiology was 80 and the average failing grade was 58. Of the failures, 75 per cent. were re-examined and 50 per cent. of these were passed. I did not consider the grades given in the clinical subjects.

These grades are sufficient to emphasize the fact that the average man licensed to practice medicine is deficient in knowledge in anatomy, physiology, pathology and chemistry, and when we consider the elementary character of the examinations the deficiency is more apparent. How many could have passed if they had been required to make practical tests in the laboratory? How many would have been able to make a bacterial examination for gonococci or tubercle bacilli? How many of them would have been able to prepare a pathologic specimen for microscopic examination? How many would have been able to make Widal's agglutination test for typhoid fever?

REASON FOR THE SOPHOMORIC EXAMINATION.

Again, note the average grades of those who failed, and further note the percentage passed at a subsequent examination. It is a pertinent question to ask where the knowledge was obtained that made it possible for them to pass a second examination. Certainly not in the laboratories of some college, and not under competent teachers, but more than likely from conning quiz compends. The query arises then, what is the remedy? Evidently the examining boards must look after their protégés during the intervening years to see that the foundation is properly laid. It is my contention, therefore, that the undergraduate should be given an opportunity to present himself for examination at the end of his second year's work to ascertain whether he has attained a proficiency in the basic medical sciences, and, if so, to receive credit for the same.

At the completion of the second year, according to the curricula of our colleges, a student is supposed to have completed his class and laboratory work of the subjects that are classed as basic medical studies, such as anatomy, histology, embryology, physiology, physiologic chemistry and bacteriology. If the student satisfies his teachers of his proficiency he will not be required to do any further class work in these subjects, and is privileged to take up the study of the third and fourth years. This is in line with the scheme of education from the grammar department through the high school and college, and is based on graded work from term to term and year to year. Each term and each year is supposed to complete a part or the whole of a study.

In most states the law prescribes four annual graded courses. By this I understand that the schedules must be so arranged that students pass from one year to the next and so on through the course. Medical colleges in compliance with this arrange their curricula, beginning with the subjects of anatomy, physiology and chemistry in the first year, completing them in the second year along with histology, embryology and bacteriology. Then follows the clinical studies in the third and fourth years. The Association of American Medical Colleges prescribes that time credit can not be given a student until all conditions that may have been imposed in a former year are passed off. If this scheme in literary and professional education is good, the state should not only grant the same privilege of intermediary examinations, but should make them obligatory, giving credit on the final licensing examination.

THE NEED OF PRACTICAL EXAMINATIONS.

An examination by the examining board at the completion of the second year can be made more comprehensive than at the end of four years. It should not be theoretical alone, but practical tests should be given in the laboratories. Such an examination would be an incentive in the first place to more thorough teaching in the laboratories, and in the second place would be an incentive to the student to closer application and a higher proficiency. Under the present régime of the state examining and licensing boards there is not much stresss placed on laboratory proficiency. To prove my contention let me call your attention to the method of examining. We grant the questions are fair and comprehensive so far as theory goes, but by what mental process can the examiners determine whether the students have ever looked through a microscope or saw the inside of a laboratory?

Again, teachers will testify how difficult it is to get students to understand and appreciate the necessity of a thorough grounding in the basic studies, and also that they often pass them knowing their inefficiency. If students understood that they would be examined at the close of the second year, not only by their teachers, but by the state examiners, and that a passing grade would be credited on licensure examinations, they would have a purpose in doing good work. Should a student fail in his examination, it gives him an opportunity to go back over the work at a time when it will most benefit him and when he will be forced to do it.

If a student, after having complied with the legal time requirement, fails, it is a most difficult thing for him to go back to the study of his first and second year's work. He spends a few months in conning quiz compends, as suggested before, and then rarely fails on a second trial. I might ask, what is the practical value of such knowledge? The failure of a student to pass an examination at the end of his second year not only forces him to go over the subject again in a proper way, but is a notification to his college to look more closely after the teaching of the studies of the first and second years. Colleges are too prone to pass undergraduates. This is considered true of schools that depend on the tuition of students for maintenance. If a student has passed his first and second year and knows that he will get credit for the same, he will no longer have it on his mind that he must prepare for a technical examination in these studies, and will, therefore, continue his practical work up to the end of the course.

There is also something to be said in favor of the student. Two years and more is a long period between the study of the subjects of the first and second years and his licensure examination. He may forget, and does forget, many of the technical things that he learned during his early years, and these may be the questions asked in a final examination. This fact is recognized by the colleges, and has led to review work of the fundamental studies to prepare their students for examination. It takes the time that should be devoted to clinical subjects of the fourth year. In fact, it becomes, in a measure, a process of cramming for the state boards.

In Great Britain a medical student has to register with what is known as the General Medical Council, and he can not obtain a license to practice medicine until five full academic years after registering, during which time he must produce evidence of having passed all the prescribed examinations. These have to be taken through the course with certain time intervals between the succeeding examinations.

Some of my remarks might be interpreted as a reflection on American medical colleges. I am frank to say that the average grades given above indicate that the majority of American colleges are not giving good practical work in anatomy, physiology, pathology and histology, and this would be more in evidence if practical tests were made. If any teacher or official doubts this statement I would like to ask what percentage of his graduates can make a diagnosis of typhoid fever by laboratory methods? How many of his graduates can make a practical microscopic examination of the blood? How many can make a microscopic examination of the urine that would be of any considerable value? How many can make a bacteriologic examination of tubercle bacilli and gonococci? If the majority can not, then the college has failed to give the proper instruction.

THE REASONS SUMMARIZED.

To summarize my contention for two licensure examinations, one to be held at the end of the second year, the other when the student makes application for a license, I submit:

1. It is only fair to the student that he be given an opportunity to pass an examination in the studies that he has completed in the class and laboratory, and thus be relieved of further anxiety during the two years spent in the study of clinical subjects.

2. If he fails to pass the licensing examination in these studies, it gives him an opportunity to go over them again at a time when he is compelled to do it, and under the direction of competent teachers.

3. With an examination at the end of two years the examining boards will be better able to determine whether the applicant is sufficiently grounded in the fundamental studies and laboratory work for further progress in a medical course.

4. Such an examination would be an incentive to students to do better work, and a suggestion to the colleges to provide proper facilities and qualified teachers.

5. The state examining and licensing boards having prescribed minimum requirements, both as to entrance qualifications and time limits for a medical course, and also equipments

and facilities, should, in the interest of medical education, take note of the work being done in the first two years of a medical course to see and know that students are properly equipped for the third and fourth years.

6. The examination both at the end of two years and for licensure should be made more comprehensive and practical.

7. Examinations made under the conditions herein mentioned would do more toward elevating the standard of medical education in the United States than legislation in any other direction.

8. A re-examination by a licensing board should be permitted only on evidence that the applicant had pursued the study of medicine, and particularly the subjects in which he failed, with competent teachers and under conditions affording proper facilities for practical teaching.

This procedure is not entirely new. It is already in vogue in four states, Virginia, Maryland, Michigan and New York. Oregon some years ago conducted two examinations, but I am informed has now but one. The boards of several other states contemplate asking for a modification of their laws, giving them privilege to examine undergraduates.

To put in practice examinations of undergraduates would require a change in many of the laws now in operation and it would entail extra work on the members of the examining boards. These are, however, matters of little consideration, providing the qualifications of the men licensed to practice medicine are assured.

The inspection of medical colleges as to their laboratory equipments, facilities for teaching clinical medicine, methods of teaching and personnel of teachers would be almost unnecessary. The colleges would be forced to give instruction that would qualify their students to pass examinations made at the proper time and in a practical way.

In bringing the conference to a close Chairman Bevan said: In the name of the Council I desire to thank the gentlemen who have presented us with these valuable reports and discussions, and to thank all of you for your assistance and presence here to-day. This is a movement in which we have a common interest. There can be no doubt about the result of this movement in elevating medical standards. It is simply a question of how rapidly it can be done and should be done, and personally I feel that a meeting of this kind is of great value. It certainly has been instructive to the members of the Council. We shall stand adjourned until the next annual conference, and we hope that you will all be with us again at that time.

REPORT OF THE NEW YORK COMMITTEE ON MEDICAL EDUCATION.

A. VANDER VEER, EDWARD D. FISHER, AND WILLIAM FRANCIS CAMPBELL, ALBANY.

Committee on Medical Education from the Medical Society of the State of New York.

[This report was not read at the conference, but is of particular interest in connection with the subjects discussed.]

The Medical Society of the State of New York has been in thorough sympathy and accord with the efforts of the committee on medical education of the American Medical Association to raise the standard of medical education in the United States and to bring about a closer uniformity in entrance requirements and medical curriculums in the different states. The standard recommended by the committee at the Portland meeting of 1905 is exactly the standard which the State of New York has been following for a number of years. When the medical act of 1891, governing the practice of medicine in the State of New York, went into effect, the provisions of the statute were practically similar to the Portland recommendations. In order to work no hardship, however, to medical schools, and not to make the transition in entrance requirements too abrupt, it was necessary for the Board of Regents of this state to modify the entrance requirements and gradually to reach the four year high school standard for entrance to medical schools. Since Jan. 1, 1897, however, a four year high school course or its equivalent gained in examination, has been the requirement for matriculation in a medical school. Even at the present time, however, New York permits conditional matriculation for entrance on the first year's course of medical lectures, on evidence of the completion of three full years of high school work or its equivalent, and requires the fourth year to be successfully made up by the candidate before entering on the second course of medical lectures.

In our opinion the gist of the Portland resolution lies in the first provision of the recommended standard, viz., that the preliminary education be passed on by specially designated state authorities. This seems to us in the light of fifteen years' experience an absolute necessity in the administration of medical statutes. It would be a great mistake to permit faculties of medical colleges to pass on the credentials submitted, for aside from the fact as to whether they were disinterested parties or not, they have not the evidence at hand or the means of obtaining it for properly valuing the weight of secondary credentials which may be furnished from secondary educational institutions in all parts of the world. Neither should this duty devolve on the state board of medical examiners for precisely the same reasons. Under no machinery less than that of a well conducted state education department can all the necessary data be collected for properly judging the standard of educational institutions. The education department of the State of New York has for years been a clearing-house for such information, and the data has been gathered not only by careful and exhaustive examination of the reports and records, but by personal examination and inspection of schools and colleges. New York State has twice had in Europe special inspectors who have carefully examined the various lycées and gymnasia of Europe and who are competent to accurately estimate the comparative value of European and American educational credentials. The constant reference to this body of records and its daily use in passing on credentials submitted by candidates from all parts of the world for entrance to New York professional schools has brought home with particular force to the committee from the Medical Society of the State of New York the absolute necessity of a responsible state authority, preferably the state education department, to pass on these matters. Otherwise your committee feels that the mere provision in a statute of a four year high school course as a preliminary to medical study would be of little value and capable of being greatly abused.

Your committee has also studied with great care "the ideal standard" submitted at the Portland meeting, and while in thorough sympathy with the manifest object of the resolution, viz., the advancement of medical education, we are not yet ready to commit ourselves to the proposition of practically a five year medical course. To insist on a thorough four year preliminary education and a thorough four year medical education is, in our experience, thoroughly abreast of the present day demands, and when executed as rigorously as are these requirements in the State of New York, they have caused some criticism by their exaction. While in the future it may be possible to compel a five year medical course, we see no immediate demand for it and doubt its advisability. Should this preliminary college year be required between the high schoool and the medical college, its curriculum should undoubtedly embrace more than the subjects of physics, chemistry and biology.

In fact, we are almost disposed to say that should the time ever come when it was deemed advisable that a degree in medicine should be founded on some part of the curriculum of a liberal arts college, it would be more educational and more defensible to require a two years' course in a liberal arts college, or what might be the same requirement, a six years' combined liberal arts and medical education. We are not at present, however, quite sure that the interpolation of a single year devoted to the study of physics, chemistry and biology would produce physicians of materially broader capabilities, or that the special study of these three subjects, such as is given in liberal arts colleges, would practically assist to any great degree in the development of medical practitioners.

In 1904 an amendment to the medical statute of the State of New York was passed permitting the Board of Regents to formulate a course of study which should lead to a combined baccalaureate and medical degree. The object of this amendment was two-fold: First, to induce more college bred men to enter the medical profession by shortening the term of study one year in order to obtain both degrees, and second, to permit this first or preliminary medical year to be carried on in the colleges of liberal arts. The procedure under this provision of the statute has fallen under three distinct heads:

1. Those universities which maintain both liberal arts and medical faculties. There is no problem here, as each university so arranges its curriculum that a student can carry the work of both degrees in seven years, either by accepting the first year of medical work as the fourth year of the baccalaureate course, or by the introduction of the point system of electives, where a certain number of points are necessary for obtaining both degrees, requiring that a certain percentage of the points be gained in the liberal arts course and the balance in the medical course. 2. Those liberal arts colleges which have entered into affiliation with medical schools, whereby the first year of work in the medical school is taken as the fourth year of the baccalaureate course. 3. The establishment of a medical elective in the junior and senior years of the liberal arts colleges, the

successful completion of which will be accepted by medical schools as equivalent to the first year's medical work.

The procedure under this heading is still unsettled. A joint committee has been appointed from the medical schools and the liberal arts colleges of this state to formulate a curriculum which is capable of execution in the liberal arts colleges and at the same time acceptable to the medical schools. There would seem to be no inherent difficulties in the way of the adoption of such a program, and the committee is practically ready to report its plan. Curiously enough, however, it has run against this condition, viz., that medical authorities in other states have expressed their unwillingness to accept this arrangement and have stated that they would be obliged to refuse to recognize the degrees of graduates who pursued this seven-year course. The committee is of the opinion that this is based on a misunderstanding of the exact work required, and that a thorough appreciation of the really advanced standard of medical education which would be brought about by this arrangement would lead to a reconsideration of such decisions. The committee hopes, however, to be able to report in the near future a successful arrangement of such a course.

Your committee also reports that there is now before the legislature of the State of New York, having already passed one house and favorably reported in the other, a bill revising the medical statute passed in 1891, and particularly defining the practice of medicine in accordance with recent decisions of the Supreme Court of this state. The preliminary medical standards are not affected by this bill, except that a minimum of a seven months' term for each medical course is required in place of the obsolete six months in the old law. As a matter of fact, our medical schools have always had at least a seven months' course, and in some schools eight to nine months.

The main points, however, to be gained by the new bill are:

1. A precise definition of the practice of medicine, which we give herewith as follows: "A person practices medicine within the meaning of this act, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake, by any means or method, to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity or physical condition."

2. A careful revision of the registration and penalty clauses to accord with the practical experience of the last fifteen years, and to further accord with the provisions of the penal code of this state.

3. The abolition of the unwieldy separate examining boards for each medical society, and the substitution of a single board to be appointed by the Board of Regents without reference to any school or practice of medicine. The theory on which this bill was introduced is that it is the duty of the state to fix the requirements for those who are to practice medicine within the state, and that this should be done regardless of the theories of practice and without recognizing any particular school or cult of medicine. In other words, after a candidate has passed the state's scientific licensing test, he is at liberty to practice any form of medicine which he may choose.

Your committee has given much thought to the introduction of a course in our college curriculums, of medical economics and other subjects, referred to in the circular letter, but does not feel able to give this its endorsement at the present time.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Twenty-fourth Annual Meeting, held at Washington, D. C., May 7-9, 1907.

The President, Dr. T. S. Darlington, New York, in the Chair.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Thomas D. Coleman, Augusta, Ga.; vice-presidents, Drs. Judson Daland, Philadelphia, and Charles Fox Gardiner, Colorado Springs; secretary-treasurer, Dr. Guy Hinsdale, Hot Springs, Va.; member of the council, Dr. Thomas S. Darlington, New York; representative on the executive committee of the eighth congress, Dr. F. I. Knight, Boston; Dr. R. G. Curtin, alternate.

The next meeting will be held in Boston,, June, 1908.

Increase in Death Rate from Cardiac Disease.

Dr. T. S. Darlington, in his presidential address, discussed the increasing death rate from cardiac disease, and the source and mode of infection of pulmonary tuberculosis, stating that, while the latter declines in frequency, the former is steadily increasing. He said that a study of the causative factors of this alarming increase naturally suggests the part played by the many so-called features of city life, and one of the most important factors in the relation of mental strain to the production of functional, followed by organic lesions of the heart and subsequently the kidneys. The high wrought, overnervous activity of the modern city business man and the equally strenuous social whirl of the city woman; the mad rush of competition; the bustle, confusion, noise and unrest, so striking in comparison with the *dolce far niente* of the business and social life of a century ago; crowds and hurry; elevated stairs and "rapid fire" elevators; mental strain and physical bankruptcy—all seem so essential. They have come to be considered a striking characteristic of our national life; yet they are so deadly to our individual life that they furnish us with food for deep and earnest thought.

The Search for a Suitable Climate.

Dr. S. A. Fisk, Brunfield, Mass., gave a résumé of the climates of Minnesota, Colorado, Southern California, Arizona, New Mexico, the hills of New York and New England, and described briefly life on shipboard. Dr. Fisk holds that altitude *per se* is not a producer of hemorrhage.

Dr. W. J. Barlow, Los Angeles, Cal., claimed that patients with heart disease and nephritis do better in Southern California than in the Rocky Mountain region.

Dr. Charles Denison, Denver, disclaimed that men are unduly biased by the fact of residence. He pointed out nine men, present at the session, who went to Colorado for their health, and recovered.

Dr. W. C. Rives, Washington, spoke of the advantages of the high altitudes of Switzerland and its markedly tonic influence on healthy persons. He argued from this the undoubted benefit it must confer in diseases of malnutrition.

Dr. R. H. Babcock, Chicago, stated his belief that although patients may recover at home it is much easier to recover in a well regulated health resort.

Some Notes on Aix-les-Bains.

Dr. John W. Brannan, New York, gave some personal impressions of Aix, with brief reference to the Virginia Hot Springs. The waters are abundant (6,000,000 liters a day), of high temperature (44 C.), and under very high pressure. The mineral character of this water is not remarkable, but it is a valuable addition to the other treatment instituted. The waters are used in douches, plunges and baths of all kinds, but the specialty is the douche-massage, with which the author has had personal experience. Close supervision and control of the patient are necessary, and an after-cure at an elevated station is advisable. Dr. Brannan thinks that the waters of the Virginia Hot Springs are as valuable as those at Aix.

Effect of Florida Climate on Disease.

Dr. Fremont Smith, Washington, showed that there is little reason to fear acute disease. Winter residents will find that this subtropical sea climate delays the progress of many chronic diseases. Albuminuria may be cured. Gouty and rheumatic states, with neuralgia and neuritis, almost always improve. Tuberculous patients do not, as a rule, do well. Dr. Smith spoke favorably of the climate of Nassau and its attractive surroundings for the comfort of invalids.

Relative Value of High and Low Altitudes in the Treatment of Tuberculosis.

Dr. F. M. Pottenger, Los Angeles, Cal., recognizes that some tuberculous patients do well at high altitudes and others at low elevations; that tuberculosis is largely due to overcrowding; that high altitude causes greater activity on the part of the lungs and throws great strain on the heart. He believes physiologic rest is better obtained at low elevations and that a high altitude is unnecessary.

Hemoptysis Due to Tuberculosis.

Dr. James M. Anders, Philadelphia, took up cases occasioned by congestion after bronchial mucosa and lung texture, and ulceration or erosion of vessels, or rupture of miliary aneurisms. To the latter class belong the fatal hemorrhages.

Dr. Anders has undertaken to determine the frequency of hemorrhage, incidence, age and sex, seasonal influence, clinical peculiarities and treatment. He studied 589 cases of pulmonary tuberculosis; hemorrhage occurred in 197 cases. Dr. Anders found that profuse and fatal hemorrhage was less common in females; less common from October until February. Stimulating cold has a preventive influence. In 75 per cent. of hemorrhages they occurred in the first or early part of the second stage. Dr. Anders quoted Curtin's dictum that a residence far removed from the sea coast is best for patients suffering from hemoptysis; that a rarified, but also a cold, dry aseptic air would be most useful. Hot drinks and alcoholic stimulants must be avoided. Opium was advised for twenty-four or forty-eight hours. Atropin, 1/50 gr., every twelve hours, has been very successful.

Blood Pressure as a Guide in the Treatment of Hemoptysis.

Dr. E. O. Otis, Boston, said that an effort was made at the Massachusetts State Sanatorium to establish a standard of blood pressure for tuberculous individuals. The average for 320 patients was 124 mm. Hg. In men the average was 124 mm., and in women 115 mm.

Dr. Otis advocates, at the onset of the hemorrhage, ice, morphia and atropia subcutaneously, and in some cases nitrite of amyl. Nitrite of soda or nitroglycerin should be used if the blood pressure is high for the individual; if low, ergot or ergotin subcutaneously.

Dr. Delancey Rochester, Buffalo, said that he found the nitrites useless. He depends on purgation, sweating by hot air, hot mustard bath, and steam. He had tried nitroglycerin in solution and obtained a fall of twenty or thirty points with a subsequent rise.

Dr. R. H. Babcock, Chicago, said that excitement raises systolic pressure; therefore rest, morphia and purgation are indicated. In cases in which the pressure is low he would question the advantage of ergot, but would prefer pressure by bandages.

Dr. Charles Denison, Denver, advocated strapping the chest with adhesive plaster.

Dr. F. M. Pottenger, Los Angeles, places a nitroglycerin tablet on the tongue and notes a reduction in the pressure inside of three minutes. Veratrum viride will act in the same manner and the reduction of pressure will continue for over an hour.

Daily Care of Consumptives at a General Hospital as an Aid in Solving Local Tuberculosis Problems.

Drs. A. K. Stone and Cleaveland Floyd, Boston, made a statement of the experiment of the House of the Good Samaritan, Boston, in the care of ambulatory cases of tuberculosis. There was daily medical supervision, outdoor treatment, good food and home supervision. Twenty-five patients were thus cared for with small addition to the administration force of the hospital. The cost per patient was very small, 38 cents per day, and the results were good.

Pulmonary Tuberculosis Under Sanatorium Treatment at Los Angeles.

Dr. W. Jarvis Barlow, Los Angeles, made a report on 200 charity cases treated from 1903 to 1907. The cases were in all stages, the records showing that 92 per cent. were beyond the first stage. There was no family history of tuberculosis in 66 per cent. The prior duration of the disease was a little over two years. The average duration of treatment was over three months. In the 200 cases, 46 1/5 per cent. of those in the second and third stages showed a marked improvement, and many became wage-earners on discharge. All the cases admitted in the first stage were discharged as apparently cured, or with the disease arrested.

Importance of Supervision of Patients After Leaving Sanatoria Apparently Cured of Tuberculosis.

Dr. F. I. Knight, Boston, said that patients with arrested disease often have a little morning cough and tubercle in the sputum. These should be warned to maintain the same care with this which they have learned in the sanatorium, both on account of the danger to others and also to themselves from reinfection. Dr. Knight believes danger lies in idleness subsequent to cure, and outlined various suitable employments for which provision should be made.

Hygiene in Prophylaxis and Treatment of Pulmonary Tuberculosis.

Dr. Richard D. Newton, Montclair, N. J., made some remarks on the relative prevalence of tuberculosis in the lower animals under varying conditions of habit and environment; followed by a brief consideration of some of the predisposing causes of tuberculosis in man other than heredity, and closed with some conclusions from the foregoing as to the method of life best calculated to prevent the occurrence of consumption in man.

Teaching Medical Climatology.

Dr. Guy Hinsdale, Hot Springs, Va., showed a series of sixty slides for a lantern in illustrating lectures on medical climatology.

Heart Clots in Pneumonia.

Dr. Beverly Robinson, New York, said that experimental pathology seems to prove the frequent presence of antemortem clots, although they do not give rise to any distinctive signs or symptoms. In instances in which the presence of heart clot is fairly assumed, an autopsy is often denied. Hence, uncertainty still exists about many cases. Even when an autopsy is made, intracardiac or other changes may be present, which renders the immediate cause of death doubtful. With previously healthy heart and kidneys, the patient will usually survive, if the blood is kept in a condition approximating the normal. This may be done by the frequent and judicious use of saline beverages. Dr. Robinson said that it is very evident that heart clot as an immediate cause of death in pneumonia is not infrequent, and that clinical experience justifies the use of ammonia to prevent and possibly cure heart clot.

Report of the Sharon Sanatorium Covering a Period of Fifteen Years.

This paper, presented by Drs. Vincent Y. Bowditch and Walter A. Griffin, Boston, will appear in full in The Journal later.

Paroxysmal Tachycardia.

Dr. Philip Marvel, Atlantic City, collated some of the recent views advanced as to the probable cause of this condition and reported two cases. He believes that the condition is a neurosis, characterized by a neuro-cardiac storm, and not a heart block. He finds respiratory pressure treatment, applied by the bending forward position, coincident with the close of the inspiratory act, forcibly holding the breath (thus stimulating the vagi), a means of arresting the attack.

Carcinoma of Mediastinum.

Dr. Jay Perkins, Providence, R. I., reported a case of carcinoma of the mediastinum which simulated aneurism of the aorta. The patient, male, 33 years old, had an epidermoid carcinoma and also suffered from pulmonary tuberculosis. The growth occluded the superior vena cava, causing passive congestion and dilatation of the veins of the whole body. Death resulted from rupture of a blood vessel in the lung and subsequent infection.

Dilatation of Heart.

Dr. Thomas A. Claytor, Washington, discussed overstrain, myocarditis, and shock as causes of cardiac dilatation. He believes that the nitrites are especially useful in acute dilatation. Morphin, 1/32 gr., every four to six hours, is beneficial in quieting the nervous system and stimulating the heart.

At the business meeting Dr. James A. Hart read a memorial of the late Dr. S. Edwin Solly of Colorado Springs; Dr. K. G. Curtin read a memorial of Gen. C. H. Alden, U. S. A., and Dr. Guy Hinsdale a memoir of Dr. W. C. Glasgow.

The following papers were also read: "Climate of New Mexico," by Dr. P. N. Carrington, U. S. P. H. and M.-H. S.; "Leishman-Donovan Disease, or Assam Fever," by Dr. Judson Daland, Philadelphia; "Model of a Sleeping Canopy," Dr. Chas. Denison, Denver; "Rôle of Vasomotor Action in Processes of Repair," by Dr. J. M. Taylor, Philadelphia; "Sub-sternal Remittent Cardiac Squeal," by Dr. R. G. Perkins, Philadelphia; "Some Manifestations of Arterial Tension," by Dr. Charles E. Quimby, New York City, and "Importance of Early Detection of Aneurism of Aorta," by Dr. H. E. Arnold, Boston.

AMERICAN GYNECOLOGICAL SOCIETY.

Thirty-second Annual Meeting, held at Washington, D. C., May 7-9, 1907.

(Concluded from page 1810.)

SYMPOSIUM ON THE CARE OF THE WOUND AND THE AFTER-TREATMENT OF LAPAROTOMIES.

Method of Closing the Wound.

Dr. Seth C. Gordon, Portland, Maine, pointed out the need for using such sutures as can be retained at least two weeks without absorption, as well as the use of suture material which is the least liable to infection.

Comparative Advantages of Catgut and Silver Wire Sutures.

Dr. Hunter Robb, Cleveland, Ohio, thinks catgut is an almost ideal material, but when it is sterilized short of rendering it brittle, and consequently useless, some few of the inner strands may not be absolutely aseptic; and, in fact, not a few cases of suppuration and even death have been directly traceable to the use of catgut ligatures. The cumol method probably gives the best results, but for the past few years he has had excellent results with the ordinary and chromicized catgut, especially when the smaller sizes are used. When, however, the larger sizes of chromicized catgut are employed, the sutures are not always absorbed, but frequently gradually work their way to the surface of the wound and are then discharged. They are not always sterile. Bacteriologic tests made in his service have shown that the knots and ends of catgut sutures, even when the wound has healed by first intention, teem with bacteria, and he feels sure that chromicized catgut is responsible for many of the skin infections encountered.

He prefers to use for the skin and peritoneum small sizes of sterilized catgut, but for the fascia he believes that silver wire offers advantages over the larger sizes of plain chromicized catgut. An analysis of two series of 100 cases each in which silver wire and chromicized catgut, respectively, were used in bringing together the deep fascia, shows that the relative incidence of infection in the deep fascia occurring after the use of catgut and silver wire, respectively, is as two to one. Moreover, it is noted that when suppuration occurs, it is always larger in amount and extent in the catgut cases than in the infections met with after the use of silver wire. The main objection against the use of silver wire for bringing the fascia together is that one leaves in the wound a substance that may annoy the patient by sticking into the surrounding tissues. This trouble, however, can be averted if the suture is properly applied and the ends are turned over with a pair of thin-jawed hemostatic forceps, so that they form a bell-like end to the suture.

Hernia is not noticed in a single case in either series, but the separation of the fascia and muscle often does not take place within the first few weeks after operation, and yet sometimes, if these patients are examined some months or a year afterward, a smaller or larger protrusion will sometimes be apparent. He does not believe that we should judge of the relative value of the suture material except in cases examined at an interval of six months or a year after operation.

Dr. Leroy Broun, New York, brings together the fascial edges with chromicized catgut, and introduces, at the same time, some safety sutures of silkworm gut at about an inch and one-half apart. These are kept in for two weeks to guard against the opening of the wound by coughing, sneezing or by a sudden jar.

Use of Laxatives in the After-Treatment of Laparotomy.

Dr. Henry T. Byford, Chicago, said that some laparotomies are of such a simple nature that the functions of the abdominal viscera are not materially disturbed thereby and need not be disturbed afterward by medicine. When there has been considerable trauma during the operation, with consequent soreness and inability to endure the pains, he applies an ice-bag to the abdomen rather than to give opiates. The ice-bag and an enema containing 30 grains of chloral will usually alleviate the pain and nervousness and sometimes the nausea without inhibiting peristalsis. He gives laxatives in all but the simplest cases, because in those who do not really need them the bowels are more quickly relieved of the gas, and the patient then feels much better than when not so treated.

Care of Stomach and Bowels; Position and Rest in Bed.

Dr. Lapthorn Smith, Montreal, does not allow anything whatever to go into the stomach of a patient during the first twenty-four hours. The bowels are moved by enema on the third day and every day thereafter, unless they move naturally. If there is vomiting, calomel is used generally, with bicarbonate of soda. Position depends on the severity of the case. In hemorrhagic cases the foot of the bed is raised; or in septic cases, especially after appendicitis, the head is raised. Rest in bed for three weeks is the safest so as to improve digestion and nutrition. Twenty-one days after operation the patient is allowed to get up and to begin gentle exercise, so that by twenty-eight days she can walk about freely.

Eserin Salicylate as a Prophylactic Against Atony of the Bowels.

Dr. Hiram N. Vineberg, New York, said that this agent has a beneficial effect when given to a patient before coming out from under the influence of anesthesia in doses of 1/40 of a grain. It is the custom to give ¼ or ⅛ grain of morphin with 1/40 of a grain of salicylate of eserin. He thinks there is less distension of the abdomen after operation following the use of eserin in this manner.

The Incision and After-Treatment.

Dr. W. Gill Wylie, New York, said the location of the incision varies with the internal condition. The method of closure likewise varies according to the site of the incision, and the condition of the bowels due to preliminary preparation.

The After-Care of the Patient.

Dr. Herman J. Boldt, New York, said that mobility of patients begins as early as is consistent with the patient's general condition. The greater number of patients may be out of bed with advantage to them within three days after operation. A large number, even those on whom extensive and technically difficult operations have been done, may get out of bed and be placed in a comfortable chair within from twenty-four to thirty-six hours after the operation. A properly adjusted plaster bandage, adhesive, is essential for the safety of the wound.

Dr. J. Montgomery Baldy, Philadelphia, said that rest in bed, good hygiene, diet and nursing are the principal factors in the ultimate results. Moderate early getting up after operation is all right for patients in a good general condition, but it is bad for others. There is nothing to recommend getting up in twenty-four or forty-eight hours after an operation. There is nothing to be gained, but much to lose. That prolonged stay in bed increases the frequency of embolism and thrombosis is not true. He admits that a surgical case may be gotten out of bed and home in a week or ten days, but he denies that this is best for the patient, or that this means that convalescence has been more rapid. The aim should not be to get patients home in the quickest possible time, but to give them the best amount of stored-up health and energy with which to successfully meet the future. A patient who has gotten out of bed with health fully restored is surely more competent to meet the necessities of everyday resistance than the one who has been quickly put on his feet with little regard to his general condition.

Prophylaxis of Venereal Disease from the Standpoint of the Gynecologist.

Dr. Clement Cleveland, New York, said the position of the gynecologist regarding venereal disease is one of greater enlightenment than that of his brother, the general practitioner, because of his greater opportunity of observing it. His responsibility is, therefore, proportionately greater. The responsibility of enlightening the public does not rest with the medical profession. It is not a medical or sanitary problem merely, as the causes are dependent on social conditions beyond the control of the physician. By constant study and agitation the best methods for reaching the people will be evolved. All medical schools should pay the greatest attention to instruction in venereal diseases and their consequences. To overcome indifference and arouse an urgent public sentiment in favor of the movement against the prevalence of venereal diseases, there is no more powerful argument than the fact that the greatest sufferers from these diseases are innocent women and children. He believes constant preaching of this one fact alone will give more supporters for the cause than all others combined.

He suggested the appointment of a standing committee to report each year, to arrange for papers in symposium, to invite prominent men to read those papers before the society, or in other ways make prominent the vital interest that is felt. By so doing gynecologists will acquit themselves of any charge of inactivity, and have the satisfaction of feeling that they are doing their share in helping on the good work.

Appreciation of the Work of Henry Garrigues.

DR. BROOKS H. WELLS, New York, delivered an oration on Dr. Garrigues in appreciation of his work in introducing asepsis into obstetric practice in America.

Surgery of the Kidney.

The association held a joint session with the American Association of Genitourinary Surgeons. At this joint session the surgery of the kidney was discussed.

DR. GEORGE S. HUNTINGTON, New York, pointed out by means of lantern slides some of the congenital variations of the kidneys and ureters in reference to their development and surgical importance.

DR. LEWIS GREGORY COLE, New York, followed with remarks on the radiographic diagnosis of renal lesions. His talk was accompanied by the projection of lantern slides.

DR. CHARLES H. CHETWOOD, New York, exhibited specimens and presented illustrations of renal lithiasis, of pyonephrotic kidney stone and of renal tuberculosis.

DR. FRANCIS S. WATSON, Boston, spoke on the subject of calculous anuria, with especial reference to bilateral renal calculus, and to the simultaneous performance of bilateral nephrolithotomy in those cases, and to calculous anuria occurring in patients having but one kidney.

DR. HOWARD A. KELLY, Baltimore, discussed the value and method of mensuration in vesical, ureteral and renal work.

DR. GEORGE E. BREWER, New York, considered the pathology, diagnosis and treatment of acute unilateral septic infarcts of the kidney, while DR. GEORGE M. EDEBOHLS, New York, pointed out some of the requirements of up-to-date nephrectomy.

The last session of the society was a joint one with the American Ophthalmological Society, at which the prophylactic and curative treatment of ophthalmia neonatorum was discussed by Drs. Edwin B. Cragin, New York; Lucien Howe, Buffalo; Lapthorn Smith, Montreal; Walter P. Manton, Detroit; F. Park Lewis, Buffalo; Walter M. Green, Boston; Henry D. Fry, Washington; Alvin A. Hubbell, Buffalo, and Seth C. Gordon, Portland, Maine.

Cystic Lymphangioma on the Gastrocolic Omentum.

DR. W. FRANCIS B. WAKEFIELD, San Francisco, Cal., reported the case of a 4-year-old boy who had an enormously distended abdomen. He presented no other symptoms. For at least two years the child's abdomen progressively increased in size. Laparotomy was advised. Abdominal dissection disclosed a multiple cystoma larger than an adult head, which was broadly attached to the greater curvature of the stomach, spreading out over a small portion of the anterior and a greater portion of the posterior wall. The tumor was larger than a man's head and consisted of a number of various sized, thin and clear-walled cyst chambers. The central portion of the neoplasm was occupied by a single cavity which made up the bulk of the cystic mass. Surrounding the central cavity on all sides were numerous smaller cystoid masses ranging in size from that of an orange to that of a pea. The author gave a detailed report of the histologic examination of the walls of the cystoma.

Incision of the Anterior Uterine Wall as the Treatment of Chronic Inversion of the Uterus.

DR. REUBEN PETERSON, Ann Arbor, Mich., said that all efforts at reposition of a chronically inverted uterus must be directed toward dilating and incising the unyielding cervical ring. The constricted cervical ring can be incised from above or below. The abdominal route is no easier and does not give as good results as the incision from below. The uterine wall may be incised anteriorly or posteriorly. The former is preferable. He cited a case of twelve years' standing which was successfully treated by this method, and described in detail the operative technic.

Postoperative Inversion of the Vagina.

DR. PHILANDER A. HARRIS, Paterson, N. J., described a new operation for the cure of this condition. Access to the field of operation is made through a suprapubic median line abdominal incision. The round ligaments are sought and dissected from their imbedments. The vagina is well pushed upward with a staff. A small hole is cut in the vagina on its right side, and another opposite on its left. The mucous membrane of the fundus of the vagina between and about these penetrations is curetted. The right ligament is drawn through the apertures near the top of the vagina from right to left. The left ligament is then drawn through the apertures of the vagina from left to right. The distal end of each ligament is then drawn taut, and sewed as high as possible with catgut to the larger portion of its fellow. After sewing the distal portion of each ligament to the proximal portion of the other ligament, the through-and-through sewing is continued at the fundus of the vagina in such a manner as to repeatedly penetrate the ligaments which it covers.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-Second Annual Session, held at Washington, D. C., May 7-9, 1907.

(Concluded from page 1809.)

Pathologic Anatomy of Lymphosarcoma.

DR. W. G. MACCALLUM, Baltimore, studied 8 cases of this condition which he places in two groups. First, those found specially in the mediastinum; second, those originating in the intestine; 5 were in the latter. They are distinguished sharply from Hodgkin's disease by their distribution and their histology, the chief point in the latter being the uniformity of the cells. In some ways lymphosarcoma resembles an infection. He is not prepared to say it is or is not a tumor.

DR. H. A. CHRISTIAN, Boston, thinks the histology of Hodgkin's disease has by some been more sharply defined than it should be, as some of the cases clinically are not thus clearly defined. A recent case in the Massachusetts General Hospital was clinically Hodgkin's disease, but autopsy showed a lymphosarcoma of the mediastinum.

Chylous Ascites and Chylous Pleurisy in a Case of Lymphocytoma Involving the Thoracic Duct.

DR. GEORGE DOCK, Ann Arbor, described the case of a man of 59, who had an abdominal tumor of at least four years' duration. The blood showed a relative lymphocytosis, though the total count was but little increased. Clinically, the case was not an acute lymphocythemia and bore some resemblance to Hodgkin's disease. Autopsy showed a tumor mass in the mesentery and the entire thoracic duct greatly thickened by tumor growth. Lungs, liver, kidney and other organs showed collections of cells which might be called sarcoma, but which were exactly like the findings in leukemia. There had been a chronic empyema before.

DR. W. G. MACCALLUM, Baltimore, said this seemed a borderline case which falls fairly well into the group of lymphosarcomas. He has seen a case of advanced lymphatic leukemia with chylous pleurisy and ascites and enlarged retroperitoneal glands.

DR. ALFRED S. WARTHIN, Ann Arbor, has seen 4 cases of lymphosarcoma and one of large-celled Hodgkin's disease which became leukemia. He regards them as genetically the same, the cells in all coming from the parent cell of the leucocyte.

Long-Continued Fevers.

Dr. Herbert C. Moffitt, San Francisco, described in detail the case of a woman of 47 in whom the chief symptom was recurrent fever, with intervals of seven days. The possible diagnoses included liver abscess, syphilis, Malta fever, lymphosarcoma. Autopsy showed many nodules in the liver, two in the spleen, and one gland near the right kidney.* Histologically, they were lymphosarcomas.

Dr. R. C. Cabot, Boston, found that among the records of the Massachusetts General Hospital for the past four years, 90 per cent. of the fevers lasting more than two weeks were due to one of three affections, namely, typhoid fever, sepsis and tuberculosis.

Dr. Alfred Stengel, Philadelphia, narrated the case of a young man with continued fever in whom many diagnoses had been made. When he saw him emaciation was extreme and an abdominal mass could be felt. Operation showed retroperitoneal tuberculosis. Another cause of long-continued fever is arteriosclerosis, of which he has seen several instances. Often in these cases fever follows chilliness and malaria may be suspected. Of course, this effect of vascular lesions can not be proved as such, but with changes in the vessels that often occur, fever is perfectly possible.

Dr. S. Weir Mitchell, Philadelphia, has seen a number of persons with temperature constantly above what we call the normal, and it may be some of the reported cases of fever belong to this class. He has also seen instances of subnormal temperature in the healthy person.

Dr. George Dock, Ann Arbor, described an obscure case of fever in which operation revealed what was supposed to be carcinoma of the liver. Microscopically, the tumors were shown to be gummas and specific treatment cured the fever.

Dr. W. S. Thayer, Baltimore, has seen 2 cases of lymphosarcoma of the liver in which the diagnosis of typhoid fever had been made. In another case carcinoma of the liver gave rise to long-continued fever.

Dr. Joseph Sailer, Philadelphia, described a case of relapsing fever in which the etiology was not clear. A tumor in the left lower quadrant of the abdomen was finally discovered, and operation revealed a dermoid cyst full of sterile pus. Recovery followed.

Results of Stimulation of Inflamed Pleura.

Drs. Joseph A. Capps and Dean D. Lewis, Chicago, reported experiments on dogs in which they showed that irritation of the pleura by mechanical, chemical, thermal and electrical stimulation caused very little change in blood pressure in the case of normal pleural membranes. In dogs with artificially produced pleurisy the same stimuli gave rise to a marked or even fatal fall in blood pressure. The nature of this reflex is either cardio-inhibitory or vasomotor. The practical point from these findings is that in the case of inflamed pleuræ all irritation should be avoided, whether by aspiration, injection of fluids, or by drainage tubes in empyema. The visceral layer is meant in all instances.

Clinical and Pathologic Studies of Arteriosclerosis.

Drs. W. S. Thayer and M. Fabyan, Baltimore, have studied histologically the radial, mesenteric artery and aorta in 61 persons of various ages. In general, the artery progressively thickens with age. It is therefore, difficult to draw a definite line between the normal and the pathologic radial. The normal radial is palpable if rolled against the bone. An unduly thick radial means either that it has been subjected to an abnormal strain, or it has been unable to resist conditions otherwise regarded as normal.

Cerebral Types of Arteriosclerosis.

Dr. Alfred Stengel, Philadelphia, described cases in which there occur convulsive attacks, local or general, with or without thrombosis; cases showing stupor and coma; and those with psychic manifestations. Some of these cases are undoubtedly diagnosed uremia, as the latter condition is often difficult to determine accurately. In one case an old man in a comatose condition rapidly improved under stimulation, though the previous history suggested uremia rather than deficient cerebral circulation. In some of these cases terminal uremia may occur.

Further Studies on Experimental Arteriosclerosis.

Drs. I. Adler and O. Hensel, New York, in continuation of the work reported last year, have been able to find only 12 positive cases in 90 rabbits treated by numerous methods. They have reached the conclusion that the lesions in rabbits reported by various observers are spontaneous, with possible hastening or augmentation by the injection of drugs, and consequently no conclusions regarding the nature of arteriosclerosis can be based thereon.

Motor Insufficiency Due to Perigastric and Duodenal Adhesions.

Dr. Frank Billings, Chicago, divides these as to cause into those due to infection of the gall bladder, ulcer of the stomach, tuberculous processes in the abdomen and adhesions following surgical operations. The motor disturbances are of two kinds: those, acute, associated with the underlying cause, and those due to retention. In the first the cause is to be treated. In the second, or chronic, the individual and his symptoms must be carefully studied and the treatment proper to that case instituted. One man was cured by treatment directed to the insufficiency after he had had 15 laparotomies to correct the adhesions.

Dr. John H. Musser, Philadelphia, spoke of the effect of adhesions during or after the course of typhoid fever. Pain is often not a symptom but a motor insufficiency, and vomiting may be extreme. He described a case in which vomiting became a serious condition. Operation showed adhesions pressing on the duodenum and biliary passages; temporary relief was followed by recurrence of vomiting and death.

Lenhartz Treatment of Gastric Ulcer and Hyperchlorhydria.

Dr. S. W. Lambert, New York, has always been a convert to the starvation treatment of gastric ulcer, but experience in two cases led him to adopt the Lenhartz method. One was that of a man who, after the starvation treatment, developed a typical attack of scurvy; the other was a woman with hematemesis in whom starvation did not check bleeding which became serious; the Lenhartz treatment was then begun and she gradually improved and finally recovered. This was the final result in four other cases treated from the beginning by this method, and in several cases of hyperchlorhydria the same satisfactory outcome resulted. Although he met with no failures in these series this does not mean that the method is infallible; it does warrant the conclusions of Lenhartz regarding its applicability.

Dr. B. W. Sippy, Chicago, said in the treatment of gastric ulcer more attention should be paid to the state of secretion in the stomach between the hours of 10 p. m. and 6 a. m. He has found in many cases that at 1 or 2 a. m. 300 to 400, or even 500 c.c. of corrosive gastric juice can be obtained from the stomach of such patients. This juice prevents healing of the ulcer, and the stomach should be at rest at this time. To avoid its presence he feeds lightly every hour during the day and gives alkalies. Aspiration at 10 p. m. gives relief in some cases.

Active and Associate Members.

The following were elected active members of the association: James Carroll, U. S. Army; H. A. Christian, Boston; Reid Hunt and M. J. Rosenau, Washington; Torald H. Sollmann, Cleveland; A. E. Taylor, San Francisco. New associate members elected are: E. Libman and C. N. B. Camac, New York; J. H. Pratt, Boston; R. D. Rudolf, Toronto; S. McC. Hamill, Philadelphia; Louis B. Wilson, Rochester, Minn.

Officers Elected.

Officers for the ensuing year are: President, Dr. James Tyson; vice-president, Dr. Victor C. Vaughan; secretary, Dr. Henry Hun; treasurer, Dr. J. P. C. Griffith; recorder, Dr. S. Solis-Cohen; member of council, Dr. Simon Flexner.

Medicolegal

Damages for Malpractice Resulting in Bad Arm for Woman—Skill Required of Physicians—Negligence of Patient.

The Court of Appeals of Kentucky, in Dorris vs. Warford, reverses a judgment rendered in favor of the latter named party for damages for alleged unskilful and negligent treatment of her broken arm. The court says that the physician had found both bones broken between the elbow and the wrist, the break of the bones being oblique or slanting, and not square across. He put on a temporary dressing, and told her he would come to her house the next day and put on a permanent dressing. The next day he and another physician took off the temporary dressing and put on a permanent dressing. The arm was much swollen the night before when the physician dressed it, and there was more swelling the next day. The physician visited the plaintiff several times after that, and she went sometimes to his office. Then she went to his office on one occasion and, not finding him there, left a note on his slate saying that she would get another physician. For some weeks after this he did not see her. Finally he was sent for and found the bandage on the arm loose. From that time he treated her, but her arm was curved and was not strong.

The plaintiff claimed that the physician took the dressing off when he ought not to have done so, and that this was the cause of the crooked arm. On his behalf the testimony tended to show that he removed the dressing at her request and on statements made by her to him which would justify a physician in removing the dressing. It was claimed that the physician did not pay as much attention to the arm as he should have done; proof was introduced showing lack of care on the part of the patient.

The jury was instructed that if it believed from the evidence that the defendant failed to exercise ordinary care and skill in treating the patient, and if it further believed that by reason of such lack of care and skill the plaintiff had been damaged, then the jury should find for her such damages as it believed she had sustained not exceeding the $10,000, the amount claimed; and in estimating such damages the jury should consider the bodily pain and mental anguish suffered by the plaintiff and any permanent injury it believed had resulted to the plaintiff from such negligent treatment.

The court holds that this instruction was erroneous in that it did not correctly define the measure of damages. It says that it would be hard to measure in money the injury to a young woman from having a crooked arm, and sentiment would enter into the matter rather than the criterion of damages fixed by law. In lieu of the latter part of the instruction, the trial court should have told the jury that if it found for the plaintiff, the measure of damages was a reasonable compensation to her for the bodily pain and mental suffering, and the permanent impairment of her ability to earn money. Another instruction was erroneous in requiring of the defendant his best skill and ability. The rule is that a physician must use that care and skill which is exercised generally by physicians of ordinary care and skill in similar communities, and the court should have so instructed the jury. When a person employs a physician the law implies an agreement on his part to exercise the ordinary care and skill of the profession. The implied contract goes no farther, and there is no liability on his part if the implied contract has not been broken. It is no defense to the physician that he used his best skill and ability if he fell short of the legal standard, and there is no liability on his part if his care and skill come up to the legal standard.

The Court of Appeals also says that if the jury believed from the evidence that the plaintiff was guilty of negligence in failing to take proper care of herself, or to hold herself in readiness at reasonable times to be treated, and that such failure to take proper care of herself or to hold herself in readiness to be treated was the proximate cause of her permanent injury, and but for which negligence such injury would not have resulted, then the law was for the defendant, and the jury should so find, although it might further believe that the defendant was guilty of negligence in the treatment of plaintiff's arm.

Company Held Liable for Care from Telephone Call.

The Supreme Court of Errors of Connecticut says, in the case of General Hospital Society vs. New Haven Rendering Company, that, on June 1, 1905, at the defendant's place of business in Orange two of its men were severely burned, so severely that one needed hospital care for nine days and the other for 151 days. The officer representing the defendant in the conduct of its business at Orange was temporarily absent. The men were suffering, and, in this emergency, some one in the defendant's office undertook to act for the defendant, and asked, through the telephone, the plaintiff to dispatch an ambulance immediately to the defendant's place of business to convey two men who had been severely burned, to the hospital, saying that the defendant would take care of the expense. The hospital ambulance was sent to the defendant's office, and the men were taken immediately to the hospital.

The defendant did not disclaim its liability and took no steps to notify the plaintiff that it repudiated the act of the person who had assumed to act for it until after both men were discharged from the hospital. After the first man was discharged the plaintiff presented to the defendant a bill for his treatment. Its representative did not then disclaim responsibility, but said that such matters were attended to at the main office at Boston, and that he would submit the matter to the Boston office.

On the trial, after the plaintiff had produced its evidence, the defendant produced no evidence to prove who was in charge of its office at the time of the accident nor to prove that the person who had assumed to act for the defendant was not clothed with authority to so act. In view of these facts, and of all the inferences the court might properly draw from them in connection with the incidents of the trial, the trial court reached its conclusion that the defendant had assumed as its own the assurance of its responsibility for the care of its servants, given from its office to the plaintiff, and on the faith of which the plaintiff had acted, and rendered judgment for the plaintiff. This is affirmed.

The mere fact that the identity of the person telephoning is not recognized does not necessarily exclude a conversation which is in itself admissible.

Duty to Passenger Weak from Recent Operation.

The Court of Civil Appeals of Texas, in Gulf, Colorado & Santa Fé Railway Company vs. Redeker, affirms a judgment for damages on account of sickness and injuries alleged to have been caused to Mrs. Redeker by a train on which she was a passenger being held at Fort Worth, Tex., from 5 p. m. to 8 p. m. It appeared that on July 20 an operation was performed on her for removing a large ovarian tumor, and that on August 20 she started home. The train she took was held under the car shed for the time stated, practically surrounded by box cars, etc., while the weather was very warm and sultry. Mr. Redeker was with his wife, but, having only one leg, was hardly capable of rendering her sufficient assistance in boarding and alighting from the train and, therefore, informed the train porter or brakeman, who was present, that his wife had recently undergone a very serious surgical operation and was weak, and that when they arrived at their destination he must assist her off the train.

The court holds that this was notice to the company, and that the latter having accepted Mrs. Redeker as a passenger under these circumstances, the law required it to exercise a degree of care commensurate with the responsibility thus assumed. The wrongful acts charged constituted actionable negligence on the part of the company amounting to a tort. The company as common carrier of passengers owed Mrs. Redeker the duty to exercise that high degree of care for her personal comfort and safety which a very cautious and prudent person would have exercised under the circumstances. The question was not whether the damage done her entered into the consideration of the parties in advance, but simply whether it was fairly and directly the result of the injurious acts.

Mrs. Redeker was weak, debilitated and naturally very susceptible to the extreme heat to which she was subjected, and to the injurious effect resulting to her from the negligent delay of the train on which she had taken passage, and failure of the company to notify her sooner of such intended delay. That she would under the circumstances become very much fatigued and probably suffer the nervous shock and resultant injuries which she did in fact experience might reasonably have been expected, and such injuries the court thinks must be regarded as the natural and probable consequences of the wrongful and negligent acts charged against the company.

Damages for Unauthorized Examination of Wound.

The Court of Appeals of Kentucky says, in South Covington & Cincinnati Street Railway Company vs. Cleveland, an action brought by the latter party, who had been injured in a collision with an electric car, that it was alleged that immediately after the accident she was carried into the house of a friend, and while there an inspector of the company, in pursuance of orders to investigate the accident, obtained admittance to the room where she was lying, without invitation or request, and roughly and rudely seized and took hold of her person and examined the wound she had received. For this indignity she asked $2,500. In respect to the conduct of the inspector, a preponderance of the evidence tended to show that the act was committed as claimed. The jury was told that if it believed that the inspector acted in the scope of his employment, and without the request or consent of the plaintiff, placed his hands on her person and examined her wounds, it would find for her in such sum as would fairly compensate her for the mental suffering and sense of shame or humiliation or wounded pride resulting from such action to which she was thereby subjected. The jury awarded her $500 for indignities. The Court of Appeals approves both the instruction and award by affirming the judgment of the lower court.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Bitter Tonics.

H. B. Sheffield, in the *New York Medical Journal*, states that the "simple bitters" fuly deserve their cognomen, since they are certainly bitter and insignificant in their therapeutic properties. The tinctures of gentian, quassia and calumba owe their medicinal value, he asserts, principally to the alcohol they contain, and their use should, therefore, be discouraged, and if alcohol be indicated pleasant wines prescribed. Of the so-called peculiar bitters the cinchona preparations are the chief representatives. As their disgusting taste can seldom be disguised, they should never be prescribed for young children, unless as an antimalarial measure. In malaria, he says that quinin can best be given by rectum. From one-half to one dram of quinin sulphate or bisulphate and a few grains of salt are mixed with the white of an egg, and by means of a large glass syringe and a wide but short rectal tube the mixture is injected into the bowel. The egg albumin prevents irritation of the intestine and with the salt aids in the absorption of the quinin. Older children should be coaxed to take quinin in freshly prepared capsules. The newer so-called tasteless quinin preparations are also deserving of trial, and children not averse to bitter medicines can frequently be induced to take quinin in solution with syrup of yerba santa or extract of licorice, or in powder form in sweetened chocolate.

The different iron preparations, particularly the official wine and the tincture of the chlorid of iron, may be rendered palatable by the addition of glycerin, syrup of orange and water. Powdered iron goes well with sugar and chocolate.

Anthelmintics.

The chief anthelmintics used against the round worm are santonin, spigelia and chenopodium. Those used against tapeworm are pomegranate, its active principle pelletierin, aspidium, pepo, turpentine and chloroform.

Santonin is best given in the form of a troche or lozenge—trochisci santonini, U. S. P. Hare, in "Practical Therapeutics," states that the physician in writing a prescription for troches of santonin should state clearly that trochisi sodii santoninatis, U. S. P., 1880, are *not* to be sold to the patient. If the physician prefers he may write a prescription for troches. The following is recommended by Hare:

℞. Santonini	gr. v		3
Pulveris sacchari	ʒiii	12	
Pulveris acaciæ	gr. viii		5
Misce bene et adde			
Mucilaginis acaciæ	gtt. xvi	1	
Aqua, q. s.			

Ft. in troches No. x. Sig.: One or two lozenges as required.

Tyson ("Practice of Medicine") states that the remedy which he has found most useful in treatment of ascaris lumbricoides is santonin in combination with calomel. Powders containing santonin and calomel, 1 or 2 grains (0.06-0.13) of each, may be prescribed rubbed up with sugar of milk. One powder is given night and morning until the bowels are freely moved.

H. B. Sheffield states that santonin and calomel are most efficient vermifuges and are readily taken by children either pure or with a little sugar or chocolate. Their effect, he asserts, is greatly enhanced by enemas of soapsuds and turpentine or a decoction of quassia wood.

Spigelia is an efficient remedy for round worm and is not poisonous if given with care. The patient should be starved for from twelve to twenty-four hours in order that no food in the intestinal tract may protect the worm from the action of the drug. This precaution should be observed before giving any anthelmintic. Hare calls attention to the fact that the anthelmintic should always be followed by a purge, preferably Epsom salts, to dislodge and expel the worm while it is still norcotized. Spigelia is given in the form of the fluid extract. From one-half to one dram (2.0-4.0 c.c.) may be given to a child of 2 or 3 years. The addition of fluid extract of senna makes the drug more efficient and the mixture is not generally disliked by children. The following is recommended by Potter, and also by Wood:

℞. Fluidextracti spigeliæ	ʒii	8
Fluidextracti sennæ	ʒi	4

M. Sig.: A teaspoonful for a child of from 3 to 5 years.

Chenopodium is best given in the form of the oil—Oleum chenopodii, U. S. P. The dose for a child of 5 is 3 minims (0.18) either on sugar or in an emulsion made of mucilage of acacia. It may be necessary to give this dose three times a day for two days, and it should be followed by a cathartic. In older children the oil may be given in capsules.

Pomegranate (granatum) is seldom used in its crude form. A decoction (unofficial) of the bark is used in expelling tapeworm, and Hare, in "Practical Therapeutics," states that to be effective large doses are necessary. It is prepared by soaking 2 ounces (60.0 c.c.) of bark from the fresh root in 2 pints (1 liter) of water for twenty-four hours and the boiling down to a pint (500.0 c.c.). One ounce (30.0) of this is given at a dose and, if necessary, this is repeated every hour until the whole amount has been taken.

This treatment is very severe, often causing excessive purging and vomiting.

Tyson states that the following combination, recommended by Strümpell, is efficient: Four ounces (120.0 c.c.) of the bark of the pomegranate root are macerated in 1 quart (1 liter) of water for twenty-four hours and then boiled until the amount is reduced to 5 fluid ounces (150.0 c.c.). Then to this are added 75 grains (5.0) of oleoresin of male fern. The whole amount is taken in three or four doses as close together as possible. Tyson also states that thymol in doses of 10 grams (0.65) three times a day in water has been recommended.

Pelletierin, the active principle of pomegranate, is given in doses of from 3 to 5 grains (0.2-0.32), and the tannate is the salt usually employed. Hare states that when pelletierin is used it should always be followed by a purge, preferably castor oil. This drug should be used with great care as serious paralyses have been reported following its use in susceptible individuals.

Aspidium, male fern, is an efficient remedy for tapeworm. The oleoresin is the best form in which to administer it. The patient should be ordered to fast during the day previous to that on which the drug is to be administered, or at least to partake only of a milk diet. One dram (4.0) of the oleoresin may then be given in four doses, one hour apart. This treatment may be repeated, if necessary the next day, and followed by one or two drops of croton oil in emulsion. Castor oil should not be given after aspidium, as it promotes absorption of the drug and so tends to poison the individual. Potter recommends the following combination: Pomegranate, 2 ounces; water, 1 pint; boil down to 7 ounces; 1 ounce of pumpkin seed deprived of outer coats and beaten to a paste with fine powdered sugar. Thirty grains of oleoresin of male fern are made into an emulsion with acacia and the decoction of pomegranate, added to the pumpkin seed paste and flavored with syrup enough to make 9 ounces. One-third of this is administered in the morning after a light diet and a laxative on the previous day. If necessary, the second and third portions may be taken at intervals of three hours. Potter states that the worm should be expelled while the patient is sitting in a tepid sitz bath. This prevents the expelled portion of the parasite being torn from the head by its weight, thus nullifying the treatment.

Hare recommends the following combination:

℞. Oleoresinæ aspidii
Tincturæ vanillæ, āā ....m. xlv 3|
Pulveris acaciæ ....ʒss 2|
Aquæ ....f℥i 30|

M. Sig.: Take the entire amount after fasting and follow in two hours by a full dose of magnesium sulphate.

H. B. Sheffield recommends the following combination:

℞. Ethereal extract of male fern.........fʒiii 12|
Emulsion of chloroform..............fʒiv 15|
Elmulsion of almond, sufficient quantity to make ....f℥ii 60|

This author states that failure to expel the worm is often due to the fact that an oleoresin is used which is prepared from old male fern.

The following combination has also been recommended:

℞. Chloroformi
Oleoresinæ aspidii, āā...................fʒi 4|
Emulsi olei ricini (50 per cent.).......℥iii 90|

M. Sig.: Take at one dose after twenty-four hours' fasting.

Potter states that this combination acts just as well if the male fern be omitted.

Pepo, pumpkin seed, is an efficient tenicide, and its use is not followed by unpleasant symptoms. The outer coat of the seed is removed and an emulsion is made by trituration with sugar and water. Some authorities maintain that the seeds should not be decorticated but that husks and all should be swallowed.

Turpentine may be employed as a vermifuge against tapeworm; it must be given in large doses (℥ss-ii, 15.-60.) and in combination with castor oil to promote its rapid passage through the intestinal canal. Turpentine is an irritant to the kidneys, and as these organs aid in its elimination it must not be given to individuals with any form of nephritis.

A New Percentage Solution Table.

The following table, worked out by Alfred L. Cohn, Ph.D., and published in *Merck's Report*, is accurate enough for ordinary use. The first part gives the number of grains of a given drug to make a given amount of solution of from 0.5 per cent. strength up to 50 per cent. strength. The second part gives the required amounts for proportional solutions, as 1-500, etc. For example, to make one fluid ounce of a 5 per cent. solution, it is merely necessary to dissolve 23.4 grains of the salt or other drug in enough water to measure one fluid ounce. This makes a percentage solution by volume, not by weight.

In the table the number of required fluid ounces is found in the extreme left-hand column, and by following that out the required percentage column is found. The amount of drug stated there is weighed out and to it is added liquid enough to make the total amount measure the number of fluid ounces of solution required.

Quantity of Solution to be made.	Grains of Salt or Drug Required to Make Solutions of Required Percentage Strength					
	0.5 p.c. Gr.	1 p.c. Gr.	5 p.c. Gr.	10 p.c. Gr.	25 p.c. Gr.	50 p.c. Gr..
½ fl. oz.	1.15	2.3	11.7	24	65	151.25
1 fl. oz.	2.3	4.6	23.4	47.9	130	302.5
2 fl. oz.	4.6	9.2	46.8	95.8	260	605
3 fl. oz.	6.9	13.8	70.2	143.7	390	907.5
4 fl. oz.	9.2	18.4	93.6	191.6	520	1210
5 fl. oz.	11.5	23	117	239.5	650	1512.5
6 fl. oz.	13.8	27.6	140.4	287.4	780	1815
8 fl. oz.	18.4	36.8	187.2	383.2	1040	2420
10 fl. oz.	23	46	234	479	1300	3025
12 fl. oz.	27.5	55	280.0	574.8	1560	3630.
16 fl. oz.	36.7	73	374.4	766.4	2080	4840
32 fl. oz.	73.5	146	748.8	1532.8	4160	9680

Quantity of Solution to be made.	Proportional Strength.					
	1 :500 Gr.	1 :1000 Gr.	1 :2000 Gr.	1 :3000 Gr.	1 :4000 Gr.	1 :5000 Gr.
½ fl. oz.	0.46	0.228	0.12	0.075	0.06	0.05
1 fl. oz.	0.91	0.456	0.23	0.15	0.12	0.09
2 fl. oz.	1.8	0.91	0.46	0.3	0.23	0.18
3 fl. oz.	2.7	1.37	0.68	0.46	0.34	0.27
4 fl. oz.	3.64	1.82	0.91	0.61	0.46	0.36
5 fl. oz.	4.55	2.28	1.14	0.76	0.57	0.46
6 fl. oz.	5.46	2.74	1.47	0.91	0.68	0.55
8 fl. oz.	7.28	3.65	1.82	1.22	0.91	0.73
10 fl. oz.	9.1	4.56	2.28	1.52	1.14	0.91
12 fl. oz.	10.92	5.47	2.74	1.82	1.37	1.09
16 fl. oz.	14.56	7.3	3.65	2.43	1.82	1.46
32 fl. oz.	29.12	14.6	7.3	4.86	3.65	2.91

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

May 18.

1 Sanitary Work in the Isthmus of Panama During the Last Three Years. W. C. Gorgas, U. S. A.
2 *A New Type of Ataxia. M. A. Starr, New York.
3 Diagnostic Value of Cystoscopic Examination in Carcinoma Cervicis Uteri. B. S. Barringer, New York.
4 Internal and External Remedies in Urinary Diseases. C. R. O'Crowley, Newark, N. J.
5 Treatment of Malignant New Growths with Escharotics. W. E. Brown, North Adams, Mass.
6 Preoperative Radiation and Surgical Treatment of Cancer. W. J. Morton, New York.

2. **New Type of Ataxia.**—Starr presents a case of ataxia of auditory origin. There were no symptoms of cerebellar disease or of tabes. There had been a gradual atrophy of the cochlear division of the auditory nerve, accompanied by deafness. At the same time there had been an atrophy of the vestibular division of the auditory nerve, cutting off the impulses from the labyrinth which are necessary to preserve the balance.

New York Medical Journal.

May 18.

7 *Diagnosis and Treatment of Acute Intestinal Obstruction. M. Einhorn, New York.
8 *Symmetrical Adenolipomatosis. J. Collins, New York.
9 *Drainage in Operations on Biliary System. H. Lilienthal, New York.
10 *Surgical Treatment of Fibroid Tumors of Uterus, Complicated by Pregnancy. J. Vance, El Paso, Texas.
11 External Hemorrhage in Association with Ectopic Pregnancy. J. Oliver, London.
12 State Regulation of Milk Supply. E. B. Voorhees, New Brunswick, N. J.
13 *A Case of Hydrophobia. F. T. Simpson, Hartford, Conn.
14 *Acute Superior and Inferior Polioencephalitis. J. B. Turner, Philadelphia.
15 Backward and Defective Children. H. Shoemaker, Philadelphia.

7. **Acute Intestinal Obstruction.**—In order to determine the value of the Roentgen ray, Einhorn carried on experiments on frogs. He ligated the intestine and then gave the frog a 10 per cent. solution of bismuth. The strictured place was easily recognized by the fact that the bismuth could not pass beyond it. Einhorn tested the method on the human in a case of chronic obstruction. Twenty-four hours after the administration of the bismuth by mouth there was visible a place in which the intestine was distended and filled with bismuth, and next to it a spot where apparently no bismuth was present

(stenosis) then again intestine with bismuth. A few days later, when the bowel was absolutely free from bismuth, a rectal injection of bismuth was given and then the Roentgen ray showed the same picture as before.

8. **Symmetrical Adenolipomatosis.**—Collins reports five cases of this disorder which came under his observation, and reviews recorded cases.

9. **Drainage in Operations on Biliary System.**—As the result of experience with more than 300 cases, including examples of nearly every known operative procedure on the gall bladder, and its associated ducts, Lilienthal draws the following conclusions: First. The scientific and judicious employment of preliminary drainage in obstructive jaundice will probably lessen the dangers of such steps as may be necessary for permanent cure. Second. This drainage should form the sole object of the surgeon's work until the factor of cholemia has been eliminated. Third. Radical operations in most chronic cases should be postponed until hepatic engorgement and icterus no longer exist.

10. **Fibroids of Uterus Complicating Pregnancy.**—Vance urges that all cases of fibroids complicated by pregnancy should be treated surgically and not obstetrically, and that myomectomy should be done only in suitable cases. Further, he asserts that hysterectomy is indicated in all cases of abortion or miscarriage, which can not be stopped, and when the size of the tumor, pressure symptoms or any other cause endangers the life of the mother.

13. **Hydrophobia.**—Simpson reports a case occurring in a 3-year-old boy. The patient died fifty hours from the manifestation of the first symptom. Antitoxin was not used.

14. **Polioencephalitis.**—Turner gives a very detailed report of one case of this affection.

Boston Medical and Surgical Journal.

May 16.

16 *Treatment of Chronic Diseases of the Heart. T. Schott, Nauheim.
17 *Localized Leucocytosis Associated with Atypical Phagocytic Cells. W. B. Bartlett, Boston.
18 Gastroenteric Obstruction in Early Infancy. (Concluded.) T. M. Rotch and F. T. Murphy, Boston.
19 Treatment of Prostatic Hypertrophy. (Concluded.) J. H. Cunningham, Jr., Boston.
20 Gangrenous Gall Bladder in Umbilical Hernia. F. W. Johnson, Boston.

16.—See abstract in The Journal, Feb. 16, 1907, page 632.

17. **Localized Leucocytosis.**—The blood condition peculiar to the case reported by Bartlett was the existence of an extraordinary leucocytosis localized to the lobes of the ears and accompanied by certain atypical phagocytic cells. The leucocyte count from the lobes of the ears ranged from 30,000 to 300,000. It varied greatly from day to day and even from hour to hour. Counts from two punctures in the same lobe often varied markedly. Counts from the fingers, toes and top of the ear (where it joins the head) were always within normal limits, the lowest count obtained (top of ear) being 7,600 and the highest (toe) 12,200.

St. Louis Medical Review.

May 11.

21 Serenus Samonicus. H. Barnes, Carlisle, England.
22 Deep Injection of Alcohol in Trigeminal and Other Neuralgias. L. Hauck, St. Louis.
23 Rapid Production of Agar and Agar Slants. J. W. Marchildon, St. Louis.

Lancet-Clinic, Cincinnati.

May 18.

24 Partial Intestinal Obstruction. E. Harlan, Cincinnati.
25 *Danger of Dust as Cause of Tuberculosis. G. Homan, St. Louis.
26 Calomel. F. H. Frost, Lebanon, Ohio.

25.—See abstract in The Journal, Oct. 13, 1906, page 1230.

Journal of the Michigan State Medical Society, Detroit.

May.

27 American Gynecology. E. T. Abrams, Dollar Bay.
28 Etiology and Prophylaxis of Puerperal Sepsis. J. B. Whinery, Grand Rapids.
29 Symptoms and Diagnosis of Puerperal Sepsis. W. H. Sawyer, Hillsdale.
30 Nonoperative Treatment of Puerperal Sepsis. J. E. Maxwell, Decatur.
31 Surgical Treatment of Puerperal Sepsis. G. C. Hafford, Albion.
32 *Factors in Volitional Control During Labor. J. E. Davis, Detroit.
33 *Version. E. G. Edwards, Grand Rapids.

32. **Volitional Control During Labor.**—Volitional control, according to Davis, is a very important factor in labor, bearing in effect, from almost total inhibition of contractions of the uterus to the violent stimulation attained by the habitue of miscarriages. With proper correlation in all nerve stimuli, no retardation is possible, but with disturbance of the functional inter-relation, of the sympathetic and cerebrospinal systems, by so-called emotional causes, there occurs marked retardation. Davis says that an environment of self-indulgences is most certain to unfit the emotional nature for the task of labor. The majority of patients confined in maternity hospitals are for these reasons best fitted for normal labor.

33. **Version.**—Edwards practices postural cephalic version and has done so for a period of forty-five years, during which, he says, it has seldom failed him. The patient is placed in the Trendelenburg position and by careful manipulation, with two fingers in the vagina, and the other hand over the abdomen, the fetus is pushed back and into the desired position with the head presenting. A number of cases are reported to illustrate the efficiency of the method employed.

Journal of Missouri State Medical Association, St. Louis.

May.

34 *Medical Reformation. J. S. Triplett, Harrisonville, Mo.
35 *Ninety-one Cases of Typhoid in Private Practice, Without Death. W. H. Hays, Hannibal, Mo.
36 Surgery of the Ureter: Trans-uretero-ureteral Anastomosis. N. W. Sharpe, St. Louis.
37 *Indications for Medical Treatment in Diseases of the Biliary Passages. S. P. Child, Kansas City.
38 *Method of Radical Relief of Cases of Deafness Long Abandoned as Hopeless. R. Barclay, St. Louis.
39 *The Physician as a Debtor to the Organized Profession. A. R. Rowe, Poplar Bluff.
40 *Case of Congenital Deformity. G. A. Beedle, Kansas City, Mo.
41 *Relation of Pelvic Diseases to Insanity. N. F. Terry, Springfield.

34. **Medical Reformation.**—Triplett discusses the reforms in medicine, educational and professional, that have been instituted as the direct outcome of the reorganization effected by the American Medical Association some years ago. He says that this reorganization has been effective in advancing medical science, alleviating suffering, limiting and controlling the spread of disease, prolonging human life, and protecting the public against quacks, illegal practitioners and the nostrum evil.

35. **Typhoid Fever.**—Hays' routine consists of the usual preliminary purgation, strictly liquid diet and the liberal use of water for cold sponging whenever the temperature reaches above 102.4 F. Drugs are used as called for by the course of the disease. Hays appears to be a firm believer in the efficacy of intestinal antiseptics.

37. **Disease of Biliary Passages.**—According to Child, the only treatment to be advocated on recognizing the existence of biliary disease beyond the acute catarrhal type, is one of surgical intervention.

38. **Relief of Deafness of Long Standing.**—Barclay says that clinical experience seems to have confirmed the opinion, that in cases of deafness, long abandoned as hopeless, habitual speaking in an abnormally moderated or low tone of voice, associated with better hearing in a noise or noisy place, is an evidence of an immobilization of the outer portion of the auditory conducing mechanism; and, in such cases, is an indication for the employment of surgical measures for its radical relief. He also states that resection of the auditory conducting mechanism, properly done, will radically relieve deafness—no matter of how long standing, or how treated hitherto—proportionally to the distinctness of the following characteristic symptoms, when found together: Habitual speech in an abnormally moderated or low tone of voice, with better hearing in a noise, or noisy place, which are pathognomonic of immobilization of the outer portion of the auditory conducting mechanism.

39. **Physician a Debtor to Organized Profession.**—Rowe calls attention to the need of organization and points out how the present organization of medical men fulfills that need, and how the individual physician, as a participator in these benefits, is a debtor to the organized profession. He urges that

every physician become a member of his county society and thus approve and endorse the general movement of organization.

40. **Congenital Deformity.**—The deformities presented in the case reported by Beedle consisted of absence of the left leg, from about two inches below the knee, and equino varus of the right foot, with absence of toes.

41. **Relation of Pelvic Diseases to Insanity.**—Terry holds views similar to those enunciated by other writers on this subject.

American Medicine, Philadelphia.

April.

42 Value of Drugs Used to Assist Labor. J. E. Davis, Detroit, Mich.
43 Two Cases of Arthritis Deformans in Children. L. E. Holmes, Asheville, N. C.
44 *Restoration of the Perineum. H. Hill, Kansas City, Mo.
45 Mastoid Work for the General Practitioner. J. A. Watson, Minneapolis.
46 Yeasts of the Human Stomach. E. Palier, New York.
47 *Exophthalmic Goiter Following Curettement. A. H. P. Leuf. Philadelphia.
48 *Study of the Blood in Syphilis. T. Watabiki, Tokio, Japan.
49 Chorionepithelioma. A. L. Benedict, Buffalo.
50 *Benign Stenosis of the Pylorus and Duodenum Resulting from Spasm and Scar Tissue and from Abdominal Adhesions. A. Bernheim, Philadelphia.
51 Method for the Determination of B. Typhosus and B. Coli Communis in Milk and Water. H. J. Sommer, Jr., Norristown, Pa.
52 A Patient's Struggle for Dextrocularity. G. M. Gould, Philadelphia.
53 Treatment of Keratitis from Lagophthalmus. L. M. Francis, Buffalo.
54 Hypothesis Concerning Soul Substance Together with Experimental Evidence of the Existence of Such Substance. D. Macdougall, Haverhill, Mass.

44.—See abstract in The Journal, Jan. 20, 1905, page 223.

47. **Exophthalmic Goiter Following Curettement.**—Leuf reports the case of a woman, aged about 30, who developed exophthalmic goiter of a pronounced type after uterine curettement. She responded indifferently to treatment until potassium bromid was used, with a view to allaying irritability of the nervous system. She improved rapidly after the treatment was changed to sodium salicylate, 15 grains, three times daily. It appears from the report of this case that shortly before the onset of her trouble the patient had suffered from a severe shock, incident to the death from accident of her 3-year-old boy. She had a number of miscarriages following this accident and suffered much from irregular menstruation, pain in the legs and abdomen, chills and sweating. Her condition remained practically the same for a period of nearly two years. At the expiration of this time she was delivered of a living child, and since then she has enjoyed good health.

48. **Blood in Syphilis.**—Watabiki summarizes the more important conclusions of recent writers concerning the characteristics of the blood in various stages of syphilis and details the results of his own observations made on 40 cases of syphilis representing the primary, secondary and tertiary stages.

50. **Stenosis of Pylorus.**—Bernheim reports two cases which he believes prove that not all dilatations of the stomach need necessarily be subjected to surgical intervention. In addition to carrying out the usual dietetic and hygienic measures employed in the treatment of these patients, he gave large doses of olive oil, from 200 to 250 c.c., either by tube or having the patient drink it. In one case he resorted to the use of hypodermic injections of allylsulfocarbamid (thiosinamin), using a 10 per cent. hydro-alcoholic solution. The patient improved rapidly under this treatment.

Archives of Pediatrics, New York.

April.

55 *Use of Living Lactic Acid and Bacilli to Combat Intestinal Fermentation in Infancy. C. H. Dunn. Boston.
56 *Twenty-three Hour Treatment. W. P. Northrup. New York.
57 *Reducing Power of Urine Following the Administration of Hexamethylenamin (Urotropin). I. A. Abt, Chicago.
58 So-Called "Bad Habits" in Children. J. Thomson. Edinburgh.
59 *Foreign Bodies Swallowed or Inhaled by Young Children. T. M. Rotch, Boston.
60 *Lobar Pneumonia with Unusual Temperature. F. Huber, New York.
61 *Primary Intestinal Tuberculosis in Nursing Baby. I. M. Snow. Buffalo,

55. **Lactic Acid Bacilli to Combat Intestinal Fermentation.**—Dunn pasteurized buttermilk, then inoculated it with a pure culture of lacid acid bacilli, allowing the mixture to ripen until the development of the organism had brought about the proper acidity and precipitation of the casein. In the majority of the cases the buttermilk was given only after all ordinary and routine measures had failed. Of 35 selected cases there was evidence of a favorable result in 23; in 3 there was immediate cessation of diarrhea and favorable change in the character of the dejecta, without gain in weight; in 9 no effect was produced. In 14 resistant cases of the fermentative type the buttermilk was first given in the pasteurized form, and after a sufficient trial had demonstrated a failure to improve, the pasteurization was omitted. Immediate improvement followed in each case. In 4 cases of acute diarrhea the only treatment was the administration of unpasteurized buttermilk. No castor oil or calomel, no bismuth or irrigations, and no period of starvation were employed. Two of these cases were successful; one patient improved slightly, and one case was a failure. Dunn says that the only conclusion which may safely be drawn from this study is that the use of living lactic acid bacilli is a harmless method of treatment, and that it may do good in cases of intestinal fermentation. He promises to investigate further and to report later.

56. **The Twenty-three Hour Treatment.**—The twenty-three hour cure or treatment discussed by Northrup consists in living twenty-three out of the twenty-four hours in the best obtainable cool flowing fresh air. The treatment is especially excellent in convalescence from acute illness, in cases of delicate infants and young children not thriving. The quality of cold or cool flowing fresh air is essential. Cold air may be stale. Air may be oxygenated and free of odors and yet be warm. The air should be flowing freely and cold. Cold fresh flowing air has uniformly certain effects on young patients. First they sleep. They remain quiet so long as they are in the open air, and sleep most of the time. The quieting effect is well proved. Second, they take more food and assimilate it better. Patients in the open air rarely catch cold; much less often than those kept habitually in warm rooms. Something depends on the nurse, of course, but in a wide experience with different nurses selected by chance, the patients have rarely caught cold. In the whole winter's experience at Sea Breeze no child has developed pneumonia.

57. **Reducing Power of Urine Following Administration of Urotropin.**—Abt studied this reaction in seven cases and summarizes his findings as follows: 1. The administration of urotropin (hexamethylenamin) will cause the urine to reduce copper solutions after the drug has been administered for some time. 2. Urotropin does not ordinarily cause the reduction of the bismuth test solutions. Such urine has no action on polarized light; it does not show a fermentation test. 3. The continued use of urotropin may give rise to albuminuria, with the presence of blood and casts. 4. Nephritis prevents the reduction of Haines' solution by diminishing the permeability of the kidneys for urotropin. 5. A patient with normal kidneys secreting acid urine will eliminate urotropin very rapidly, and this can be demonstrated by the reducing action of the urine on copper solution.

59. **Foreign Bodies Swallowed or Inhaled by Children.**—Ten cases are reported by Rotch. The objects swallowed or inhaled were a tin whistle, a hook, a safety pin, half a peanut, an ordinary pin with a pearl head, a feather, and a piece of the china arm of a doll. One of the children swallowed three safety pins. In most of the cases the objects swallowed were passed in the stool or vomited, and those that had been inhaled were expectorated.

60. **Unusual Temperature in Pneumonia.**—In a typical case of lobar pneumonia seen by Huber, occurring in a 17-months-old boy, the evening temperature reached 107 F., with a decided fall in the morning. Aside from the peculiar and unusual temperature range, the progress of the case was uneventful.

61. **Primary Intestinal Tuberculosis.**—Snow reports two cases occurring in one family. The older of the patients, one year of age, died after an illness of six days. The younger one lingered for two months. There was no tuberculous heredity. The parents, relatives and house servants were well, and the nourishment, breast milk, was proved by inoculation experi-

ments to be free of tubercle bacilli. A trained nurse was in attendance at the second confinement. At the time she was in poor health and coughed frequently. After a month's stay she went home, and soon afterward tubercle bacilli were found in her sputum and tuberculous lesions were discovered in her lungs. Snow says that there is no doubt that the nurse infected both babies by prolonged personal contact. A postmortem held on the youngest child showed conclusively that it was a case of primary intestinal tuberculosis. It was also ascertained that a baby that the nurse had cared for nine months before died of bronchial pneumonia soon afterward.

Western Medical Review, Omaha, Neb.

April.

62 *Congenital Umbilical Hernia. S. S. Wilson, Nebraska City.
63 Corneal Ulcer and Its Treatment. F. E. Franchere, Sioux City, Iowa.
64 *Contusions of the Abdomen. C. L. Mullins, Broken Bow, Neb.
65 Retrodisplacements of the Uterus. C. W. Pollard, Omaha.
66 Obstetric Technic. J. R. McKlrahan, Minden, Neb.
67 Atrophy of the Mucous Membrane of the Stomach. H. L. Akin, Omaha.

62. **Congenital Umbilical Hernia.**—In the case reported by Wilson the sac of the hernia was found to contain the entire small intestine and the cecum firmly united by adhesions. The child was operated on, when only three hours old, and made an excellent recovery.

64. **Contusions of Abdomen.**—Mullins reports four cases in which he made careful studies as to the occurrence of pain and tympany. One of the patients refused operation and died.

Journal of the South Carolina Medical Association, Greenville.

April.

68 *President's Address of the South Carolina Medical Association. T. P. Whaley, Charleston.
69 *Surgical Treatment of 150 Cases of Fibroid Tumor. S. W. Pryor, Chester.
70 *Flies. W. H. Chapman, Whitney.
71 Congenital Malformation of the Brain, with Report of a Case of Encephalocele. H. L. Shaw, Fountain Inn, S. C.
72 *Common Interests of Physicians and Druggists. G. W. Evans, Anderson.
73 Sunstroke Therapeutics. W. C. Abbott, Chicago.

68.—See abstract in The Journal, May 11, 1907, page 1625.

69. **Fibroids of Uterus.**—Of the 150 operations for fibroids done by Pryor only two were emergency operations called for by the breaking down of the fibroid tissues. There were three pedunculated and seven fibrocystic tumors. The others were subserous and subperitoneal. There were four fatalities: one from secondary hemorrhage, due to slipping of the ligature; one from puncture of the uterus, which passed unnoticed; one from incompetent nursing, and one from sepsis.

70. **Flies.**—Chapman discusses the part played by flies in the dissemination of infectious diseases.

72. **Common Interests of Physicians and Druggists.**—Evans pleads for harmony between the two professions. The druggist should not do any counter prescribing and the physician should give the druggist credit for being able to compound any prescription, instead of calling for some proprietary preparation and sometimes for a nostrum. The druggist should not infringe on the rights of the physician, nor should the physician impose on the druggist.

American Journal of Urology, New York.

May.

74 *Tuberculosis of the Testicle. E. L. Keyes, Jr., New York.
75 Tuberculosis of the Urethra, Seminal Vesicles, Prostate and Bladder. A. Mitchell, Portland, Me.

74. **Tuberculosis of Testicle.**—Keyes analyzes 100 cases of tuberculosis of the testicle. In 71 per cent. tuberculosis was first observed between the ages of 15 and 34, while in 65 per cent. the testicle was first attacked between these ages. In 49 cases there was no evidence of any previous tuberculosis, when the testicle first enlarged, while in 36 cases there were more or less ancient foci of the disease elsewhere in the body. Tuberculosis of the lung, preceded invasion of the testicle 15 times; bone or joint tuberculosis, 8 times; renal tuberculosis, 11 times; active prostatic or vesicle tuberculosis, 13 times; inguinal adenitis twice, and fistula in ano twice. The onset was acute in 34 cases; chronic in 34. Breaking down occurred in 76 cases. Keyes says that epididymectomy is the radical operation of choice, unless there is hyperacute and generalized epididymo-orchitis, or unless the testicle is destroyed by suppuration. He says that many patients permit the removal of one testicle in the hope that the disease is confined to the one organ, and may be eradicated. This hope is utterly vain, inasmuch as relapse on the opposite side almost inevitably occurs.

Texas State Journal of Medicine, Fort Worth.

April.

76 *Malignant Tumors of the Orbit. E. H. Cary, Dallas.
77 *The Sequelæ of Diphtheria. E. D. Capps, Fort Worth.
78 *Gunshot Wound of the Eye. F. J. Hall, Dallas.
79 Glandular Tuberculosis Successfully Treated by Roentgen Ray. E. M. Rabb, San Antonio.
80 Fibrinous or Pseudomembranous Bronchitis. S. R. Cates, Abilene.
81 Public Hygiene. C. A. Gray, Bonham.

76. **Malignant Tumors of Orbit.**—Cary reports five cases, three of small round-celled sarcomas, one of epithelioma of the conjunctiva, and one of epithelioma of the postnasal space.

77. **Sequelæ of Diphtheria.**—Capps reports three cases of paralysis following diphtheria. In one case there was complete paralysis of the ciliary muscle and a paresis of the internal and superior recti muscles. In the second case there was paralysis of the soft palate, and in the third case there was paralysis of accommodation also of the pupillary reflex, and later a paresis involving nearly every muscle in the body.

78. **Gunshot Wounds of Eye.**—In the case reported by Hall the injury was the result of the discharge of a shotgun, several paces distant from the victim. The patient was blind for five months, receiving in the meantime 15 grains of potassium iodid daily. After the fifth month, vision in the left eye began to return and continued to grow better until it is now practically normal. The shot is still behind the globe.

St. Paul Medical Journal.

May.

82 *Dry Sterilized Pyoktannin Catgut. E. Boeckmann, St. Paul, Minn.
83 *Rational Treatment of Septic Peritonitis. E. M. Lundholm, St. Paul.
84 The Popular Fear of the Contagiousness of Tuberculosis. H. L. Taylor, St. Paul.
85 Treatment of So-called Incurables. B. Foster, St Paul.
86 *Orthopedic Conditions Causing Sciatica. A. J. Gillette, St. Paul.

82. **Dry Sterilized Pyoktannin Catgut.**—Boeckmann reviews the preparation of catgut for surgical purposes, especially the dry sterilized pyoktannin catgut, which he says is non-irritating, non-poisonous, sterile and antiseptic, meeting all the requirements in every way.

83. **Treatment of Septic Peritonitis.**—Lundholm advocates placing the patient in the half-sitting position, operating, unless the patient is apparently beyond help or on the way to recovery; lavage of the stomach, when no operation is done; saline hypodermoclysis; rectal feeding and making no attempt to move the bowels.

86. **Orthopedic Conditions Causing Sciatica.**—Gillette found a number of conditions which caused sciatica. For instance, several cases of severe flatfoot after the arch was restored were relieved of the sciatica. One patient with very severe sciatica was cured after a proper shoe was adjusted to relieve a Morton's foot. In another case a painful heel caused sciatica. Varicose veins, popliteal bursitis, tumor of the pleural region, spondylolisthesis, postnephritic abscess, lateral curvature of the spine, sacroiliac joint disease and tuberculous disease of the lower spine were observed by Gillette as causes of a previously intractable sciatica.

University of Pennsylvania Medical Bulletin, Philadelphia.

March-April.

87 *Endemic Occurrence of Carcinoma and Inoculability of Tumors. L. Loeb, Philadelphia.
88 *Internal Hydrocephalus. W. G. Spiller and A. R. Allen, Philadelphia.
89 Abnormal Contraction of the Eyelids in Association with Movements of the Jaws. W. C. Posey, Philadelphia.
90 Peculiar Types of Ganglion Cell Degeneration. D. J. McCarthy, Philadelphia.
91 *Ganglion in Flexure of the Elbow. A. P. C. Ashhurst, Philadelphia.
92 *Four Cases of Primary Cancer of the Gall bladder. L. W. Johnson, Philadelphia.

87. **Carcinoma.**—Loeb makes a further report on the endemic occurrence of cancer in mice and on the inoculability of tumors. His observations suggest that hereditary transmission of certain predisposing conditions from parents to offspring is one

of the factors causing the so-called endemic occurrence of cancer among animals. He also found that original slowly growing tumors may easily be inoculable and that the energy of growth of the original tumor is only one of the factors which determine the degree of inoculability of a tumor.

88. **Internal Hydrocephalus.**—Spiller and Allen report two cases of internal hydrocephalus, one resulting from occlusion of the aqueduct of Sylvius. The second case was one of intense congenital hydrocephalus without occlusion of the aqueduct. The child lived to be a year and a half old. The cause of the hydrocephalus in his case could not be determined, but the condition seemed to have been a congenital malformation.

91. **Ganglion in Flexure of Elbow.**—Ashhurst adds one case of this kind to the four cases thus far reported in the literature.

92. **Primary Cancer of Gall Bladder.**—Johnson analyzes thirty-three cases of undoubted primary cancer of the gall bladder reported in the literature and adds four cases studied by him.

Archives of Ophthalmology, New York.

January.

93 Obstruction of Central Retinal Vein. F. H. Verhoeff, Boston.
94 A Dissecting Spatula. O. Landman, Toledo.
95 Enucleation of the Eye with Cocain Anesthesia. E. K. Ellis, Boston, and H. G. Langworthy, Dubuque, Iowa.
96 Case of Metastatic Carcinoma of the Iris. I. F. Proctor, Boston.
97 Case of Bilateral, Slow, Painless Hypertrophy of the Lachrymal Parotid Submaxillary and Sublingual Glands. J. Dunn, Richmond.
98 Case of Congenital Staphyloma of the Cornea. J. Runte, Würzburg.

Texas Medical News, Austin.

March.

99 Honorary President's Address of American International Congress on Tuberculosis, November, 1906. A. N. Bell, Brooklyn, N. Y.
100 Duty of the Government to Its People. F. E. Daniel, Austin.
101 *Mechanical and Chemical Effect of Milk on the Human. A. E. Gue, Detroit.

101.—This article has also appeared in the *Colorado Medical Journal*, February, 1907, in the *Milwaukee Medical Journal*, March, 1907, and in the *New England Medical Monthly*, April, 1907.

Philippine Journal of Science, Manila.

March.

102 *Filaria Philippinensis and Its Development in the Mosquito. P. M. Ashburn and C. F. Craig.
103 Paragonimiasis in the Philippine Islands. W. E. Musgrave.

102.—A preliminary report on this subject appeared in the *American Journal of Medical Sciences*, September, 1906, and was abstracted in THE JOURNAL A. M. A., Oct. 27, 1906, page 1416.

Wisconsin Medical Journal, Milwaukee.

April.

104 Symptoms and Diagnosis of Acute Intestinal Obstruction in Adults. J. D. Madison, Milwaukee.
105 Acute Intussusception in Infants. A. W. Myers, Milwaukee.
106 Conditions Simulating Intestinal Occlusion Due to Mechanical Obstruction. W. Ackermann, Milwaukee.
107 Pathology of Acute Intestinal Obstruction. V. H. Bassett, Wauwatosa.
108 Exudations. W. C. Abbott, Chicago.
109 Obstetric Responsibility During Pregnancy. W. F. McCabe, Beloit.

Annals of Gynecology and Pediatry, Boston.

April.

110 Obstetric Problems from the Standpoint of the Surgeon. F. D. Donoghue, Boston.

Fort Wayne Medical Journal-Magazine, Indianapolis.

April.

111 Amputations. M. F. Porter, Fort Wayne, Ind.
112 Palatable Medication. H. B. Sheffield, New York.

United States Naval Medical Bulletin, Washington.

April.

113 Gross Pathology of Samoa. A. M. Fauntleroy, U. S. N.
114 Preliminary Note on Flagellates. H. W. Smith, U. S. N.
115 Case of Tropical Febrile Splenomegaly. H. W. Smith, U. S. N.
116 Tinea Tropica Circinata. G. F. Freeman, U. S. N.
117 Dengue and Influenza in the Tropics. E. R. Stitt, U. S. N.
118 Case of Aneurism of the Abdominal Aorta. H. A. May, U. S. N.
119 Case of Adams-Stokes Disease. P. T. Dessez, U. S. N.

Journal of Nervous and Mental Diseases, New York.

April.

120 Diagnostic Value of Lumbar Puncture in Psychiatry. J. L. Pomeroy, New York City.
121 Case of Hysterical Mutism. J. K. Mitchell, Philadelphia.
122 Symptoms Simulating Brain Tumor Due to Obliteration of Longitudinal Lateral and Occipital Sinuses. C. E. Riggs, St. Paul.

Bulletin of the American Academy of Medicine, Easton, Pa.

April.

123 What Can the Organized Medical Profession Do to Aid in the Suppression of Quackery. H. W. Cattell, Philadelphia.
124 The Atypical Child—Its Instincts and Moral Status. W. H. Groszmann, Plainfield, N. J.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 4.

1 *Operative Treatment of Fractures. W. A. Lane.
2 *Diverticulum of the Esophagus. B. Pollard.
3 Nervous Degeneration and Regeneration. W. D. Halliburton.
4 *Severe Compound Fracture of the Skull. W. P. McEldowney and J. W. Cousins.
5 *Subcutaneous Injury of the Pancreas. G. H. Cowen.
6 Retroperitoneal Sarcoma of Douglas's Pouch. C. F. Walters and I. W. Hall.
7 *Acute Pelvic Abscess Followed by Acute Obstruction. E. Leach.
8 Peculiarities of the Tongue in Mongolism and Tongue-sucking in their Causation. J. Thomson.
9 Accidental Rashes of Varicella. J. D. Rolleston.
10 *Merycism or Rumination in Man. J. G. Millar.
11 *Diaphragmatic Hernia. W. Hunter.
12 *Congenital Malaria. R. U. Moffat.
13 Fracture of the Lachrymal Bone with Perforation of the Lachrymal Sac. C. M. Beadnell.
14 Calcium Chlorid in Hemorrhage. A. S. Green.
15 Enterospasm Caused by Lead Poisoning. H. R. Wilson.

1. **Operative Treatment of Fractures.**—Lane discusses the surgical treatment of mal-united fractures of the femur and reports one case as a basis for his remarks.

2. **Diverticulum of Esophagus.**—Pollard reports a typical instance of the most common form of diverticulum of the esophagus, that which gives rise to the most distressing symptoms, and for which surgical intervention is most commonly required. It arises in the middle line, posteriorly, at the junction of the pharynx and the esophagus. The patient was a woman, 45 years of age. The existence of the pouch was recognized five and a half years before it was removed. Its capacity was nine fluid ounces. Its position was registered by radiography and its removal was very simple. The patient made a quick and complete recovery.

4. **Compound Fracture of Skull.**—McEldowney and Cousins emphasize the value of utilizing scales and small fragments of bone in extensive fracture of the skull, for the purpose of securing the development of a sound and thick cicatrix. They claim that the performance of secondary osteoplastic operations for the closure of large openings ought to be limited to cases in which persistent headache and other severe head symptoms are present, and in which there is evidence that these disorders can be attributed to the injury. In the case reported by them five square inches of broken fragments were removed at the time of the operation, but the injury extended over a much larger area, for all round the margin of the fracture the bony edge was broken and depressed. In closing the wound the fractured pieces were elevated into position, the lacerated dura mater was lightly placed over the exposed convolutions and fixed by a few catgut sutures, at the same time all the scales and little fragments of bone adhering to it and to the periosteum were carefully preserved, and after trimming the contused and injured skin the flaps were drawn accurately together with another layer of fine stitches and protected by three gauze drains. In this way a number of small bone grafts were introduced into the opening and in becoming ossifying centers they added greatly to the formation of the firm cicatrix.

5. **Injury of Pancreas.**—In the case reported by Cowen, the diagnosis was not made before operation. When the abdomen was opened the hemorrhage from the region of the pancreas was so severe as to obscure the source of the hemorrhage, and the only thing that could be done was to trust to gauze pressure. Accordingly, 12 yards of gauze were packed firmly against the pancreas, the end of the gauze being brought out of the wound and the abdomen was then closed. The wound healed up fairly well, except for a sinus, from which was discharged daily six to eight ounces of clear fluid. This fluid irritated the skin considerably, so that the patient was fitted

with an abdominal belt, to which was fixed a celluloid flask, with a small rubber tube leading into it from the sinus, thus conveying the juice away without contact with the skin. The patient was still wearing this appliance with comfort a year and a half after the operation.

7. **Pelvic Abscess Causing Intestinal Obstruction.**—Leach reports a case of probable carcinoma of the left ovary, to which the bowel was bound down by numerous dense adhesions, giving rise to obstruction.

10. **Merycism.**—Millar reports one case of this interesting affection.

11. **Diaphragmatic Hernia.**—Hunter records two cases of diaphragmatic hernia, occurring in stillborn children. In one case the defect in the diaphragm was in the right side, in the other on the left side. In the first case part of the stomach, the greater part of the small intestine, the omentum, and a fold of the large bowel constituted the hernia. In the second case the entire stomach, the majority of the folds of the small intestine, a large loop of the large intestine, the omentum and the spleen had passed into the left pleural cavity.

12. **Congenital Malaria.**—In Moffat's case, the mother of the child suffered from malaria during the early months of pregnancy.

The Lancet, London.

May 4.

16 Nervous Degeneration and Regeneration. W. D. Halliburton.
17 Cerebrospinal Fever. C. Wall.
18 Opsonic Power of the Serum with Reference to the Meningococcus of Cerebrospinal Fever, Occurring in the Belfast Epidemic. T. Houston and J. C. Rankin.
19 Case of Osteitis Deformans. R. Waterhouse.
20 Case of Primary Sarcoma of the Liver in Child Aged Four Months. E. W. S. Carmichael.
21 Life Cycle of the Parasite of Sleeping Sickness. J. E. Salviu-Moore and A. Breinl.
22 *Effect of the Exposure to Tobacco Smoke on Growth of Pathogenic Germs. M. B. Arnold.
23 *Use of Animal Blood Serum in Surgery. W. Stuart-Low.
24 Balneologic Treatment of Urinary Diseases. (Concluded.) O. Kraus.

22. **Effect of Tobacco Smoke on Pathogenic Micro-organisms.**—Arnold found by experimentation that the smoke from tobacco is bactericidal, that is, tobacco smoke as drawn into the mouth, is probably detrimental to the growth of some pathogenic organisms, but not more, indeed rather less so, than smoke from other sources. The bacillus of diphtheria was always markedly affected. Sometimes it failed to grow at all, but in some cases there was a slight growth. This was the case both with the tubes smoked from tobacco and with those smoked from hay. The typhoid bacillus grew, but very much less than in the control tubes. In some instances there was no macroscopic growth at the end of twenty-four hours. The *Bacillus coli communis* grew fairly well though distinctly less than the control tubes. The *Staphylococcus pyogenes aureus* was hardly affected, except in one experiment with smoke from hay. In the experiment made with a streptococcus no growth took place in the smoked tubes.

23. **Use of Animal Blood Serum in Surgery.**—Stuart-Low believes that normal blood serum is the best substance and the natural substance for perfect and rapid repair of wounds. To increase the amount of it in and about healing parts, he employs animal blood serum in irrigating and dressing wounds.

Journal of Obstetrics and Gynecology of the British Empire, London.

May.

25 Three Cases of Successful Pubiotomy. M. J. Gibson.
26 *Advisability of Removing the Cervix in Performing Hysterectomy for Fibromyomatous Uterine Tumors. J. D. Malcolm.
27 *Induction of Labor in Prolonged Pregnancy. R. G. McKerron.
28 Case of Delivery by Pubiotomy. E. H. Tweedy.
29 *Case of Supposed Recurrence after Vaginal Hysterectomy for Cancer of Cervix. C. H. Roberts.
30 Unusually Large Adeno-Fibromyomatous Polypus of the Cervix Uteri, Simulating Malignant Growth. J. B. Hellier.
31 Case of Paralysis of Intestines with Regurgitant Peristalsis Following Delivery. R. Jardine.
32 Case of Subcutaneous Emphysema During Labor. R. Jardine.
33 Case of Suppurative Ophthalmitis After Labor. R. Jardine.

26. **Advantages of Total Hysterectomy.**—Malcolm urges that in performing hysterectomy, excision of the cervix should be undertaken whenever there are no special reasons against it.

27. **Prolonged Pregnancy.**—McKerron summarizes his paper as follows: 1. Pregnancy is unduly protracted in about 3 per cent. of cases. 2. The condition is associated with danger to the child from (a) placental changes, (b) prolonged or difficult delivery. 3. It is unfavorable for the mother from (a) excessive distension, which may lead to subsequent atony of the abdominal muscles and permanent enlargement of the abdomen; (b) difficult or obstructed labor; (c) uterine inertia with consequent liability to postpartum hemorrhage. 4. The dangers to mother and child can and should be avoided by the induction of labor. 5. This should not be done as a matter of routine, but only when there is satisfactory evidence that pregnancy is prolonged, and that its further continuance may lead to serious difficulties.

29. **Simulated Recurrence of Cancer.**—In the case reported by Roberts, the original growth in the cervix was an atypical squamous-celled carcinoma, while the recurrence was not malignant at all, but consisted of fibrous tissue, covered with granulations, the whole forming a papillomatous mass. He urges that supposed recurrences should always be subjected to microscopic examination, as they may be mistaken for cancer.

The Practitioner, London.

May.

34 Heartblock. G. A. Gibson and W. T. Ritchie.
35 Fractures About the Elbow Joint. A. Carless.
36 *Use of Opium in Acute and Chronic Diseases. I. B. Yeo.
37 Indications for the Use of Opium in Acute Diseases. R. Stockman.
38 *Chronic Morphinism. W. E. Dixon.
39 Hypertrophy of Pylorus in Adults and Its Treatment by Opium. N. Neild.
40 Indications for the Use of Opium in Acute Disease. H. S. Saudifer.
41 Opium in Acute Diseases. A. Bousfield.

36. **Use of Opium.**—Yeo says that the best single test of the judgment and clinical capacity of a physician is his skill in the use of opium, because the greatest caution is needed in its use and dosage, especially in the hypodermic use of morphin.

38. **Chronic Morphinism.**—Dixon advocates the gradual withdrawal of the drug in all cases, except when only two or three grains are consumed in twenty-four hours, when sudden withdrawal is permissible.

Bulletin de l'Académie de Médecine, Paris.

42 (Year LXXI, Nos. 11-13, pp. 367-416.) *Disturbances in Balancing Sense. (Syndrome vestibulaire.) F. Raymond.
43 (Nos. 14-16, pp. 417-452.) *Neoplastic Form of Inflammatory Tuberculosis. (Lipomes d'origine tuberculeuse.) A. Poncet and R. Leriche.
44 *Serotherapy of Dysentery. (Serothérapie de la dysentérie bacillaire.) Vaillard and C. Dopter.
45 Toxicity of Cultures of Ray Fungus. (Toxicité des cultures d'actinomyces.) Id.
46 (No. 17, pp. 453-496). *Syphilis in the Army. (La syph. dans l'armee. Prophylaxie.) E. Delorme.
47 Plea for More Extensive Concerted Action in Campaign against Tuberculosis. (L'office antituberculeux.) A. Robin.

42. **Syndrome from Paralysis in the Vestibule of the Ear.**—Raymond has been studying the "sixth sense"—the balancing sense—and the syndrome induced by disturbances in the organ of this sense, the vestibule of the ear. The "vestibular syndrome" is the manifestation of a lesion in the vestibular branch of the auditory nerve. Ménière's vertigo is the result of excitation of the vestibular apparatus, while the vestibular syndrome is the result of paralysis of this apparatus. When the functioning of the labyrinth is defective it is difficult to keep from losing one's balance, even when there is no actual vertigo. A small platform, suspended a little above the floor and turning on a central axis, is used to study the functioning of the vestibule. The individual to be tested seats himself on a chair on the platform, his back in a line with the central axis, his eyes bandaged. The platform is then gently turned on its axis. A normal individual recognizes that the platform is being turned, and can tell the direction. After one or two revolutions the platform is arrested, when the normal individual will feel as if the platform were still turning, but in an opposite direction to the first revolutions. This is the normal, physiologic sensation, and is explained by the behavior of the fluid in the vestibule, as is shown by a diagram. In case of a lesion in the vestibule the individual is liable not to perceive the motion of the revolving platform, or it may seem to him that the floor is sinking away under him. The syndrome observed will even indicate the exact nature of the lesion, as Raymond describes, with the details of two cases.

43. **Inflammatory Tuberculosis Assuming the Neoplastic Type.**—Poncet and Leriche continue their study of inflammatory affections of tuberculous origin. These may assume the form of torpid neoplasms, actual lipomata, the result of a mild inflammatory process induced by the tubercle bacillus. The lipoma within a joint, having a tree-like form—lipoma arborescens—he has found to be invariably the work of this bacillus.

44. **Serum Treatment of Bacillary Dysentery.**—Vaillard and Dopter relate favorable results from specific serum treatment of 243 patients with dysentery. In all but 20 cases no other treatment was attempted.

46. **Syphilis in the French Army.**—Delorme presents statistics to prove that in France and her colonies syphilis is far less prevalent among the soldiers than among the civilian population. The figures are from his own personal experience as well as that of others. He thinks that the soldier also learns during his term of military service to avoid syphilis later in life. Fournier's pamphlet, "For Our Sons When They are Eighteen," is distributed among the troops through the entire republic. Another means of prophylaxis is the frequent leave of absence granted the young soldiers. This allows them to return home often and keeps up the home influence and the family supervision over the young men. Preventive lectures and lantern talks are given from time to time, and attractive reading and lounging rooms are provided in the barracks to retain the men within the lines during their leisure hours. He adds that prostitutes past the age of 20, who commenced young, are generally immunized against syphilis and are less dangerous than the younger ones.

Revue de Gynécologie, Pozzi's, Paris.

Last indexed page 980.

48 (XI, No. 1, pp. 1-192.) *Tuberculosis in an Adenomyoma in the Uterus. (Tub. d'un Adénomyome.) J. L. Archambault and R. M. Pearce.
49 Cystic Tumefaction of the Ovaries with Hydatidiform Mole. (Tumef. kystique des ovaires.) M. Goullioud.
50 *Gynecology in Ancient Art. (La gyn. dans l'iconographie antique.) F. Regnault.
51 Blood Cyst in Kidney with Floating Spleen. (Enorme Kyste hematique du rein, d' origine néoplasique, avec rate flottante.) Gouget and Savariaud.
52 *Experimental Study of Exclusion and Resection of Large Intestine and Ileosigmoid Anastomosis. (Résection du gros intestin, etc.) P. Alglave.
53 Inflammation in Diverticula. (Les diverticulites.) S. Mercadé.
54 *Excision in Treatment of Certain Forms of Simple Gastric Ulcer. (Ulcère simple de l'estomac.) C. L. Gauthier and G. Rivière.

48.—This article appeared in THE JOURNAL, Sept. 8, 1906, page 768.

50. **Gynecology in Ancient Art.**—Regnault reproduces views of twenty-eight statuettes from the large number discovered at Smyrna in 1900, the find representing an actual museum of pathologic anatomy of more than 600 pieces. Those he has selected are all of female figures, representing specimens of obesity, visceral ptosis, emaciation, ulcerated, hypertrophied and withered breasts, etc., dropsy and myxedema. Several statuettes represent the pregnant woman. One picture shows a nursing bottle of the Alexandrian period. Regnault compares Hippocrates' descriptions with these pathologic specimens, some of the findings suggesting that the patients had been treated according to his directions. One statuette represents a woman whose abdomen had been opened above the umbilicus, too high for Cesarean section. Smyrna was celebrated for its medical school before the Christian era, and Galen studied there for a time about 147 A. D.

52. **Exclusion and Resection of Large Intestine.**—Alglave's article describing extensive research on dogs and pigs is illustrated to show the late effects on the animals of various operations on the large intestine, and the technic. The animals all became emaciated or died after unilateral subtotal exclusion or resection of the large intestine with ileosigmoidostomy. On the other hand, the animals bore without apparent injury resection of the ileocecal segment. Simple ileosigmoid anastomosis also proved harmless for dogs and pigs, both at the time and months later. Simple ileosigmoid anastomosis, however, always proved fatal for herbivorous animals, as also exclusion of the large intestine. Total exclusion of the large intestine, with an anus at the end of the small intestine, always entailed the death of the dogs in ten days and of the pigs in thirty—sooner than in death from starvation. Unilateral subtotal exclusion of the large intestine is followed by atrophy with retraction or with gaseous distension in the excluded portion. There is scarcely any anatomic change in the parts after ileosigmoid anastomosis.

54. **Excision in Treatment of Gastric Ulcer.**—Gauthier and Rivière report ten cases and expatiate on the advantages of excision of simple gastric ulcer. This alone, they declare, obviates all danger of hemorrhage, pain, perforation and malignant degeneration. It is contraindicated only in case of extensive adhesions to liver or pancreas and diffuse perigastritis. Pure and simple cicatricial ulcerative stenosis of the pylorus, however, indicates simple gastroenterostomy, which is here an actual orthopedic operation.

Berliner klinische Wochenschrift.

55 (XLIV, No. 11, pp. 297-328.) *Vomiting of Pregnancy. (Hyperemesis gravidarum.) K. Baisch.
56 Febrile Reaction to First Application of Mercury in Early Stage of Syphilis. (Fieberreaktion, etc., in der Syph.) H. Lindenheim.
57 *Katzenstein's Test of Force of Heart Action. (Prüfung der Herzkraft.) E. Hoke and J. Mende.
58 Protargol Salve in Promotion of Cicatrization. (Protargolsalbe und Narbenbildung.) R. Müller.
59 (No. 12, pp. 328-360.) *Placenta in Third Stage of Labor. (Placentärlosung.) M. Hofmeier.
60 Liver abscess with Typhoid Bacilli. (Leberabscess.) T. A. Venema.
61 *Significance of Pale Spirochete for Syphilitic Process. (Sp. pallida.) A. Blaschko.
62 Epidemic of Meat Poisoning. (Fleischvergiftung.) Jacobson.
63 *Chemo-therapeutic Studies of Trypanosomes. (Chemotherap., etc.) P. Ehrlich. Commenced in No. 9.

55. **Uncontrollable Vomiting of Pregnancy.**—Baisch reviews the experiences at Döderlein's clinic at Tübingen with twenty cases of uncontrollable vomiting in pregnant women. In three cases there was a history of chronic stomach trouble, and the vomiting was arrested in two by dietetic measures alone, restricting the patients to fluid foods. The third patient had become so debilitated that it was deemed dangerous to delay further and the pregnancy was interrupted. The vomiting ceased at once on removal of the ovum. In some cases of uncontrollable vomiting in previously healthy women, he states that there seems to be an overproduction in the ovum or uterus of some substance which induces vomiting. This uterine form of hyperemesis gravidarum requires, besides the dietetic measures, some medication to reduce the excitability of the vomiting center. Drugs that can be given subcutaneously should be preferred. As morphin is eliminated through the stomach mucosa and is thus liable to add to the tendency to vomit, he prefers scopolamin; he injects from 0.3 to 0.5 mg. (1/200 to 1/128 grain) once or twice a day. This depresses reflex excitability and thus opens the way for effectual dietetic treatment. Stimulation of diuresis and evacuation of the intestines are ensured by repeated copious enemas. The majority of cases of uncontrollable vomiting are those of central origin, and these, he says, are the most easily influenced. Absolute bed rest is the principal measure, and the ordering of a thermophor to the stomach or ice bag to the abdomen is a plausible excuse and ensures quiet reclining on the back. All food and fluids are prohibited during the first twenty-four hours. Thirst is assuaged by transfusion of physiologic salt solution. The patient is then given milk by the teaspoonful, ice cold, and the next day a little zwieback, tea or coffee, gruel or bouillon. Fluid foods should predominate and should be given in small quantities, not too often, and very gradually increasing the amounts allowed. The sensation of hunger is the first sure sign of commencing recovery. An abrupt change to ordinary food is liable to entail a discouraging relapse. If these measures fail, the patient must be removed at once to an institution where a hysteric tendency can be combated. Two of the 15 patients who belonged to this "central origin" group suffered from excessive salivation besides the incessant vomiting. Their condition soon became so grave that the pregnancy had to be arrested. The other 13 were cured by the rest and dietetic measures. The pregnancy was arrested in 5 of the total 20 cases of uncontrollable vomiting observed in an experience of 22,500 pregnant women during the last 5 years.

It was deemed unwise to allow the women to go too far without radical relief. Those who are allowed to become so debilitated by the uncontrollable vomiting as to reach the brink of the grave before relief is given, are exposed later to a series of dangers, not the least of which are tuberculosis and polyneuritis to which they are unable to oppose any resistance. In case of induced abortion two colleagues should be called in consultation, and the uterus emptied at one sitting, after introducing a thick laminaria tent in the cervix the night before. The whole ovum can then be readily removed with forceps with little hemorrhage and the manipulations on the uterus reduced to the minimum. The patient can generally eat a substantial meal the evening of the same day.

57. **Katzenstein's Test of Energy of Heart Action.**—This article reports unfavorable experiences with this method applied in fifty cases. The technic was described in these columns on page 997 of vol. xlvi, 1906.

59. **Removal of Placenta.**—Hofmeier believes in absolutely expectant treatment of the third stage of labor. With repeated control of the fundus of the uterus with the hand, he observes and waits. The loss of a quart of blood is the limit for expectant treatment, and he advises collecting the blood in a sterilized pan pushed under the patient immediately after delivery. Manual removal of the placenta should not be attempted until after failure of the Credé expression maneuver. General anesthesia is often of remarkable assistance in expression of the placenta, especially in case of obese and sensitive women, who react with reflex rigidity of the muscles to any forcible pressure. (In a case of fatal puerperal fever in which Hofmeier was recently summoned as an expert, the physician had not even attempted expression, saying that he regarded it as useless.) By following these principles Hofmeier has not had to resort to manual removal more than in 0.78 per cent. of his 9,000 obstetric cases. This includes some cases of early induced abortion which do not rightly belong in this category. He insists that rubber gloves should be used for all intrauterine maneuvers. He does not believe that it is possible to determine with absolute certainty whether the entire placenta has been expelled or not, without local examination, but he regards the retention of remains of the chorion and even of the entire chorion as comparatively unimportant—in any event, he states that it is of less moment for the patient than intrauterine examination immediately after the delivery. Repeated hemorrhages indicate local measures, but as a rule the retained fragments are loosened by the puerperal processes and are expelled with the lochia, sometimes entirely dissolved. Partial or complete retention of the chorion was observed in 56 out of 6,200 childbirths. While there was no rise in temperature in 43 cases, there was transient slight fever in 13, but in none was there any serious puerperal disturbance, and none required intrauterine intervention later. In his service every prospective parturient has the external genitals and the vagina thoroughly cleansed with soap and rinsed with an antiseptic solution, and he thinks that this is very important, although absolute asepsis is unattainable in these regions. When the physiologic processes of the third stage of labor absolutely fail to occur he thinks that there is no use in waiting longer than three or four hours before attempting manual removal. He adds that retained fragments of the placenta will not putrefy in the absence of infection. They should be removed at once, however, in already existent puerperal endometritis with fetid discharge.

61. **The Pale Spirochete in Syphilitic Processes.**—Blaschko presents evidence to show that the pale spirochete has the power of active movement and also that it can be transported by the lymph vessels as well as by the blood vessels. He states that the spirochetes in a primary syphilitic lesion are generally congregated at one spot.

63. **Chemo-Therapeutic Studies of Trypanosomes.**—A summary of Ehrlich's research in this line was given recently in an editorial on page 1778.

Centralblatt f. Chirurgie, Leipsic.

Last indexed, page 1385.

64 (XXXIII, Nos. 7-8, pp. 177-232.) *Parenchymatous Hemorrhage After Spinal Anesthesia. (Blutung nach Lumb.-An.) W. Kopfstein.
65 Apparatus for Extension. (Neue Extensionsvorrichtung.) P. Zander.
66 *Relations between Inflammation and Hypertrophy of the Prostate. (Prostatitis und Prost.-Hypertrophie.) B. Goldberg.
67 (Nos. 9-10, pp. 233-296.) Improved Technic for General Anesthesia. (Technik der Narkose.) C. Strauch.
68 Needle Cannula and Guide. (Leitnadelkanüle.) O. Sgambatl (Rome).
69 *Harmless Clamp for Operations on Intestines. (Darmschliesser.) A. v. Mutach.
70 *Treatment of Pancreatic Fistula. (Pankreasfist.) R. Heineke
71 (Nos. 11-12, pp. 297-352.) Operative Treatment of Muscular Wryneck. (Musk. Schiefhals.) H. Doering.
72 Improved Knife for Cutting Thiersch Flaps. (Gedecktes Transplantations-Messer.) M. Hofmann.
73 Incision for Appendectomy, etc. (Schnittführung.) R. v. Baracz.
74 (Nos. 13-14, pp. 353-416.) *Pathologic Urine Findings after Stovain Spinal Anesthesia. (Urinbefunde nach Lumb.-An.) A. Schwarz.
75 *Improved Technic for Thiersch Flaps. (Technik der T. Transplantation.) K. Vogel.
76 Osteoplastic Amputation according to Sabaneieff. (Amp. modo Sab.) Z. Radlinski.
77 *After-Treatment of Patients with Mammary Cancer. Nachbehandlung, etc.) C. Ewald.
78 Appendix in Umbilical Hernia. (Wurmfortsatz in Nabelbruch.) R. Mühsam.

64. **Parenchymatous Hemorrhage After Spinal Anesthesia.**—Kopfstein injected 1 c.c. of tropacocain for spinal anesthesia before removal of a small callous ulcer on the stump of a leg. The skin of the legs became extremely red for a few minutes and the patient, a blacksmith of 54, complained of vertigo. An hour after the operation the man became very pale and unconscious; the blood poured from the soft parts and from the bone marrow of the leg as from a sponge, while the skin of both legs was a bright red. The hemorrhage resisted the usual measures, but finally was arrested by application of a thick layer of quinin and tamponing with iodoform gauze. The patient was an epileptic, and this fact may have had something to do with the vasomotor disturbance. Kopfstein has used spinal anesthesia in 100 cases. He abandoned eucain after a few experiences on account of the intense pain experienced by some of the patients in the field of operation, commencing a few hours afterward.

66. **Relations Between Inflammation and Enlargement of the Prostate.**—Goldberg has found only very rarely conditions suggesting enlargement of the prostate in patients with prostatitis. On the other hand, he found evidence of prostatitis in twenty out of fifty cases of unmistakable enlargement of the prostate. Unhealed gonorrhea, he thinks, is important in the etiology of enlargement in some cases, but the relation between them is not so close as some imagine. There was a history of venereal infection only in 25 per cent. of his fifty patients with enlargement. In a few rare cases of prostatitis in young men he found the prostate altered the same as in prostatic enlargement, but free from the objective disturbances of enlargement. Neurasthenia and hypochondria predominated in the clinical picture. In another small group he found symptoms of actual enlargement, retention of urine, residual urine, secondary infection of the urinary passages, etc. The prostate was small in some and moderately enlarged in others. He styles this group chronic cysto-paretic prostatitis, and he is convinced that many cases of what is called "soft enlargement of the prostate" in reality belong in this group, the only difference being that the patients are older men. The importance for prognosis and therapy of distinguishing between mere prostatitis and enlargement is obvious. In five cases he was able to express secretion from the prostate which demonstrated the existence of a primary prostatitis in men who had never had gonorrhea nor used the catheter. His experiences speak decidedly against the assumption that the prostate becomes enlarged only as a consequence of inflammatory processes.

69. **Intestinal Clamp.**—Mutach has modified the clamp used by women for crimping the hair, and has found it peculiarly adapted for clamping the intestines without injury of the tissues. He gives an illustration of its working.

70. **Treatment of Pancreatic Fistula.**—Heineke reports that he was able to heal a fistula into the pancreas in three days merely by avoiding carbohydrates in the diet, and thus reducing the secretion of pancreatic juice to the minimum. His experience confirms in every respect that of Wohlgemuth and Karewsky, mentioned in The Journal, March 10, page 911

and April 27, page 1466. His patient was a man of 34, whose pancreas was torn across in an accident. Four hours afterward the halves of the pancreas were united and sutured with catgut, and a tampon was applied over the suture, and the ends brought out through the gastrocolic ligament. On removal of the tampon a fistula was left through which pancreatic juice issued, as much as 500 c.c. a day. The fistula gradually grew smaller and healed the forty-third day after the operation. A few days later the fistula reopened and persisted for weeks. The patient on the eightieth day was put on a strict antidiabetes diet; the pancreatic secretion ceased at once almost entirely, and the fistula healed in three days. This "alimentary treatment" of bile and pancreatic fistulas can not be too strongly recommended, he adds.

74. **Signs of Nephritis in Urine After Spinal Anesthesia.**—Schwarz examined the urine in 50 cases after operation under spinal anesthesia induced with 0.04 gm. (2/3 grain) stovain. The urine invariably showed pathologic constituents, sometimes 4 hours and in others not until 2 or 3 days after the anesthesia. In some instances the urine was normal again in about 3 days; in others the tube casts and albumin persisted for a week or longer. In one case the pathologic findings continued through 3 weeks and as much as 7 per thousand of albumin was found daily. No indications of permanent injury of the kidneys were observed in any instance. The patients had all presented normal urine findings before the anesthesia. Schwarz urges others to examine the urine regularly after spinal anesthesia with this and other drugs to obtain better insight into this transient nephritis.

75. **Technic of Thiersch Transplantation.**—Vogel believes that he has solved the problem of keeping the transplanted flaps safe from injury while allowing free escape of the secretions. After the flaps are all in place, the edges just touching each other, he cuts with curved, sharp Cowper shears, a number of small windows in the flaps, so that two windows of about 2 sq. mm. each are in each sq. cm. of surface. A compress of four layers of gauze is then applied, moistened with physiologic salt solution, and fastened with narrow strips of adhesive plaster or a bandage. Over this a thicker, moist dressing is applied. The outer dressing is renewed every day, but the inner one is left for four days, after which the area is dressed with salve. The flaps heal smoothly in place with this technic, never being lifted up or necrosing. The little windows soon heal over, but while they last they allow free escape of the secretions under the moist dressing which prevents the drying of the secretions into an obstructing shell. The small amount of secretion that remains in the under dressing does no harm as it does not stagnate, but is constantly aspirated away by the thicker moist dressing above. This fenestration of the flaps prevents drying, stagnation and formation of blister-like accumulations of secretions under the flaps and in his cases healing was immeasurably promoted.

77. **After Removal of Mammary Cancer.**—Ewald gives an illustration of the device with which he protects his patients against stiffness of the shoulder and atrophy of the parts after removal of the breast for cancer. With other technics the woman for weeks and months is unable to comb her own hair, as a rule. He obviates this needless after disturbance by drawing up the hand and arm as if the patient were reaching up a little higher than her head as she sits up in bed. A wooden peg is held in the hand and a bandage around the hand and the ends of the peg is fastened like a sling to a horizontal support, extending at a right angle from an upright rod fastened to the head of the bed. The arm is further supported by a sling around the elbow. The patient is placed in this position at once after the operation, but after the third or fourth day the arm is lowered occasionally, as also when the patient gets up, but the arm is raised again when she is in bed. In two weeks after the operation the patient can use her hand and arm without difficulty. The cavities filled with blood or lymph which so frequently are observed in the axilla after such an operation are never seen with this technic, as the skin in the axilla is stretched taut against the bones beneath. The patients very seldom made any complaints, and in no instance did it ever become necessary to release the arm.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

79 (XXXIII, No. 15, pp. 577-616.) *Origin and Treatment of Human Tuberculosis. (Lungentub.) E. Klebs.
80 *Radiographic Findings in Apical Tuberculosis. (Lungenspitzentub.) W. Vierhuff.
81 *Digestive Hypersecretion of Gastric Juice. (Digestiver Magensaftfluss.) H. Strauss.
82 A Complex Hemolytic Substance in the Pancreas. (Hämolysin der Bauchspeicheldrüse.) U. Friedmann.
83 Functional Importance of the Leucocytes in the Circulating Blood on Various Diets. (Bedeutung der Leuk., etc.) W. Keuthe.
84 Double Iritis following Application of Cantharides Plaster Behind One Ear. (Wirkung der Canthariden.) R. Kowalewski.
85 *"Emotion Epilepsy." (Die Affektepilepsie.) Bratz and Leubuscher.
86 Advantages of Carbon Tetrachlorid as Solvent in Medicine in place of Benzin. (Tetrachlormethan als Lösungsmittel.) Wederhake.
87 *Report on von Bergmann's Last Illness. (Bericht über die Krankheit E. v. Bergmanns.) H. Schlange.

79. **Origin and Treatment of Human Tuberculosis.**—Klebs affirms among other things that pulmonary tuberculosis always originates in the bronchial glands; that tuberculosis is essentially a disease of the glands, and that it can be transmitted by inheritance. The elements of the sputum, he asserts, will reveal the tuberculous affection in the bronchial glands when it breaks through into the air passages. In this stage it is curable, as also when it is in the stage which some call "scrofula." When the lesion in the bronchial glands breaks through, the resulting invasion of the lungs with the tubercle bacilli entails weakness of the heart, requiring heart tonics.

80. **Radiographic Findings with Apical Tuberculosis.**—Vierhuff gives some skiagrams to illustrate different types of apical findings in case of a tuberculous lesion, asserting that the Roentgen rays will reveal the presence of thickening of the lung tissue before it is extensive enough to be detected by percussion or auscultation. Even when extensive, the skiagraphic findings are more exact than those of other methods.

81. **Digestive Gastrosuccorrhea.**—Strauss has studied this subject for twelve years and has observed the condition in about 100 patients. The symptoms resemble those of hyperacidity or the complaints of patients with stomach neurasthenia, and visceral ptosis is frequently encountered among the patients with this digestive—not continuous—hypersecretion of gastric juice. Boas' study of the subject was reviewed in The Journal, March 16, 1907, page 982. Strauss says that the only means for reliable diagnosis is by aspirating the stomach content to determine the emptiness of the fasting stomach, and again after a test breakfast. An unusually large proportion of fluids to the solid contents indicates gastrosuccorrhea. In treatment it is important to avoid mistaking the condition for motor insufficiency, and it is also important to determine the various factors that bring about the condition. The trouble is probably mainly due to abnormal irritability of the secretory apparatus. The dietetic measures should be approximately the same as for hyperacidity. The meals should be spaced and abundant, and in case of ptosis a supporting band should be worn, to prevent further descent of the stomach. Carlsbad or Vichy water, alkalies, little meat but abundance of butter and cream have a favorable influence on the hypersecretion, both the digestive and the continuous. A regular course of milk fats, butter and cream, promotes the secretory and motor functions of the stomach and absorption in the intestines. The patients gain in weight and the hypersecretion is regulated. The fact that certain patients have been relieved of all disturbances by treatment along these lines—although the stomach content remains practically the same—shows the importance of the excessive sensibility of the secretory apparatus as a factor in the condition along with the excess in secretion. He has succeeded in curing by the above measures many patients whose supposed "atony" of the stomach had long resisted treatment.

85. **Emotion Epilepsy.**—Bratz and Leubuscher have had occasion to observe for years 20 patients with what they call "Affektepilepsie," for which they claim a place apart. The patients have occasional attacks suggesting petit mal, but with characteristics of hysteria. These attacks develop under the influence of long continued emotional stress, and occur at times from early childhood onward. The persons affected are always those with a neuropathic inheritance, and they are distin-

guished by a peculiar pallor, evidently a vasomotor phenomenon. Like alcohol epilepsy, it never develops into genuine epilepsy.

87. **Report on von Bergmann's Last Illness.**—During the course of von Bergmann's last illness Schlange made an opening into the cecum to relieve the most distressing symptoms, and another opening into the colon on the left side two days later. Both were merely palliative operations and done under local anesthesia. Von Bergmann had long suffered from intestinal trouble which he ascribed to relics of severe dysentery during the Russo-Turkish campaign. On several occasions since then symptoms of ileus had developed, but had always been dispelled by high rectal injections. He wished to have the conditions examined postmortem; autopsy revealed stenosis of the colon at the splenic flexure with necrosis of the pancreas and diffuse purulent peritonitis, but no signs of cancer.

Münchener medizinische Wochenschrift.

88 (LIV, No. 13, pp. 601-648.) Deviation of Complement for Differentiation of Bacteria with Capsules. (Komplementablenkung zur Differenzierung von Kapselbazillen.) F. Ballner and H. Reibmayr.
89 *Early Anti-spirochete Treatment of Syphilis. (Frühbehandlung der Syph.) Thalmann.
90 The Alexander-Adams Operation. (Zur Alex.-Ad.'schen Op.) F. Spaeth.
91 *Paralysis of Ocular Muscles after Spinal Anesthesia. (Augenmuskellähmungen nach Lumbalanästhesien.) A. Ach.
92 *Cure of Cancer, etc., by Sunlight. (Sonnenlicht und unmittelbare Lichttherapie.) C. Widmer.
93 Aseptic Bandage after Childbirth. (Asept. Wochenbettbinde.) E. Rothschuh.

89. **Early Anti-Spirochete Treatment of Syphilis.**—Thalmann explains the course of syphilitic infection as follows: The spirochetes in the primary lesion die under the influence of mercury, and the endotoxins liberated by their destruction cause the production of a specific antibody. The immunity thus acquired gradually subsides, and the few spirochetes still left alive commence to proliferate once more as the specific antibodies cease to be produced or lose their efficacy. This series of events happens again and again, and explains the recurrence of the syphilitic manifestations. The effect of the endotoxins liberated from the bodies of the spirochetes is very injurious for certain cells. Individuals react differently in respect to production of the antibodies. Complete absence of this production may be the reason for the malignant course of the syphilis in some cases. The fetal organism is unable to produce the antibodies and the placenta does not allow their passage from the mother. This, he asserts, is why congenital syphilis is so serious in its effects. The endotoxins liberated by destruction of spirochetes in the fetus may pass to the mother and induce active immunity in her—this is his explanation of Colles' law. Reasoning on the above premises, Thalmann assumes that rational treatment of syphilis consists in destroying the spirochetes when they first invade the body, before they have had a chance to proliferate, but are still congregated mostly at the primary lesion. Prompt mercurial treatment kills them off, and the endotoxins liberated are small in amount, compared with those liberated when the organism is swarming with spirochetes. This first course of mercurial treatment should be followed by another course when close supervision of the patient shows that the immunity has reached such a low ebb that the spirochetes are commencing to proliferate again, as shown by the development of a secondary lesion. He describes a number of patients treated on these principles, the results being strikingly corroborative of the assumed premises. More than 30 per cent. of the patients have shown no general symptoms during over six months which have elapsed, and in the others the secondary phenomena were restricted to a single focus or a few mild foci, none ever on the genitalia. At the first discovery of spirochetes in the primary lesion he commences mercurial treatment with inunctions supplemented by local injections of 0.5 c.c. of a 1 per cent. solution of corrosive sublimate directly into the primary lesion, with or without application of a mercurial salve to the nose. As a rule, no further manifestations of syphilis develop, but if such are observed they follow much sooner than usual, within from six to twelve weeks. When they appear they are much less pronounced and are fewer in number than usual. The metastatic affection was in the tonsil in the majority of cases, and on the back, big toe or in the mouth in the others. The first appearance of the secondary lesion is the signal for renewal of mercurial treatment to kill off the spirochetes before they have again had a chance to proliferate. It is of the utmost importance, therefore, to keep the patients under constant control. Treatment should be both general and local, and the results are always better when treatment is instituted early; its effect is enhanced by the traces of immunity still persisting. Another advantage of this early treatment is that the secondary manifestations spare the points previously treated with mercury, and, according to experience to date, do not develop on the genitals. One of the patients with recent syphilis and recurring secondary lesions in his mouth at different times during the course of a year did not infect his wife, and she bore him a healthy child at the end of the year, only twelve months after his primal infection. The child and mother are both healthy to date. Thalmann gives potassium iodid with the mercury to aid absorption and elimination of the products of inflammation. He does not give it during the last week of the course of mercury, as he wishes the latter to be retained instead of rapidly eliminated. He concludes with the assertion that this technic of early, anti-spirochete treatment of syphilis is the only rational method, and that its benefits will become more and more apparent as the years pass.

91. **Paralysis of Ocular Muscles After Spinal Anesthesia.**—Ach had occasion to observe 4 cases of abducent paresis in 400 applications of spinal anesthesia. He reviews 15 other cases recorded in the literature, and advocates small doses of the anesthetic, very much diluted, and avoidance of stovain which seems to act most strongly on the motor nerves. He adds that the patient must invariably lie down afterward, with the shoulders raised.

92. **Cure of Carcinoma, etc., Under Exposure to Sunlight.**—Widmer reports a number of cases of ulcerating chilblains, leg ulcers, suppurating glands in the neck, tuberculous fistulas, multiple decubitus with a spinal affection, eczema, herpes tonsurans, etc., all of which healed rapidly under direct exposure to the sunlight for from one to three hours a day. The most interesting case was that of a woman of 81 with a clinically diagnosed carcinoma on the back of one hand. Operative treatment was rejected, but the hand was exposed daily to the sunlight for several hours, from January to April. By the middle of April not a trace was left of the neoplasm which in December had measured 6 cm. long and protruded to a height of several cm., covered with a fetid discharge. The place formerly occupied by the tumor showed a pink, child-like skin, that could be lifted up from the tissues below. A year has since passed without a trace of recurrence. Widmer practices in a mountainous region.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Manual of Anatomy, Systematic and Practical. Including Embryology. By A. M. Buchanan, M.A., M.D., C.M., F.F.P.S., Glas., Professor of Anatomy in Anderson's College, Glasgow. Vol. II. With 363 Illustrations, Mostly Original and in Colors. Buckram. Pp. 1539. Price, $2.75 net. Chicago: W. T. Keener & Co., 1907.

Diseases of the Rectum and Anus. Including the Fifth Edition of the Jacksonian Prize Essay on Cancer. By Harrison Cripps, F.R.C.S., Senior Surgeon, St. Bartholomew's Hospital. Third Edition. Cloth. Pp. 588. Price, $4.20 net. London, J. & A. Churchill; Philadelphia: P. Blakiston's Son & Co., 1907.

Proceedings of the American Pharmaceutical Association at the Fifty-fourth Annual Meeting, held at Indianapolis, Ind., September, 1906. Also the constitution, by-laws and roll of members. Cloth. Pp. 1080. Baltimore: American Pharmaceutical Association, 1906.

Twenty-Ninth Annual Report of the Board of Health of the City of Augusta, Georgia, for the Year 1906. Paper. Pp. 78. Augusta: Phoenix Printing Co., 1907.

Annual Report of the Board of Health of the City of Winona, Minnesota, for the Year Ending March 31, 1907. Paper. Pp. 15. Winona: Joseph Leicht.

Monthly Summary of Commerce and Finance of the United States for March, 1907. Paper. Washington: Government Printing Office, 1907.

Twelfth Annual Report of the John Crerar Library, for the Year 1906. Paper. Pp. 64. Chicago: Board of Directors. 1907.

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Addresses

THE AMERICAN MEDICAL ASSOCIATION, ITS AIMS AND INTERESTS.

PRESIDENT'S ADDRESS AT THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT ATLANTIC CITY, N. J., JUNE 4-7, 1907.

JOSEPH D. BRYANT, M.D.
NEW YORK CITY.

The fifty-eighth consecutive session of the American Medical Association is now at hand. Those members whom you kindly honored one year ago with your confidence in official station are now before you in token of their loyalty to your undertakings and of their obedience to your behests. These annual conferences are of prodigious moment to the entire medical profession and to the country at large; they serve to broaden the scope of general understanding; they extend the sphere and increase the vigor of professional fellowship and of healthy civic brotherhood, and they correspondingly elevate the station of our calling in the appreciation of thoughtful right-minded people everywhere in the land. Who of us was not made a better physician because of the visit to Boston a year ago? Who of us, then inspired by patriotic emotions, aroused by the memorable examples so abundantly at hand, did not again renew unalterable allegiance to the perpetuity of his country? In whom of us was not incited a higher fraternal sentiment by the warm grasps of fellowship which, while inviting delay a bit, everywhere urged us on to a completed hospitality?

Again, for the third time in the dawn of the twentieth century, we find ourselves in the warm embraces of the hospitable people of Atlantic City. Its wealth of sunshine and cheer, its pure and invigorating eastern breezes, and the joyous acclaim of its citizens assure us that we are in "honest waters which ne'er left man i' the mire," and, therefore, we feel entirely secure and correspondingly happy. We who before never yielded to subtle solicitation or to pressing demand now acknowledge that we have the Atlantic City "habit," and we refuse all treatment except that founded on the therapeutic virtue of the hair of the canine that inflicted the delightful traumatism! In the presence of such a felicitous environment as this, who is there among us who would be so thoughtless, or who could be so unfeeling, as to countenance a trifling with the sense of justice by individual favor, or of commendable desire by vain objection?

In looking about for a topic on which to base my allotted remarks on this occasion, I am, perhaps, unduly impressed with the idea that impersonal open-hearted introspection might not be amiss at this period of the Association.

In this bearing I refer more especially, 1, to the organizing of the medical profession of the country and its potential perplexities; 2, to the elevating of the standard of medical education and its possible afflictions, and, 3, to the urgent demand for trustworthy medicinal means and of sincerer efforts on the part of every physician in securing a betterment of therapeutic methods.

Equity, consequent power and the durability of human designs are the legitimate assets of wisely conceived organization. Power and durability, not thus sustained, are of uncertain tenure and organization resting thereon can be likened to a house of blocks tethered with ropes of sand. And it should be recognized at all times that the virile activities of the principles of human justice are wonderfully potent in all organized bodies of mankind.

THE OBJECT OF THE ASSOCIATION.

It is of great moment that this Association has (as set forth in its constitution) but one significant object in view, viz., "The Promotion of the Science and Art of Medicine." And it is purposed in attaining this end "to unite into one compact organization the medical profession of the United States," in order to foster "the growth and diffusion of medical knowledge;" to promote "friendly intercourse among American physicians;" to safeguard "the material interests of the medical profession;" to elevate "the standard of medical education;" to secure "the enactment and enforcement of just medical laws;" to enlighten and direct "public opinion" regarding the "broad problems of hygiene," and to present "to the world the practical accomplishments of scientific medicine."

It follows, therefore, that the promotion of the science and art of medicine as provided by the constitution of the Association is, in effect, the promotion of the methods and the development of the means and the opportunities for relieving human suffering and thereby the adding of years and comfort to human existence. And true it is that to no class of persons is fraternal spirit and vigilant cooperation so essential as to those who are engaged in combating the insidious and tireless encroachments of the agents of human affliction and in relieving the abundant miseries which they beget. A transcendent service like this should be sheltered by the zeal of healthful personal and professional devotion and in no way depleted by the wiles of business ambitions. Those who regard the practice of medicine as a business enterprise should class themselves as brokers in a market of human affliction. To those who would infect the sound spirit of professional devotion and fellowship with the virus of sordid gain little heed need be given at the counsels of thoughtful men in the ranks of a beneficent profession.

The uniting of the medical profession of the United States into "one compact organization," making to the wise purposes already stated, is progressing in a decided manner, guided by the earnest activity and abundant experience of Dr. J. N. McCormack, of Kentucky. Already the constituent members of the organization number nearly 65,000, of which the fully constituted members are about 27,000, showing a substantial increase of the former class during the present year of about 10 plus per cent. and of the latter about 12.5 per cent. And when it is recalled that the regular medical profession of the United States numbers about 112,000 it is not difficult to understand that in the near future the medical profession of these states might easily be united into one compact organization. But how compact it may be and how enduring it may become will depend on the degree of wisdom exercised by its builders and on the measure of justice dispensed by those in control of its affairs.

"Justice without wisdom is impossible," said Froude. "Wisdom is only truth," said Goethe. Therefore, justice and truth are inseparable, say we all. The search for truth and understanding is the inherent right of all men, and they who inhibit the effort are for some reason (or pretext) opposed to justice and to knowledge. Obviously the consensus of men of widely separated habitation, of differently constituted environment and opinion, is a wiser and a safer guide in the conduct of important and comprehensive human affairs than is the consensus of men of contiguous localities. The judgment of the former class represents the concentrated wisdom of the whole, of the latter only that of a part of the country. The principle of utterance or of action relating to matters of common interest and general effect in organized bodies, should in all cases be known and approved and be coordinated through the deliberate wisdom of broad constituted authority, rather than by the anxious thought or the hasty vocabulary of a few persons, no matter how experienced they may be or how wise they may be regarded as being. History not infrequently has demonstrated by untoward results the need of this rule of action in governmental and in other human affairs.

The lamented Lincoln emphasized the importance of this principle in no uncertain manner by the famous utterance, "The government of the people, by the people, for the people, shall not perish from the earth."

And in this relation it is well for us to keep in mind that a failure on the part of the responsible many, to plan and coordinate wisely the official acts of the few, often renders effeminate and inoperative the subsequent inhibitory efforts of those in established control.

Among the inspiring benefits provided by the constitution of this Association, is embraced the fostering of the growth and the diffusing of medical knowledge and its beneficence, throughout the various channels of human intercourse. The promoting of the growth and the diffusing of medical knowledge should appeal with equal vigor to the people who experience relief and to those who contribute the products of medical enlightenment.

Every physician can contribute a definite share to the healthy growth and wise diffusion of medical knowledge and to its bounties. Those who strive in the workshops of medicine, the laboratories and the hospitals, more especially the former, have already bestowed a bountiful portion toward the attainment of this end. Scientific laboratory deductions, however, could not be regarded as final; they yet required the leavening proof from out the complex laboratory of the human body, as demonstrated by practical applications in the treatment of disease, to establish their worth. To the general and to the hospital practitioners of medicine belonged the duty of dispensing the fruits of laboratory research, and thus far so well has concurrent effort accomplished its purpose, that life's expectancy during the first forty years of existence has been advanced quite 30 per cent. But following this period only a little advance in this regard has yet been made, and principally because of the differences in the nature of the diseases which afflict those of the earlier and of the later periods of life.

The present and prospective civil worth of the toll levied by disease on the wisdom and experience of mankind, during the later period of life can not well be estimated. But the physical sufferings of this period are largely the characteristic outcome of its peculiar diseases, many of which might be prevented and perhaps cured by means of progressive investigation and therapy related to a full term of years, and thus life's span become yet longer extended.

As just observed, every physician, if he will, can contribute a definite share to this pre-eminent undertaking. The opportunities of the country practitioner in this regard are of special significance, because of the knowledge gained through the differing effects of environment on the diseases of country and urban patients. Painstaking cooperative effort directed to the solution of the problems of disease can be made wherever two or more physicians are in mutual contact with each other and shall undertake the task.

ENDOWMENTS FOR MEDICAL EDUCATION.

It can not be gainsaid that the comparatively few of the people constituting the medical profession of this country are tireless in their efforts to advance the scientific and practical status of medical knowledge. But what can be said regarding the great multitude of others of the people, referable to mutual response commensurate with the earthly blessings which they receive? As an earnest of the sentiments of those persons who give bountifully to beneficent ends, I quote from a comprehensive address delivered by President Keen at the annual session of this Association, held here in June, 1900, and based on the United Education Report of 1898. President Keen presented to the audience the following startling facts regarding the comparative endowments bestowed on theological and medical schools for teaching (not foundation) purposes in this country. It was shown that each of the 8,000 theological students had the income of $2,250 provided for his instruction, and that each of the 24,000 medical students had the income of $83 provided for the same purpose. Also that of the 178 endowed chairs in teaching, only five related to medicine. Then we were solaced by the thought, "A hard beginning maketh a good ending."

In this address President Keen gave as his opinion that the difference in the amounts of these endowments was chiefly in consequence of the "vicious methods of the conduct of medical teaching as represented in preparatory medical schools." And it is fair to say that many others were of the same opinion. In view of this hypothesis, and of the fact that since the time of the report on which it was based up to the final one[1] of five years later, and notwithstanding that distinct improvement in the administration and the teaching in medical colleges had taken place, and broader laboratory avenues of well-known scientific outcome were in operation, still it does not appear that a sufficient rising in the tide of advancement was reached to influence satisfactorily the inclination of munificent givers. For, according to the report of 1903-4, each of the 7,400 theological students of 1904 had the income of $3,031 provided for his instruction, and each of the 27,000 medical students of that year had the income of $54 provided for the same purpose, thus showing a gain over the previous report in favor of the theological student of $781 per capita, and a loss to the medical student of $29 per capita, for teaching purposes.

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[1] Commission of Education, Department of the Interior, 1903-4, ii.

Substantially the benefit of $22,500,000 was available for the purposes of theological education, as against the benefit of $1,450,000 for medical educational use at the time of the report of 1903. At this time, of the 153 theological schools 77 report endowments and 76 report no endowments. And of the 152 medical schools 19 report endowments and 133 report no endowments. Also five of the theological schools had endowments varying in amount from $853,000 to $1,525,388 each. Now, more than ever, are we impressed with the force of another expression, "Help yourself and Heaven will help you."

In view of this later increase in the difference of the incomes bestowed for direct educational purposes, and under improved medical conditions, it seems very likely that opposing factors, more potent than first assigned, are extant. When, however, it shall happen that bountiful givers regard us in health as in acute affliction, perhaps greater heed will be given to the wisdom of making larger medical educational gifts. Irreverent comment has hinted of another compelling influence, especially related to generous adult minds, embodying the notion that the hope and faith of celestial expectancy, are more attractive than are the faith and outcome of terrestial realization. Whatever may be the reason for the continued paucity of medical endowment, I am not prepared to say, but I hope that substantial improvement will be secured through the convincing influence of beneficent subjective and objective lessons, patiently, discreetly and thoughtfully impressed by us on the public mind. Yet, confronting this hope, there appears an ominous specter pointing to the fact that only by laborious effort, chiefly supported by the medical profession, were the memory and brilliant services of the late Dr. Walter Reed meagerly characterized. Those who experienced the greatest blessings because of them gave the least to the care of those whom he loved most.

The simple, common-place remark, "the promoting of friendly intercourse among American physicians," I regard as the most important announcement set forth in the opening declaration of the constitution of the Association, looking to the "Promotion of the Science and Art of Medicine." For, without the stimulating and guiding support of professional good-fellowship in all the term implies, discord and discredit are likely to delay or cripple the realization of this one great object in view.

THE JOURNAL.

I know of no agent so well fitted to contribute to the fostering of the growth and the diffusing of medical knowledge and the promoting of friendly intercourse among American physicians as rightly falls to the lot of The Journal of the American Medical Association. A journal with a weekly circulation of over 50,000 and accounted as the utterance of many more than this number of the organized medical profession of the country, may well be regarded in things of professional concern, as the voice of the multitude proclaiming its will. Therefore, it is important that the tone and wisdom of its speech be in accord with the judgment of the great majority of our profession. I am inclined to believe that when the pages of our journal are the forum of temperate and instructive discussion of the policies of common interest to our membership greater impetus will be given to just causes and a broader scope to fraternal comfort among American physicians. One, however, can not be reminded of The Journal without being impressed by the creative ability, the abiding energy and overtaxed assent of the editor, the Secretary of this Association.

I am deeply impressed with the belief that at this time the greatest danger to continued harmonious unity in the Association lies ill-hidden in the constituted expression, "to safeguard the material interests of the medical profession." It requires no special discriminating sense to foresee the devious interpretations which eager desire might willingly give to the phraseology of this declaration. Fortunately, however, no rendering of the language of this expression can be properly entertained which conflicts with that of the antecedent one, "the promotion of friendly intercourse among American physicians." However this may be, the following suggestive lines of Froude should not be overlooked: "Where all are selfish the sage is no better than the fool, and only rather more dangerous."

THE WAR AGAINST DISEASE.

The genuine products of completed organization of the medical profession are of infinite importance to the well-being of the country. The potent factors of common prosperity will be encouraged and protected; the hearts and homes of the well-to-do and the hopes and hovels of the needy will each reflect in joyous ways, the benefits of cooperative action in fixing the nature, overcoming the causes and lessening the burdens of disease. The war now under way against cancer and tuberculosis, two of the insatiable inflictions of humanity, can, along with that opposing ophthalmia, be waged with comprehensive rational designs and improved prospective results.

The broader the field of opportunity in this regard, and the greater the activity of the contest, the more bounteous will be the return and the greater a final victory. When, for instance, it is recalled that for unknown reasons the death rate from cancer is slowly advancing in spite of intelligent, earnest opposition; that acquired tuberculosis yet adds 13 per cent. to the total death rate; that unrestrained ophthalmia causes over 25 per cent. of the blindness from disease; that over 30 per cent. of the school children of New York, and perhaps of other large cities, suffer from defective vision, and that in 75 per cent. is their mentality impaired by causes yielding to curative measures of a simple and permanent nature, then, indeed, is the necessity for united action relating to control of human infliction emphatically demonstrated.

The alleviation and cure of such afflictions serve to lighten the burdens of public care, to lessen the tenantry of charitable and penal institutions and to lay the foundation of good citizenship.

A NATIONAL BOARD OF HEALTH.

The fact that communicable disease has no boundary restraints in the presence of unguarded human pursuits is quite as familiar to the lay as to the medical

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wo[illegible] of the [illegible] poration, [illegible] profession [illegible] ternal peace.

The enactment a[illegible] is a matter of superla[illegible] able relations, founded on [illegible] established between the res[illegible] requirements of medical educa[illegible] ment, fully qualified physicians [illegible] to another would not be obliged to [illegible] annoying state board scrutiny concerning fitness [illegible] practice medicine. Since no unusual professional attainments are necessary to meet the exigencies of practice in any state of the Union, but little difficulty should be experienced in establishing a grade of educational requirement, permitting of practice through reciprocal comity.

The unwelcome thought arises at this time that, in the absence of equitable state reciprocity, one or more states not blessed with first-class educational opportunities might endeavor to protect their own interests against the professional encroachments of the graduates of first-class medical schools by requirements to practice of such character as not to merit serious thought on the part of the faculties of highly reputable medical institutions. [illegible] difficult, however, to conceive that this idea can [illegible] a passing fancy, for how a course of this [illegible] the sanction of good judgment is not [illegible] relative to competent practitioners [illegible] may desire to change their state [illegible] difficulty attends a proper ad[illegible]ion. It seems to me, however, [illegible] that a form of examina[illegible] instances, which in its [illegible] methods consistent with [illegible], rather than by one of [illegible] am quite certain that if a [illegible] of a modern medical [illegible] himself outside the [illegible] itable return through [illegible] by his catalogues [illegible] great doubt and [illegible].

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[illegible]andard of medical education [illegible] in this country to equal that of the [illegible] matter concerning which honest differ[illegible] opinion are earnestly pronounced. While no [illegible] can consistently contend that knowledge is not power, yet the adjustment of more than a requisite amount of knowledge in the practice of medicine, to the sparse occupancy of many broad areas of this country is a matter which for some time to come may concern the stern power of economics more than the needs of ideal culture. Possibly, therefore, those who are blessed with commendable professional dignity and with pleasing remunerative environment might willingly pause for a time while giving thought to the demands for professional care in broad necessitous surroundings.

The analytic work being done by the Council on Medical Education is mercilessly disclosing the comparative *status* of the medical schools in this country, to the discredit of many heretofore differently regarded. The active manner in which the labor is carried on under the chairmanship of Dr. Arthur D. Bevan is creditable to the committee and to the cause in hand. Inasmuch as the standard of suitable preparatory medical attainment depends more on the capacity of a faculty to impart knowledge and beget character than it does on the pharaseology of the curriculum, the outcome of the committee's efforts is being watched with solicitous interest by all concerned in honest standards of moral and medical qualifications.

Apropos of the importance that the faculties of medical schools should lead the way to higher station in professional ethical conduct, both by precept and example, I am prompted to say that there appears to be no doubt that uncanny business instincts are encroaching in the reciprocal vulgar ways characteristic of lay methods not a little on the sacred domain of professional propriety. I am of the opinion that trespasses of this kind are chiefly the outcome of acquisitive intentions based on delusive self-seeking desires. The remedy for the cure of this unprofessional propensity rests largely in the hands of the faculties of medical schools. They should inculcate a high sense of professional honor in those who come under their tutelage. Ample instruction of medical students in the tenets of moral philosophy, as applied to the practice of medicine, and substantial disapprobation of offending practitioners by their colleagues will, in my judgment, hasten the reduction of this evil to a minimum.

In this glorious country of ours, "the will of the people is the law of the land." And in this bearing it is needful that we should act with good sense concerning our personnel in all matters which are of special interest to the commonality, so as not to encounter the adverse activity of popular desire. In this connection it is important to know that in the United States there are about 84,000,000 people, the great majority of whom are capable of satisfactorily judging of the practical things of life relating to themselves as they come into thought. Also in the United States there are about 112,000 physicians who are eligible to membership in the American Medical Association, but of which as yet little more than one-half are affiliated in any capacity with the organization. It logically follows, therefore, that a judicious estimate should be made of how the great majority of the 84,000,000 of people plus nearly half of our own calling would regard our intentions before venturing at all rather than prematurely to court defeat and corresponding loss of station. The question is *not* altogether what we think of ourselves and our causes, but the question *is* how we ourselves and our causes may be regarded by the people concerned and by their friends, to say nothing of the balance of our own profession. And, too, it should be kept in mind that it is not likely that general mutual accord will prevail in all matters of common interest which arise in organized bodies of men. In a humane profession appeals should be made to judgment, not to passion or prejudice. It is within the easy recollection of most of us that sturdy efforts were made by the united medical profession of a state in what was regarded to be a justifiable cause. Yet, as it appears, decided defeat was the outcome, because the majority of the interested people were not in harmony with the contention. This suggestive lesson should not pass unheeded, if experience and good judgment are to become available assets in the conduct of the affairs of medical organization.

THE NEED OF HONEST DRUGS.

It is written that Oliver Cromwell, while fording a river with his army to attack the enemy, exclaimed, "Put your trust in God, but mind to keep your powder dry!" No less determined than Cromwell was, do many physicians now feel on account of the fact that their figurative powder (drugs) is quite apt to be worse than wet, being alarmingly defective in quality and fickle in strength. As an illustration of these facts, no evidence more convincing can be presented than that of the Health Department of New York City. This efficient department has for some time labored with discreet energy and with astounding results in this heretofore comparatively untilled field of interrogative scrutiny. That the crude drugs and standard preparations approved by the United States Pharmacopeia and prepared and exploited by reputable pharmacists should, in all instances, be found trustworthy admits of no denial.

It appears, however, from the reports of the Board of Health of New York City, on the analytic findings incident to the examination of crude drugs, tinctures, fluid extracts, etc., as compared with corresponding standards adopted in the United States Pharmacopeia, that reputable pharmacists have, because of commercial indifference, or studied intention, not infrequently contributed to therapeutic misfortune through the quality and strength of their drugs. I will call your attention to only a few illustrations which are an emphatic earnest of the need of general scrutiny of the pharmaceutical part of our therapeutic armamentarium.

It is a matter of general knowledge that aconite is a drug of potent nature and in comparatively common use. Of this drug five of the thirteen samples analyzed were of the tincture and fluid extract of the root. Of the three specimens of the tincture one had 9 per cent. more, and of the remaining two 6 and 20 per cent., respectively, less of aconitin in than the standard requires. The two samples of extract of the root had 13½ and 25½, respectively, more aconitin in than is required. The remaining six samples were of the powdered root which in no instance was sufficiently abnormal to call for admonition. The samples of belladonna showed, respectively, from 35 to 45 per cent. less of mydriatic alkaloids in the powdered extract of the leaves, 11½ per cent. less in the fluid extract of the root, 17 per cent. more in the tincture of the leaves and 47½ per cent. in the fluid extract of the leaves than is required by the United States Pharmacopeia. Powdered nux vomica was found to be comparatively worthless, but in the tincture and fluid extract was revealed an excess of strychnin above the required standard of 19 and 17 per cent., respectively. In the tincture of opium was found, of morphin 7 to 13 per cent. more than the accepted standard of composition.

In 1/100 grain tablet triturate of nitroglycerin was discovered only 1/1,600 of a grain of the drug. It is said that this preparation of nitroglycerin was known by the manufacturers to be unreliable and, therefore, should not have been exploited at all or in a guarded manner. It is not difficult to foresee how the failing to secure proper response from the use of these or other tablets of uncertain strength that the substitution therefor of a fresh solution of the drug might result unfortunately, especially if the dose of the fresh preparation were of the same amount as was that of the tablet last given. I have in mind an instance of this kind in which the use of a fresh solution of strychnin caused a fatal result.

It further appears that of the first sixty-one samples of drugs examined by the health department, all of which "articles are of exceptional importance, most of them potent poisons, and all are represented by definite chemical standards in the Pharmacopeia," only about 28 per cent. of the whole number was considered good and 16 per cent. were so bad as to justify legal action. It is proper to say that the majority of the manufacturers recognizing the awkward position in which they were placed, with a spirit of yielding opposition complied with the reformatory demands of the health department. This list of producers is small in numbers compared with those who are engaged in similar business in the United States, and, no doubt, present as favorable picture of this class of the drug evil as can be drawn.

Nor is the aforegoing distress the only torment in pharmacy with which the medical profession has to contend. The idealized, savory products of pharmacy with which the market is cloyed are often quite as fickle in their nature and virtues as was a certain ancient queen of the Nile. Discreditable business thrift supplemented by cooperative professional contentment and convenient indifference, patronized by confiding and credulous people, yields princely returns for the diminutive cash and equivocal integrity invested in it.

Not all of those, however, engaged in the pharmacal trade are unworthy of the trust and confidence given to men in other avenues of business. Very many, indeed, thus engaged are as sincere and trustworthy in their business affairs as are the best of those in other undertakings. Therefore, the old and revered principle of common justice, while emphasizing the fact that every person should be regarded as being honest until the contrary is proven, should be kept in mind and action. Consequently, in our conduct of matters imbued with professional or business virtues, the resolution should be to estimate uprightness of character by the tenets of common justice, and not by preconceived notions hostile to the principles of established equity. Purposes thus graciously fortified command respect, and gain in strength because of opposition. The reverse, however, will beget distrustful thought and may finally cause defeat. In this recital I can not overcome the belief that we ourselves contribute a major share to the inception and success of many medicinal ventures by our indifference or ignorance relating to savory prescribing and also by our thoughtless employment of proprietary medicines. Here, too, is a chance for medical teachers to instill proper notions regarding consistent ethical and therapeutic refinements.

When John Dryden wrote, "virtue is her own reward," he expressed a sentiment in keeping with the self-sacrificing spirit characteristic of the members of the Council on Pharmacy and Chemistry of the American Medical Association. I am creditably informed that these gentlemen are serving the profession and the people in this labor without the expectation of vulgar reward or the anticipation of special favor. I desire to commend their motives, approve of their work, and bespeak on the part of the profession an earnest support of all wise conclusions. Those who labor in a just cause without stipend are deserving of great praise; those, however, who serve for pay can only expect approbation.

But little less important than the preceding, in some respects, would be the careful scientific consideration of the therapeutic value of the abundant springs of our country. There is much, indeed, of special significance regarding their popular use which might well be garnered and put on a sound basis. A scientific cooperation with those who are in charge of certain baths possessed of traditional specific value might readily guide to improved conditions of significant importance to all those who seek relief. A country as rich as ours in these spontaneous endowments can well afford, in proper ways, to court the attention and support of the afflicted and to the decided advantages of all concerned.

THE MEDICAL PROFESSION IN CIVIC LIFE.

The sincere belief, on my part, that the outcome of professional governing policies of common interest in our affairs are practically alike in county or state prompted me in a recent parting address to the united medical profession of the State of New York to say: "The organization of the medical profession here and everywhere throughout the country contemplates the realization of more than the scientific advantages arising from personal contact and local cooperative thought. It should be regarded as an earnest that the medical profession intends to take an active and controlling part, if possible, in those affairs of civic life which relate to the well-being of the body politic. There should be no question regarding the status of the medical profession in all matters relating to the securing of pure food, pure drugs and wise public sanitation." Also it was said: "It would be sadly amiss, indeed, were I not to admonish you at this time, the opening of a united career, of the grave perils begotten by a spirit of paternalism which not infrequently is a pernicious by-product of organized power. The seductive and aggressive influence of this spirit often usurps and may inhibit that nobler, more enduring and beneficent spirit characteristic of common manhood and professional brotherhood. And it should not be forgotten that the greater and more extended is the membership of a fraternal body the greater and more extended are self-seeking desires apt to be. Consequently the longer the chain of affiliation is the weaker it may become, for, as you already understand, "no chain is stronger than its weakest link." I pause to inquire is there any good reason to doubt that the medical organization of the nation might not respond to similar influences? Let us, however, cherish the belief that wise discretion fittingly stimulated by just conceptions of fraternal spirit will guide us securely along the pathway of increasing professional attainment and good fellowship to the end of useful life.

And, finally, when by the aid of Divine Providence, the medical profession of the United States shall have been made into "one compact organization" and impelled in dutiful desires only by the highest motives of professional purpose and of public welfare, no enlightened opposition will oppose its desires, nor will irrational outcry, nor vagrant motives, find patient listeners or available foothold in the councils of the organization or in those concerned in the requirements begetting of public confidence and respect.

The Campaign Against Mosquitoes and Flies as Carriers of Infection.—Santori appeals to physicians throughout Italy to take the lead in educating the public in regard to the dangers from flies as well as from mosquitoes, and to lead also in enforcing practical measures against them. Some of the French watering places have decreed and carried out the destruction of mosquitoes as a purely business measure, to relieve the visitors of the former plagues of mosquitoes. At Bourbonne the pools of stagnant water were covered with a mixture of one-third rapeseed or colza oil to two-thirds petroleum. This was repeated every six days, using about 35 ounces of the mixture to 100 square yards. The benefit was not fully realized until three or four weeks after the first experiments, when the town was astonished to find that it had been absolutely delivered from the perennial plague.

THE RELATION OF THE CLINICAL LABORATORY TO THE PRACTITIONER OF MEDICINE.

ORATION ON MEDICINE AT THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, JUNE 4-7, 1907.

JAMES B. HERRICK, M.D.
CHICAGO.

The change that has been brought about in our conception of disease and in the manner of its detection through the discovery and invention of instruments and methods of precision and the application of improved laboratory technic is one of the most striking characteristics of the marvelous advance in medicine of the last half century. To realize what this means, think for a moment how comparatively helpless we should be were we suddenly deprived of bacteriologic aid in diagnosis with its attendant specific serum reactions; of the improvements in technic of the last fifty years in the way of microscopy, stains, section-cutting, etc.; of the study of the corpuscles of the blood and the estimation of its hemoglobin; of our knowledge of the chemistry of the stomach; of the cytologic, bacteriologic, chemical and physical facts concerning normal and pathologic fluids of the body; of the means of measuring blood pressure; of the numerous electric light appliances that enable us to explore nearly all the orifices and cavities of the body; of the Roentgen ray; of the improved qualitative and quantitative chemistry of the urine and feces; of aids from physical chemistry. Think of how poverty-stricken we should feel were these aids taken from us—and they are by no means all of this class that might be enumerated—and then, and then only, do we begin in faint measure to realize the enormous value of these additions to our knowledge that have been made in the last few decades and the almost revolutionary change they have wrought in the methods of diagnosis.

These instrumental and laboratory methods, depending as they do on applied physics, chemistry, anatomy and physiology, have to do with the more exact sciences. They are, therefore, commonly regarded as having in them something of mathematical exactness, something of the element of finality. A piece of tumor viewed under the microscope, a bacillus obtained from the blood, grown, studied and seen with the oil immersion lens, a chemical test of the urine with the substance in question not only proven to exist but actually recovered and weighed in the balance—what are these but accurate procedures whose results must be correct. The physician, not clearly understanding all the workings of the laboratory, and dazzled by the brilliancy of the splendid results that have come from it, stung by the taunt that his practice is but empiricism, and smarting because conscious that the taunt is justified, has hailed the laboratory as his deliverer from the thralls of empiricism, irrationalism and mere experience and has looked up to it as the embodiment of science, as a never-failing aid in solving the mysteries of disease. The laboratory method has, therefore, in the minds of many acquired a transcendent importance; anamnesis and physical examination seem old-fashioned and unreliable. The laboratory is viewed as a *sanctum sanctorum* pervaded by a purer light than the wards of the hospital: and the laboratory man as a superior being, the incarnation of all that is scientific in medicine and whose word can not be questioned. Dr. L. Emmet Holt[1] has recently put it in this way:

> The men of the laboratory to-day dominate medical thought. They form a sort of oligarchy, to whose decrees those who study medicine at the bedside only, must needs submit, often with a subconscious feeling of their own inferiority.

And he adds:

> I can not myself resist the opinion that the man of the microscope and the culture tube occupies just now a place of too great importance, at least in the minds of the medical student and the younger practitioner.

Now, nothing has given a greater uplift to medical thought and practice, and especially to diagnosis, than the laboratory. Its aid in indispensable. But it has its own proper place. The earlier tendency to overvalue its work and to undervalue that done at the bedside is having the natural result in a swing back of the pendulum, and we are now hearing voices on either side of the Atlantic cautioning against the undue magnification of the laboratory at the expense of other aids to diagnosis. In our own country several writers have recently referred to the subject, and within a few weeks a large body of select medical men—the Congress of American Physicians and Surgeons—has considered the subject in a symposium, "The Relative Value of Laboratory and Clinical Methods in Diagnosis."

I have thought the matter of sufficient importance to be made the subject of this address. And particularly because I feared the papers of the symposium just referred to might not reach the bulk and sinew of the profession, viz., the general practitioner, and because I felt that too much emphasis could not be laid on certain points, I shall, even at the risk of seeming to repeat much that has just been said by others, venture to speak on "The Relation of the Clinical Laboratory to the General Practitioner."

It should be understood at the outset that I am not referring to laboratories devoted exclusively to research, such as the Pasteur Institute, Koch's or Ehrlich's laboratories, the Lister Institute of Great Britain, the Rockefeller Institute or the Memorial Institute for Infectious Diseases. I refer particularly in this discussion to what is commonly called the clinical laboratory, the laboratory that is run as an utility, as an instrument of precision, if you please, in the armamentarium of the physician, the place to which he takes to examine himself or to have examined by others his specimens of blood, sputum, stomach contents, cultures from the throat, or fragment of tumor, hoping for aid in diagnosis and hints as to prognosis and therapy.

But let me add that unless such clinical laboratory, no matter how small it may be, has in it the essence of research its work becomes routine and non-progressive. It is the search for the new that activates. A slow but sure death overtakes the laboratory as it does the ward in which there is no spirit of investigation.

It seems to me that certain mistaken notions obtain regarding these laboratories, which lead at times to strained relations and misunderstandings between the practitioner and the laboratory expert. These are due to faults that lie partly in the laboratory worker, partly in the physician.

First as to faults of the laboratory. And I dismiss from this criticism laboratory work that is done by incompetent men, poorly trained or careless. That some of these men pretending to do scientific work are entirely unfitted for it is, of course, true, but this is no just reflection on the laboratory method as such, any more than an incompetent practitioner of medicine should lead us to condemn the entire system of practice.

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[1] Holt (L. Emmet): Medical Tendencies and Medical Ideals, The Journal A. M. A., March 9, 1907, p. 845.

In the first place there is often a failure on the part of the laboratory to acknowledge frankly its inherent limitations. The truly great men in this line of work are ever the most conservative in the expression of opinion. There is too clearly present before their minds the possibility of error in technic, of false interpretation of that which is seen, of our poverty of knowledge concerning some of the even common laboratory reactions. These are the men who are always on the lookout for artefacts, who refuse to state positively, from microscopic examination alone, that a smear from the throat does or does not contain diphtheria bacilli, who hesitate to declare that a cellular form is the ameba coli, who may decline to pronounce whether a given section is from a sarcoma or an inflammatory swelling. These are the laboratory men who have the courage to say: "I don't know," or "It is impossible for any one to tell." Were there a franker willingness on the part of the laboratory expert to admit these limitations of knowledge, just as the clinician must at times acknowledge his inability to interpret physical signs, there would be in the end a distinct gain in confidence in the laboratory rather than a loss when the practitioner finds from subsequent history of the disease, as he sometimes does, that the opinion of the laboratory so positively expressed was wrong.

In the second place there is at times a failure on the part of the laboratory to realize the gravity of the duty imposed on it by the physician. The family doctor, with the medical or surgical consultant, may have exhausted their means of diagnosis. The laboratory expert is called on. On his findings depends, perhaps, the loss of the uterus in a young wife for supposed carcinoma, the sacrifice of a limb for what seems to be sarcoma but may be really, gumma, the giving up of life's plans and hopes because of supposed tuberculosis of the lung or kidney, the diagnosis being based on some doubtful tubercle bacilli in the sputum or urine. The laboratory worker is often so remote from his patient that he fails to feel that personal responsibility of which the family physician is all too conscious, and so, scarcely realizing the importance which attaches to his decision, he may make it on insufficient grounds. Were he to feel the full import of this decision, in doubtful cases he might admit more frankly to himself and to the physician his inability to reach a positive conclusion. Repeated or later examinations could then be made, thus clearing up the diagnosis. Or, in the event that uncertainty still remains, the matter could be frankly discussed with the physician and the family and the best combined decision possible under the circumstances could then be honestly reached.

Third, there is a tendency for some laboratory workers to step beyond their province and make diagnoses that are unwarranted by the facts and perhaps unasked for and even to advance a prognosis and advice as to treatment. Strictly speaking, the laboratory's function stops when it announces its findings. The interpretation of the laboratory findings rests with the practitioner. I am aware that no sharp line can or should be drawn here, for, as I believe, these two men should work together and should both be practitioners, both be in close touch with the patient. But I criticise such things as this. I have seen, and more than once, reports from clinical laboratories reading somewhat as follows: "This urine is from a typical case of chronic interstitial nephritis" when forsooth it was not; it was from a typhoid drinking huge quantities of water passing urine of low specific gravity and of large amount, with a trace of albumin and an occasional cast. Often I have seen the positive diagnosis of pernicious or secondary anemia made from a blood smear alone, sent in to a laboratory. We know this is possible, but it is risky. And many times have I seen a report that said in substance, often in so many words on the basis of a Widal reaction: "This is (or is not) a case of typhoid fever." And when free hydrochloric acid has been found in the stomach contents the statement is returned: "This is not a case of carcinoma." Such reports, I need scarcely say, are wholly unwarrantable. They are as inexcusable as for the clinician to percuss the chest and listen with the stethoscope and declare positively that the case is or is not tuberculosis of the lung, without paying attention to the anamnesis or to the other physical findings, the sputum, etc. Nothing has done more to bring the laboratory into disrepute than this irrational, almost meddlesome, method of venturing a diagnosis on wholly insufficient grounds. It is hardly an excuse that the laboratory is often asked for a diagnosis by the physician who is unable to interpret the findings. The answer even then should be a guarded one and one liable to revision in the light of clinical findings. The laboratory man should stand, if you please, in the nature of a consultant, the opinion in the case, while influenced, of course, largely by the laboratory findings, should always be the combined opinion of the practitioner and his colleague, the laboratory man.

On the part of the practitioner there is often a failure to recognize the limitations of the laboratory. As I have said, the physician too often has the notion that the laboratory method is supreme and that it renders unnecessary and obsolete the old-time careful bedside observation. The possibility of error on the part of the patient or of the physician who provides the specimen for examination, particularly a specimen for bacteriologic examination, the personal element of carelessness, haste, hurried conclusions in the laboratory operator, faulty or balky instruments or reagents, the entrusting of important details to immature assistants, these are some of the ways in which error may creep in and ways concerning which the practitioner untrained in the laboratory is ignorant.

But while this kind of limitation of the power of the laboratory has to be reckoned with, it is after all not so much a fault of the laboratory itself as of the individual worker. But misinterpretation of laboratory findings by the practitioner is common and is grave. And this is due to no fault on the part of the laboratory, but rather to the shortcomings of the methods themselves and the failure on the part of the practitioner to take cognizance of this fact. Many of the aids to diagnosis are regarded as more far-reaching and comprehensive than is the reality; they are looked on as pathognomonic and as without exception infallible. This comes about because often earlier reports as to the value of these tests are rosy-hued and conclusions are sweepingly and definitely stated. The later observations throwing doubt on the method are slower to get into print and are less likely to attract the attention of the busy practitioner than is the heavy headlined favorable report. Frequently, too, he trusts for his information to a brief conversation with a friend, to an incomplete abstract in a corner of a medical journal, or to a half-understood discussion in a medical society; and he grasps at this new, supposedly infallible method as he may grasp at the "patent medicine" or the newly-advertised drug that promises to cure so much. How many physicians to-day are treating cases for something else than typhoid because a single serum test, made perhaps early in the disease, has failed to show the specific reaction, overlooking the fact that this reaction is very capricious as to the time of making its appearance, and overlooking, what a few years ago would have enabled them to make a diagnosis, the course of pulse and temperature, the spleen, rose spots, tympany, facies, etc.? Or how many times has the failure to find free hydrochloric acid been regarded as conclusive evidence of carcinoma of the stomach? And who among us has not had his hard fall from placing too great reliance on the presence or absence of leucocytosis? We should remember that many of the tests are not yet clearly understood, that in a sense they are still on probation and still to be regarded as only approximately correct. It is a good thing to have appear occasionally such papers as those of Richard Cabot[2] on the "Limitation of the Urinary Diagnosis," and of Emerson[3] on the "Accuracy of Certain Clinical Methods," the one showing how the interpretation commonly put on certain laboratory findings is not always in accord with the facts as shown by the examination of the patient *intra vitam* or postmortem, and the other how some of our methods, by many regarded as quantitatively accurate, are in reality subject to a rather wide margin of error.

Unfortunately, some of our laboratory work is still more or less empirical. What Bismarck said about politics—"*Die Politik kann nicht im Laboratorium gemacht werden denn sie hat überall mit dem Menschen zu thun*"—might be applied, as it has been.[4] to medicine. Medicine can not be made in the laboratory alone, for it has to do with living man. Numerous observations may show that there is some general law that lies back of a certain laboratory reaction, but exceptions here and there to the law as tentatively enunciated make the wiser man realize that in dealing with the complex living body the conditions are different from those found in the test tube or the incubator. that his law may after all not be so general and broad as he had supposed, and that great judgment and in a measure an empirical judgment must be exercised in interpreting the findings. As Dr. Barker[5] has well said, the science of medicine is only slowly reaching the stage of development when the formation of brief laws—so-called general laws—is possible. We are still largely busy establishing and collecting facts, comparing them and arranging them according to their mutual relations, and only occasionally cautiously venturing to hint at some general law.

Then again too often the difference between a positive and a negative finding is not clearly kept in mind. Because no plasmodia are found in the blood on a single. even though careful, search, malaria is not necessarily excluded, though the finding of even a few proves malaria.

This fault that I have just referred to is entirely on the part of the practitioner. The laboratory has reported exactly what it has found; the physician has misinterpreted the finding. Most diseases have yet to be recognized not by some one symptom or sign that is pathognomic, but by a complexus of symptoms and signs. Nearly all the laboratory findings should be viewed in the same light as important symptoms, greater or less weight being attached to them as we learn from experience or know from their inherent character that they approach the pathognomic. To illustrate: The finding of typhoid bacilli in the blood is of greater diagnostic value than the Widal test; the latter outweighs in importance the diazo reaction of Ehrlich, and this in turn is of more diagnostic value than the finding of a concentrated urine with perhaps a trace of albumin. The first test is conclusive of typhoid infection—at least according to present notions—and outweighs anamnesis and physical examination. The Widal reaction, either positive or negative, must be more carefully interpreted because not yet clearly understood, because possibly delayed in making its appearance or perhaps influenced by a typhoid long passed and possibly even due to microorganisms closely related to the typhoid bacillus; the history of the case and the physical findings must here be taken into account. The diazo reaction found in other conditions than typhoid is so far removed from the category of a specific reaction as to be viewed only as confirmatory and as outweighed by many other findings. A concentrated urine and a trace of albumin are so common in febrile conditions as to lose nearly all real diagnostic importance. The physician must have some reasonably clear conception of the relative importance of these and analogous procedures or his interpretation is liable to be faulty and misleading, even to the extent of grievous error. The laboratory finding must be fitted into the symptom-complex as a cardinal symptom perhaps, but must not be permitted to usurp the position of prime importance unless its inherent nature entitles it to such a position. The fact that its place of birth was the laboratory does not give it such rank that it may look down on the symptom or finding whose origin was the lowly ward bed.

And, lastly, while the laboratory expert shows at times a lack of appreciation of the responsibility he is assuming in expressing his opinion. the physician has no right to throw the entire responsibility of an important decision on the laboratory. The decision in a perplexing case should be a combined one, the men working as colleagues, and each man sharing in the responsibility, each entitled to his reasonable fee.

Now these faults that I have specified are remediable. The solution lies in two directions—first, in a better practical training of the undergraduate in laboratory technic and methods so that he realizes the difficulties, limitations and possibilities of the laboratory; second, in the closer relation between the laboratory expert and the clinician and when possible their union in the one individual. The closer the laboratory and the patient the less the liability to error. The less the scattering of responsibility the surer is the responsibility to be met.

To these ends there should be: Laboratories in our medical colleges for the training of undergraduates, and these should be as closely connected with the wards of the hospital and the clinic as possible.

No modern hospital should be regarded as well equipped that does not make provision for a laboratory. The "show room" of the hospital should not be alone the marble-wainscoted, well-lighted operating room but as well the laboratory where material aid is obtained in telling the physician or the surgeon the nature of his patient's illness, or, perhaps after he has operated, telling the surgeon for what malady he operated.

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[2] Cabot (R. C.): The Journal A. M. A., March 18-25, 1905.

[3] Emerson: Bull. Johns Hopkins Hosp., January, 1903, xiv, No. 142.

[4] Hemmeter: Science in Medicine, The Journal A. M. A., Jan. 27. 1906. p. 244.

[5] Barker, (Lewellys F.): Methods in Medicine, Boston, 1905.

Departmental laboratories are desirable and, on the same principle of keeping the laboratory and the attending staff in close touch and removing the dangers coming from divided responsibility, there should be, when possible, ward laboratories, or laboratories for the individual attending man. And the time will soon come, if it be not already here, when the laboratory of the clinic or the ward must have its subdivisions into chemical, bacteriologic, anatomic, etc.

And in private practice how is it? Ideally each practitioner should have his private laboratory. He attempts it now, thus admitting the truth of the statement, with his few begrimed test-tubes, his bottle of nitric acid and his Fehling's solution and the binocular microscope under that large glass globe on the marble-topped table in front of the window in the parlor. But there are many men, and their number is rapidly increasing, who have a microscope that they use, who are equipped to do in their own offices good work in the examination of urine, blood, sputum, feces, stomach contents, pieces of pathologic tissue, etc. And as they grow too busy to do these things themselves they employ the young man fresh from the college laboratory, and, guiding and directing him, instructing him in the practice of medicine, instructed by him in the later improved methods just taught him in college, they work together, mutually benefiting, keeping up with the times, and exemplifying the union of the laboratory and the clinical side of medicine. But not every man is able to do this or feels that he can afford it. Can not groups of men combine to employ some young man to do much of this laboratory work? These group laboratories, or what amounted to such, I have seen in small towns where a recent graduate, perhaps not on any salary, was yet the man to whom the other physicians by common consent submitted their specimens for laboratory examination, and because all did it there was no feeling of lowered dignity or of acknowledged inferiority, but perfect harmony, good feeling and mutual profit.[6]

And similarly the county medical society might have its clinical laboratory under the charge of some young man paid a salary, or fees for separate examinations who conducts a laboratory to which any member might feel free to go for the help that for various reasons he can not get in his own office. Laboratories for counties have already been established and, if not too much entangled in politics, ought to be successful, especially in the way of guarding the health of the community and in aiding in the diagnosis of charity cases.[7] In the same way municipal laboratories have become a recognized feature of the modern city, though the carelessness of the political appointee or his incompetence, with that lack of feeling of personal responsibility that comes from the remoteness of the physician and the patient, detract oftentimes from their value. Commercial clinical laboratories in our large cities are of great service and have a legitimate place, their value depending on the personnel of their staff and on how far they permit the commercial side to overshadow the scientific.

What I would contend for, therefore, is not less laboratory work but more, more for the undergraduate and more for the practitioner. So well trained should our graduates be that certain laboratory procedures of established value should be no more the exclusive property of a select few—the laboratory men—than is the clinical thermometer, the stethoscope or the obstetrical forceps; all should understand and be able to practice them. And I would plead for the closer relation between the laboratory and the patient. Clinical means bedside. Let us have the microscope, the test-tube, the culture medium, the x-ray at the bedside, making a real clinical laboratory. And not only should there be a training of the physician in laboratory technic, but a training of the laboratory worker in observation of disease. The more familiar he is with illness the better does he understand the import of his decision, the more acutely does he feel the responsibility resting on him and the more helpful does he become as the co-worker of the practitioner. In exceptional cases exceptional laboratory knowledge or skill may be necessary and can be obtained of some one who has made a special study of some particular branch of pathology, bacteriology, physiology, chemistry, etc., in just the same way that the practitioner in exceptional cases calls for the help of the expert oculist, neurologist, laryngologist or other specialist. Because he asks the opinion of the ophthalmologist on the appearance of a retina is no reason why he should not himself have a practical working knowledge of the use of the ophthalmoscope or why he should not have the final decision as to the nature of the patient's ailment—using the findings of the oculist as one of the cardinal symptoms and the opinion of the oculist as that of a consultant but not necessarily the final arbiter of the case.

And I can not let this occasion pass without urging that we have a care lest we underestimate the value of close observation of the patient himself. Much of this is still empirical, at least in its results, i. e., its interpretation. But the stored-up and collated observations of keen-eyed and keen-brained students of disease, from the time of Hippocrates down to the present, are not to be lightly thrown aside. The laboratory must not be permitted to drive out the arts of auscultation and percussion. Because bacteriology, the microscope and the x-ray often enable us to make an early diagnosis we should not rely on these agencies to the exclusion of the older methods. Rather should we be led to greater care in examination because of the possibility of earlier recognition of disease and more accurate interpretation of slight deviations from the normal, for the laboratory has sharpened our insight into the meaning of signs and symptoms otherwise obscure. To repeat what I have several times said, it is only by the correlation of the results of the examination by all methods that the conclusion is reached as to the nature of an illness.

I might quote from various writers who have recently deplored the tendency to overestimate the importance of laboratory methods at the expense of bedside observation and who urge the more close union of the two methods. Let me cite just two: Von Noorden,[8] well known for his laboratory research, in his inaugural address on assuming the Vienna chair left vacant by the death of Nothnagel, while speaking of the enormous advances made in the way of chemical, microscopic, bacteriologic and electric diagnosis, deplored the fact that auscultation and percussion were treated in a step-motherly fashion and that students were graduated who were only superficially trained in these methods of physical examination, the very foundation stones of practical medicine.

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[6] Cowan (J. R.): Value of Laboratory Methods to the Country Practitioner. Boston Med. and Surg. Jour., March 8, 1906.

[7] Wesbrook: The Public Health Laboratory, American Medicine, March 3, 1906.

[8] Von Noorden: Antrittsvorlesung, Deut. med. Wochschr., 1906, xxxii, No. 32, p. 1750.

Strümpell,[9] emphasizing the importance of the Röntgen ray, of bacteriology and of a study of function in diagnosis, warns against permitting the old reliable methods of physical diagnosis to be relegated to the background.

> The fine art of observation of the older physician, the painstaking attention to the minutest changes, the careful consideration of all anamnestic statements of the patients—all this may seem oftentimes trifling and unnecessary to the modern physician. But he is very much in error.

And again:

> Therefore, I think that while employing all the newer methods of examination we should not allow to fall into disuse the art of pure clinical observation, the instrument of the practitioner whose place can be taken by nothing else.

A caution along another line ought also to be given. The use of instruments of precision and of laboratory methods in diagnosis has tended, at least in some quarters, toward a slighting of the study of pathologic anatomy. Changes in the size, shape, consistency and other physical properties of organs with resulting alteration in function, have been, and of necessity must be, the basis for many of our diagnoses. No bacteriologic or blood findings can detract from the detection and identification by physical examination of a large spleen, though the interpretation of such enlargement may be impossible without the study of the blood. There should be as careful comparison of clinical findings with those of the autopsy as in the days of Skoda and Rokitansky.[10] And encouragement should be given any method of diagnosis that tends to emphasize a study of function as altered by disease. Pathologic physiology, I believe, will play a far more important rôle in the diagnosis of the future than at present.

And then, in conclusion, we should not look on the laboratory as a short cut to a diagnosis. Sometimes it is, but often its workings are slow and cumbersome, and because of their complexity the results are not easily expressed in practical, every-day usable terms, and are, therefore, inconclusive or confusing. In other words, the laboratory diagnosis is not yet one of machine-like accuracy; it is no nickel-in-the-slot affair, if you will pardon the homely comparison. The time has not yet come, let us hope it never will, when a diagnosis can be made without the exercise of brain power. We do not wish our professional work to be degraded by being "dementalized," to use Weir Mitchell's[11] expression. Anamnesis, physical and laboratory findings are to be studied and compared and a result reached that not only gives a name to the disease but gives us a conception of the disease as it exists in the particular individual, with all that such a comprehensive diagnosis implies in the way of prognosis and hints as to therapy.

ACUTE SUPPURATIVE PERITONITIS (LOCAL, SPREADING, DIFFUSE AND GENERAL)

ORATION ON SURGERY AT THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, JUNE 4-7, 1907.

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In thanking you for my election at the last annual meeting of the American Medical Association to deliver the Oration on Surgery on this occasion, I beg to express my high appreciation of the great honor conferred; for it is truly an honor to represent, in this capacity, the largest and most representative national medical association of any age or of any country. I feel the honor more keenly because I am but the humble follower of many of America's most distinguished surgeons.

In selecting the subject of my address I am mindful of the fact that the essential questions involved in the study of the etiology, pathology, diagnosis and treatment of acute suppurative peritonitis are of equal interest to the internist and the surgeon. The greatest success of surgery in saving life in these cases depends on early surgical diagnosis and timely operation, before pathologic conditions develop that may so impair the vital resistance of the body tissues as to cause death of the patient with or without surgical intervention; and as these patients usually first consult the internist, early operation is impossible unless the surgeon is promptly associated in consultation.

We will better understand the causation, pathology and treatment of acute suppurative peritonitis if we study the results of experimental research on the biologic processes of digestion, nutrition and bacterial growth, and the hygiene of the tissues in resisting bacterial pathogenesis.

As digestion must prepare the food-stuffs for absorption into the body fluids, to be utilized by the constituent cells of the body and appropriated into living tissues, a study of its processes, mechanical, physico-chemical and chemico-physiologic, is necessary in medicinal and surgical therapeutics in diseases of the gastrointestinal tract, of the gall bladder, bile ducts, pancreas and appendix, and in local and diffuse acute peritoneal infections, caused by pathogenic bacteria in the contents of these structures. Time will not permit me to discuss this subject, but I must call attention to the fact that a knowledge of the results of the experimental research in the physiology and mechanics of digestion by Pawlow, Starling, Howell and Cannon, of bacterio-biology by Metchnikoff, Welch and Hektoen, and of the bacterio-biology of the gastrointestinal tract by Metchnikoff, Herter and Cushing, of the anatomy of the peritoneum and its absorptive powers by Muscatello and Huntington, of the lymphatics by Cuneo, Delamere and Poirier and many other earnest experimental research students in these related fields of science, is of the greatest practical value in the treatment of the diseases of the organs and structures of the abdominal cavity.

In intrauterine life and at birth there are no bacteria in the gastrointestinal tract, and none are found in the stools until the ingested food containing bacteria passes from the bowel. The bacterial flora then increase in number, and finally any bacteria in the food-stuffs used may be found in the alimentary canal, but the only constant normal inhabitant, as now demonstrated from infancy to old age, is some type of the colon bacillus which seems to find its optimum conditions for growth in the intestine. It may be finally determined, however, that other bacteria are normal inhabitants of the intestine, if not during both childhood and old age, at certain periods of life. The *Bacillus lactis aerogenes*, closely related to the *Bacillus coli*, is a normal inhabitant of the intestine during childhood, and these two germs, independently or jointly, may be conducive to health by aiding digestion, antagonizing intestinal putrefaction, and inhibiting the growth of other intestinal bacteria with positive pathogenic powers. In splitting carbohydrates they generate acids which limit intestinal putrefaction by the proteolytic bacteria, and may prevent pathologic processes which would otherwise develop in the existing alkaline fermentation.

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[9] Strümpell: Eröffnungsrede zum xxiii Kongress für innere Medicin in München. Deutsch. med. Wochschr., 1906, xxxxii, No. 18, p. 726.

[10] Concerning the value of the study of pathologic anatomy two European clinicians of prominence, men well versed in the theoretical and practical side of laboratory work, speak as follows: Romberg (Erfahrung und Wissenschaft in der inneren Medicine in Therapie der Gegenwart, 1905) says: "For the internist, pathologic anatomy is even to-day indispensable. . . . A thorough study of pathologic anatomy is the best school for the diagnostician." Neusser (Ueber Diagnostik und Therapie in der Inneren Medicin, Vienna, 1893), speaks of pathologic anatomy as even to-day the "mistress of our diagnostic art," and says a little later concerning the value of a control of our clinical work by autopsy: "Even yet the dead speak a language and this language brings to the intelligent physician at the bedside of his patient calm satisfaction and lends him strength and accuracy."

[11] Mitchell (S. Weir): The Early History of Instrumental Precision in Medicine, New Haven, 1892.

In the small intestine, under normal conditions, only those bacteria capable of fermenting carbohydrates show any distinct activity, the bacterial putrefaction of proteids being limited or absent, so long as the products of proteid digestion are quickly absorbed. But in the large intestine bacterial putrefaction of the unabsorbed proteids is normal and continuous. While the secretions of the small intestine are always alkaline, the fermentation of carbohydrates generates organic acids which inhibit the action of proteid bacteria, and while this acidity may show no reaction to the stronger indicators, with phenolphthalein it may give an acid reaction. It may be that the rapid absorption of digested proteids in the small intestine is a factor, as well as an unfavorable reaction, in preventing proteid putrefaction. The presence in the colon of bacteria of the bacillus coli type may protect the organism against injury by hindering putrefaction of the undigested proteids.

While it has been demonstrated that guinea-pigs put immediately after birth in a sterile atmosphere and fed on sterile food lived and increased in weight, and when killed after eight days had no bacteria in the intestine, and that animals in the Arctic regions have practically no bacteria in the intestines, the conclusion is still irresistible that in man the great number and variety of bacterial flora in some way aid the intestinal ferments in completing normal digestion. In further evidence of this fact we have found no gastrointestinal enzyme capable of acting on cellulose, an important constituent of vegetable foods, which may be hydrolyzed by bacteria and rendered useful in nutrition. The claim that cells in vegetable foods contain an enzyme capable of splitting cellulose molecules has not been satisfactorily demonstrated.

So long as there is perfect digestion, absorption and assimilation, the great number and variety of bacteria living on the carbohydrates and proteids may be both harmless and conducive to health, but when some pathologic condition in the gastrointestinal tract disturbs the circulation, digestion and nutrition, they may quickly become mildly or virulently pathogenic and invasive.

Bacteria taken into the stomach with the food in normal digestion neither aid nor retard the action of the gastric ferments on the carbohydrates or proteids, because their growth is inhibited, and they may be destroyed by the acid secretion of the stomach. The inhibiting and destructive action of this acid secretion on bacterial growth is shown by the fact that the chyme when it enters the duodenum is usually sterile, and, in fact, the contents of the entire duodenum are practically so, the bacterial growth beginning near the duodenojejunal junction, the bacteria then increasing in number and becoming more pathogenic until the ileocecal junction is reached. This maximum number and virulence of bacteria at this part of the intestinal tract, and the abundance of lymphoid tissue in the appendix, with the liberal distribution of lymphatics in the appendix and cecum passing in their ascent over the ileocecal junction into the mesentery may account for the frequency and virulence of appendiceal infection, which is a more frequent cause of acute suppurative peritonitis than all other pathologic conditions.

With the exception of bacteria that aid digestion by splitting the molecules of the proteids that have not been absorbed in the small intestine and bacteria of the colon bacillus type, there are comparatively few pathogenic bacteria in the colon, and these usually have a minimum infectivity.

The sterilizing power of the stomach on food containing bacteria is only effective when the food is retained long enough to be acted on by the gastric ferments, but with liquid ingesta, such as milk, which usually passes immediately through the pylorus, the contents of the duodenum will contain practically all the bacteria of the ingested food.

The acid stomach secretion during normal gastric digestion, and after the food has all passed into the duodenum, by its inhibiting and destructive bacterial action, will sterilize the stomach, so that after from eight to twelve hours no bacteria can be found in its cavity.

Experimental investigation has also shown that any part of the intestine will finally become amicrobic when it has emptied itself of its contents; hence we may utilize these facts in some of our intraperitoneal operations and sterilize the stomach and some part of the upper intestine by giving the patient no food by the stomach for several days before he is operated on; or, when the patient's condition will not admit of this, give sterile liquid food, and have him cleanse his mouth frequently with some efficient antiseptic liquid for a few days.

These facts also tell us that the infectivity and virulence of bacterial invasion of the peritoneum is measured by the relative number and pathogenic powers of the bacteria that enter the peritoneum from the different parts of the gastrointestinal tract, the virulence being greatest when the infection occurs from the lower part of the ileum with the maximum intensity at the ileocecal and appendicular region. In perforative duodenal ulcer the leakage into the peritoneal cavity is often free of pathogenic bacteria and does not cause diffuse suppurative peritonitis, and when infective bacteria are present they are usually so mildly pathogenic that the resultant peritonitis remains local or spreads so slowly as to admit of successful surgical interference. Because of these facts and the relation of the duodenum to the liver, gall bladder, gastrohepatic omentum and suspensory ligament, not only is diffuse peritonitis often prevented, but the perforation is closed by peritoneal exudation and adhesion to adjacent structures. This would not be true, however, in imperfect gastric digestion with hypochlorhydria or impaired stomach drainage, for a feeble acid secretion would not inhibit bacterial growth in the ingested food, and when the food is retained too long in the stomach the putrefactive changes encourage bacterial growth; nor is it true in cases in which only liquid food containing pathogenic bacteria is taken, which carries the germs so quickly into the duodenum that no inhibiting effect can be exercised by the gastric secretions. Even in normal digestion and drainage the infectivity of the leakage would be increased when the duodenal perforation occurs with the stomach filled with undigested food.

The above applies in a modified form in pyloric perforation, because of the character of the contents in this part of the stomach, and also because of its relation to adjacent structures to which it may quickly form adhesions to close the perforation, or to localize the infection. This is not true, however, in ulcerative perforation of the cardiac end of the stomach, because the anatomic relations are so entirely different as to minimize the protecting influence of adhesions to adjacent structures in closing the gastric opening or in limiting the area of infection, and also because of the greater number and virulence of the bacteria in the leakage, for these perforations often occur with food in the stomach containing bacteria that acid secretion has not destroyed and the growth of which may have been but feebly inhibited. Clinical observation has shown this to be true, because of the fact that while only 10 per cent. of gastric ulcers are found in the cardiac part of the stomach, less than 50 per cent. of unprotected perforations are in the antrum.

In addition to the bacteria that ferment carbohydrates and cause putrefaction of the proteids, various pathogenic bacteria are constantly in the gastrointestinal tract, and, under favorable conditions, develop their highest degree of virulence and destructive effects, some being mildly and others virulently pathogenic, causing pathologic conditions characteristic of the particular germ. The germ may manifest its pathogenic powers in the intestinal mucosa membrane, may invade the intestinal walls and enter the circulation, causing septicemia, or pass directly through the intestinal walls, or indirectly through the blood currents to the peritoneum and cause acute peritonitis, local, spreading, diffuse or general. But we are especially interested in the pathogenic bacteria that are usually found in acute suppurative peritonitis, and which, with the exception of peritoneal septic infections from the uterus and its adnexa, nearly always pass to the peritoneum from the gastrointestinal tract or its appendices. Flexner has made a thorough study of peritonitis from this point of view. The bacteria that cause nearly all virulent acute peritoneal suppurative infections are the streptococcus, staphylococcus, colon bacillus and typhoid bacillus. While the colon bacillus is now the only recognized normal and constant inhabitant of the intestine, the streptococcus, staphylococcus and typhoid bacillus are present as the result of repeated introduction in the food; but the gas bacillus of Welch may occur as a normal inhabitant, and may be a factor in causing peritonitis.

The extent to which bacterial symbiosis or bacterial antibiosis increases the activity of bacterial growth and virulence, or inhibits bacterial growth and virulence in the gastrointestinal tract, or in the tissues or liquids of the body, has not been determined and may never be, for it is possible that the results of experimental cultural research *in vitro* may give an imperfect idea of what occurs *in vivo*. Nor has experimental research resulted in a consensus of opinion as to the invasive power of intestinal bacteria through an intact and normal epithelium. Herter claims that the normal epithelial cells of the intestine prevent the passage of bacteria into the body tissues, but Metchnikoff believes that during active normal digestion this is not true, and because of this belief it has been the practice in the Pasteur Institute never to take the serum from a horse until gastric and intestinal digestion is nearly completed and not until the phagocytes have destroyed the invading bacteria. He believes that bacteria increase in number in the intestine after the ingestion of food, probably to aid in some way digestion; and as the digested products are absorbed, some bacteria also enter the tissues and fluids of the body. Let this be as it may, it is probable that the intestinal epithelium is seldom in its entirety intact and normal, and it is often subjected to bacterial vaccination by hard, sharp, undigested substances, or by intestinal parasites. The constant presence of a layer of mucous on the walls of the gastrointestinal tract may not only prevent self-digestion of the tissues, but may also offer a mechanical protection to the epithelium against bacterial contact and invasion.

Metchnikoff, in examinations of appendices removed by operation, has found the oxyuris imbedded in the mucous membrane surrounded by an inflammatory zone, and has found similar traumatisms by other parasites here, as well as in other parts of the intestine, and-it is well known that the ascaris sometimes penetrates the intestinal wall and enters the peritoneal cavity. I have had such cases.

However, bacteria that under favorable cultural conditions may become virulently pathogenic and invasive, may remain continuously in the intestine and cause no trouble, probably because of the inhibiting power of the non-pathogenic bacteria and the acid in the intestinal secretions generated in the fermentation of the carbohydrates. These inhibiting energies, aided by the more rapid movement of the liquid contents of the jejunum and upper ileum, may account for the relatively few bacteria in this part of the intestine, for the growth of most bacteria is impeded in a liquid kept in active motion. In the lower ileum the movement of the liquid contents is greatly impeded by the ileocecal contraction, which only admits the liquid into the cecum as it is needed for the completion of digestion and absorption in the ascending colon. Here again the liquid is retained by the contraction at the hepatic flexure and kept in nearly constant motion by an alternate reversal of peristalsis until nearly all the remaining nutriment and much of the liquid have been absorbed; when finally forced into the transverse colon most of the pathogenic bacteria have disappeared, and when the feces enter the rectum the bacterial flora are relatively few and the pathogenic bacteria may not be cultivable.

As acute suppurative peritonitis is often caused by the invasion of pathogenic bacteria from the organs contained in the pelvis, it is well to consider briefly the bacterio-biology of the vagina, uterus, Fallopian tubes and urinary bladder.

While in normal digestion and perfect health the gastrointestinal tract is always inhabited by an extensive bacterial flora, aërobic, anaërobic, non-pathogenic and pathogenic, we find no pathogenic bacteria inhabiting the upper part of the vagina, the cavity of the cervix or body of the uterus, or in the bladder when these organs and the kidneys are in a state of health, and pathogenic bacteria are only found in diseased conditions of these structures, having been introduced from without by infected media.

With an intact and normal epithelium of the urinary tract, bacterial growth is inhibited and the urine is free of bacteria and in no sense infective. But any part of the tract or the entire tract may become infected by the tubercle bacillus introduced through the kidneys, or by pyogenic germs of any degree of infectivity introduced through the urethra, and under such conditions acute suppurative peritonitis may result from perforation or rupture of the bladder.

Pathogenic bacteria may be abundant at the vulva and in the lower part of the vagina, but they can not be cultivated from the secretions of the upper part of the vagina or in the neck or body of the uterus, the acid secretions of the lower half of the cervix and the vagina positively inhibiting bacterial growth. When cultures of pathogenic bacteria have been made from these secretions there had been a previous infection, or the bacteria were conveyed to the secretions from the vulva, because of the imperfect methods of the experimenters. The uterus and Fallopian tubes may be infected, however, by bacteria of all degrees of pyogenic and pathogenic virulence, resulting in mild or fatal forms of toxemia or septicemia or local and diffuse acute suppurative peritonitis.

Peritonitis from a gonococcal infection is never more than local, and when the gonococcus is found in diffuse peritonitis it is always associated with some more virulently pathogenic germ, the gonococcus having probably been the cause of the initial stage of the infection but being incapable of causing general peritonitis. Streptococcal infection is relatively more frequent and virulent in puerperal suppurative peritonitis than peritonitis caused by bacterial invasion from the gastrointestinal tract, and while some surgeons report a few successful results following laparotomy, Williams, in a broad experience, has had no patient recover, and, in fact, streptococcal peritonitis from a ruptured tube or pelvic abscess has nearly always caused death. In puerperal general peritonitis the streptococcus is probably the causative agent in about 40 per cent. of cases. The symptoms are usually very acute, culminating, with well-developed clinical and anatomic disturbances. While we may find in general puerperal peritonitis the streptococcus, the staphylococcus, the colon bacillus, the typhoid bacillus, the gas bacillus of Welch, the gonococcus and other bacteria, it is probable that in nearly all fatal cases the virulently infecting germs are the *Streptococcus pyogenes* and the *Staphylococcus pyogenes aureus*, the most actively virulent and invasive being the streptococcus.

But in peritonitis the same bacteria is not always equally pathogenic and invasive, and the resistance to bacterial growth and invasion may vary in different persons and in the same person under different physiologic conditions. The degree of virulence of any bacteria depends on its activity of growth, with a corresponding secretion and excretion of toxic substances which are diffused into the body tissues and are destructive to the vital functions on which life depends.

It is true that in all cases of suppurative peritonitis there is bacterial invasion, but it is not the bacteria that cause injury to the tissues or death of the patient, but the resultant chemical poisons of bacterial growth. Both the bacteria and the toxic products invade the body tissues through lymphatic or venous channels, but in all cases of peritonitis the endothelium is at least in places eroded.

The lymphatic capillaries are always closed and never have open communication with the serous membranes, blood vessels, intestinal epithelium or connective tissue, and the belief that there are permanent lymphatic channels of communication into the peritoneum of the diaphragm or any part of the peritoneum is based on erroneous data of observation.

Were it not for the antagonizing and destructive energies inherent in the fluids and tissues of the body against bacterial invasion and growth, life would not be possible; then let us consider the source of these energies, how they are manifested, and how best to preserve or to increase their efficiency in the treatment of acute peritonitis.

Volumes have been written and many conflicting theories offered to explain natural, acquired, active and passive immunity to the invasion of pathogenic microbes, but there is no consensus of opinion by the best authorities who have devoted their life work to experimental research in the laboratories of physiology, chemistry, bacteriology and pathology. In many things they all practically agree, but in other things they differ widely, and in some particulars their theories are contradictory. All was chaos until Metchnikoff discovered and demonstrated the resisting and destructive energies inherent in the leucocytes to bacteria, and if natural or acquired immunity is to aid in the prevention or cure of acute peritonitis, it must be by the acceptance and practical application of his theories. It may be necessary to sensitize the bacteria by some chemical product in the blood serum before they can be ingested and digested by the leucocytes, or before positive chemotaxis can be established, but this sensitizing or chemical product or products can not be formed in and by the blood serum *per se*, but must be derived from the active and vital cells of the body.

Experimental research may demonstrate finally that the extracellular chemical product of bacterial growth may sometimes be more protective than destructive in acute peritoneal infections by causing a positive chemotaxis, thus enabling the phagocytes to injest the bacteria before extensive invasion, and before bacteriolysis has liberated the intracellular toxic substances into the tissues of the body. It may also be true that a negative chemotaxis is not caused by an excess or an intensely poisonous product of extracellular bacterial growth, but because of an absence of the extracellular product. Phagocytosis would then be impossible, and bacterial invasion and growth would encounter but feeble resistance, and, finally, bacteriolysis would distribute a lethal dose of intracellular poisons into the vital tissues of the body. It is probable then that toxemia is caused by the bacterial endotoxic product.

Enzymes formed in the protoplasm of the leucocyte cause bacteriolysis of the ingested microbes and destroy their toxic products, and it is probable that the leucocytes excrete enzymes into the blood serum that sensitize the bacteria. If this be true, then anything that increases leucocytosis will correspondingly increase phagocytosis. With the exception of virulent bacterial invasion with a negative chemotaxis, all acute pyogenic or septic infections stimulate an increased leucocytosis and a more destructive phagocytosis. This being true, we should avail ourselves of any means that may give a better leucocytosis and avoid everything that may lower leucocytosis.

This may not harmonize with Wright's opsonic theory, which makes phagocytosis secondary to and dependent on some special chemical substance inherent in or introduced into the blood or other body liquids, but there is possibly no positive proof of the correctness of Wright's theory, and its general acceptance may depend on more successful results in experimental research *in vivo* as well as *in vitro*. But, granting all that Wright claims, the opsonic index can be of no positive value in the treatment of acute peritonitis, for a corresponding vaccine can not be cultivated in less than twenty-four hours, and the positive phase is usually twenty-four hours after vaccination—too late to be of benefit—for within forty-eight hours after operation these patients will not need the vaccination, or a condition will have developed that will resist any treatment; and if vaccinated in a negative phase it may be positively harmful and cause death by lowering the opsonic index.

A stock sterilized bacterial emulsion is contraindicated in vaccine therapy in these cases, because we can never identify the infecting microbe until after operation, and we then often find a mixed infection.

It will thus be seen that in vaccine therapy by the opsonic index the bacterial emulsion will not be corresponding, unless the preparation be autogenetic, and this should be especially emphasized, even in the pure streptococcal infections, because of the variety of strains. The use of antistreptococcal serum in supposed streptococcal infections has resulted in no positive benefit, and but few surgeons or pathologists have confidence in its efficiency. This applies equally to the polyvalent antistreptococcal serum made from the streptococci of several strains, and in tests made by Hektoen and Ruediger in the Memorial Institute of Infectious Diseases it has been shown by experimental research that the antistreptococcal sera in general use possessed a lower opsonic index for the strains of streptococci than normal horse serum.

But it has been shown by experimental research on laboratory animals in the Pasteur Institute that the injection of horse serum strengthens the body's resistance to infective bacteria; and the same has been demonstrated in surgical operations by Petit and Fernet. That this influence was mainly phagocytic is proved by the fact that the serum was heated to not less than 56 C., which probably destroyed all its opsonins, but did not impair its action on leucocytes. Following the operation, there was an increased leucocytosis and a corresponding decrease in the number of microbes which were ingested and destroyed by the phagocytes. Petit also claims success in pelvic suppurative peritonitis, treated by pouring into the peritoneal cavity 30 grams of heated horse serum before closing the abdomen; and it is possible that practically the same result may follow pouring into the peritoneal cavity normal saline solution, or by the subcutaneous or intravenous use of horse serum, or normal saline solution.

Murphy has demonstrated that the colon will absorb a great quantity of saline solution introduced slowly, but the theory that the good results are from a reversal of the lymphatic current is probably not correct, for this is improbable in both lymphatic and venous absorption, because of the valvular protection against a return current. This, however, does not negative the value of Murphy's demonstration of the therapeutic aid of colonic absorption of saline solution following surgical treatment of acute suppurative peritonitis, and it is possible that results will justify its universal adoption. It fills the blood and lymph vessels, stimulates the circulation, improves nutrition, increases leucocytosis and results in a more destructive phagocytosis of the infecting microbes on the peritoneal surface and in the body tissues and may aid in destroying or eliminating the toxic products. Murphy does not offer any theory to explain the results of colonic saline absorption, but gives clinical reports only. While other means increase leucocytosis and phagocytosis, it is possible that the rapid and continuous stimulation of the blood and lymphatic currents by colonic absorption of saline solution in many cases may supersede all other methods, not only in acute peritonitis, but in all forms of bactericmia and toxemia. It may also be well to use the saline solution or horse serum subcutaneously before an operation and to pour one or both into the peritoneal cavity before closing the abdomen. The lamented von Mikulicz, recognizing the efficiency of the phagocytes in antagonizing the invasion of pathogenic bacteria, caused an increase of leucocytes to 24,000 per one cubic millimeter by injecting subcutaneously neucleinic acid twelve hours before operation; and a similar increase in leucocytosis may result from the use of collargol and other means; but until experimental reascarch has convinced us otherwise we would better confine ourselves to the use of saline solution or the horse serum to cause increased phagocytosis and resistance to bacterial invasion and growth. Human serum immediately prepared from a normal individual and poured into the peritoneal cavity before closing the abdomen may cause a rapidly increased leucocytosis and a better phagocytosis, but experimental research must demonstrate the correctness of this suggestion.

In using means to increase leucocytosis and to develop a more efficient phagocytosis, we must not forget to avoid everything that will tend to lower the leucocytic count or to weaken phagocytic action. Opium, a remedy formerly much used and still used by many physicians and a few surgeons in the treatment of acute local, diffuse or general peritonitis, is positively harmful and is contraindicated before or after the operation. Experimental research has demonstrated that even in small doses it is harmful, because it quickly lowers the leucocytic count and weakens the phagocytic action against the invading microbes. While the immediate effect of alcoholic stimulation may temporarily increase phagocytosis, it is well known that persons who use it continuously or freely have a weakened resistance to many infectious diseases; therefore, if it has any place in the treatment of acute peritonitis, it should be used with much discretion. This conclusion is justified by a series of experiments by Déléarde, of the Pasteur Institute in Lille, and by Abbott and Laitinen.

Time will not permit me to enter further into the discussion of remedies that impair the power of phagocytes to ingest and destroy the invading bacteria; but I must insist on the avoidance of purgation; for anything that causes a flow of liquid into the intestine or increases peristalsis is positively injurious, because it weakens resistance to bacterial growth and encourages spreading of the peritonitis. The stomach may be emptied by lavage, and the colon by enemata, but the small intestine should not be disturbed, and if greatly distended by liquid and gas that will not pass into the large bowel it is better to empty it by enterotomy during the operation, for purgatives in such cases would increase the quantity of liquid and encourage intestinal paresis.

In the treatment of acute peritonitis, we may assume that pathogenic bacteria do not pass from the intestine through a normal intact epithelium, and that they do not pass into the peritoneal cavity through a normal intact endothelium. We may likewise assume that neither bacteria nor their toxic products pass from the peritoneal cavity into the body tissue through a normal intact endothelium. There are no peritoneal stomata, and the supposed openings are artefacts. The bacteria enter the peritoneal cavity through perforations or wounds from adjacent cavities, or through an endothelium after a pathologic condition has impaired or destroyed its nornal resistance to microbic invasion; and the bacteria and their toxins pass from the peritoneal cavity into the body tissues through lymphatics or blood vessels, after injury or erosion of the endothelial cells. The intestinal lymphatics are superficial and deep—under the endothelium and above the epithelium—with intercommunications, but they never encroach on the endothelial or epithelial structures, or their derivatives. Muscatello has shown that, while the lymphatics underlie the entire peritoneal sac, the abundant supply is confined to the peritoneum covering the diaphragm, and that the flow of lymph is in this direction; hence, the relative rapidity of absorption in the apex of the upper abdominal cavity. The wisdom of this observation has been practically demonstrated in the successful results following peritoneal drainage in diffuse suppurative peritonitis, with the patient placed nearly in the sitting posture. If we are to get the best results in the treatment of these cases, it must be by the avoidance of everything that will encourage the absorption of toxic substances or the invasion of bacteria, and instead substitute the greatest possible resistance to such absorption or invasion. It will thus be seen that Clark did not correctly appreciate the hygiene of the tissues in resisting bacteriemia and toxemia when he treated acute peritoneal infections by placing the patient in a position to encourage diaphragmatic absorption. We must avoid peritoneal traumatism and remove intraperitoneal pressure in order to develop an effective phagocytosis of the bacteria and their toxic products on the surface or in the tissues of the peritoneum and encourage a peritoneal fibrinous exudate that may prevent microbic invasion or the absorption of the products of bacterial growth. It may be that in some cases of mixed infection, the *Staphylococcus albus,* which is mildly infective, may quickly cause a fibrinous protection, because of its more vigorous growth, before the more ineffective germ can become virulently pathogenic.

Our experience in the surgical treatment of pathologic conditions that cause acute peritonitis clearly indicates that we may usually prevent diffuse or general suppurative peritonitis by early surgical diagnosis and prompt removal of the foci of infection. If we operate under favorable environment for acute cholecystitis or appendicitis, before the infection has extended into the peritoneal cavity, the mortality will be practically *nil,* and we will not have 1 per cent. of diffuse, suppurative peritonitis; and these diseases may generally be diagnosed before gangrene or perforation, or bacteriemia and toxemia. If a differential diagnosis can not always be positively made between inflammation of these two structures, or any structure in the upper right quadrant of the abdomen, the symptoms will be sufficiently significant to justify an exploratory incision; and through the same incision the appendix, gall bladder, bile ducts, pancreas, duodenum and stomach may be exposed and successfully treated. In infections through the uterus or its adnexa, with the exception of virulent puerperal streptococcal infection, a diagnosis may be made before the peritonitis has extended beyond the pelvis, and the infected structures may be removed through a suprapubic incision. Diffuse suppurative peritonitis may often be prevented in unprotected gastric or duodenal perforation if operated on within a few hours, for the leakage into the peritoneal cavity is then usually sterile, or but mildly pathogenic, and if the perforation be successfully sutured these patients may recover without even local drainage.

Bearing on this point, I find the following in a recent letter from Moynihan:

"I do not consider the cases of perforating gastric ulcer or duodenal ulcer as cases of diffuse peritonitis. In the early cases I found an infection of the peritoneum, but in recent cases the cultures taken have usually been sterile."

In his early cases the operations were delayed, while in his recent cases they were timely. In the experience of Moynihan, gastric and duodenal perforations never come unannounced, but are preceded by significant symptoms for days, weeks or months. Under these conditions, in some cases may we not be justified in anticipating perforation by an exploratory incision and treat the conditions found as a preventive against perforation? But in any event we should be prepared to operate immediately after the perforation. Moynihan does not believe that drainage is necessary except in late cases, and then it should be through a suprapubic opening, with the patient in nearly the sitting posture. But in typhoid perforations, or perforations caused by projectiles, in the lower ileum, the leakage contains germs that are so quickly pathogenic as to cause peritonitis within a few hours. There are exceptions to this, however, in gunshot perforations on the battle-field, with modern rifles of small caliber, fired at long range, and with hard bullets that do not expand and pass through the intestine with an absence of explosive energy, leaving an opening so small as to minimize leakage. Experimental research has shown that when the intestine is wounded the afferent part is, for the time being, in a passive state, peristalsis having been inhibited. This removes pressure on the intestinal contents, lessens leakage, and admits of narrowing of the opening by muscular contraction, thus enabling closure of the wounds by plastic exudation. While this result is probably the exception, statistics show that in abdominal wounds on the battlefield, where the operation must necessarily be delayed and performed under bad environment, the mortality is increased by laparotomy and suturing wounds in the gastrointestinal tract. This does not apply to surgery in civil practice, where the patient can be operated on promptly and under favorable conditions. In these cases the perforations are usually inflicted at short range, with a large soft bullet, with a maximum of expansion and explosive energy, resulting in such extensive injury to the gastrointestinal tract as to cause death in nearly every case unless the visceral wounds be sutured within a few hours; and it may also be necessary to cleanse the peritoneal cavity of fecal matter and to use suprapubic drainage.

In gunshot wounds of the stomach, if both walls be perforated, it may be necessary to drain the small omental bursa through the gastrohepatic or gastrocolic omentum, or to establish posterior drainage. This is especially indicated in cases in which the projectile passes through a stomach filled with liquid, because the explosive energy imparted to the liquid medium mutilates the posterior wall and the tissues behind it, and if this traumatized area is not drained these patients will all die either of toxemia or sapremia, or of a mixed bacterial and sapremic infection.

Ochsner's belief that intestinal peristalsis is the most efficient means of distributing infection and causing diffuse peritonitis in cases of appendicitis is probably correct, and the treatment by which he causes a relatively passive state of the intestine is also the best, and has done much good in delayed appendiceal cases when intelligently comprehended and practically followed; but unfortunately many physicians and surgeons have misinterpreted his meaning and have not been able to observe his methods, and as a result have caused more deaths by delaying operation than they have saved lives. Also, many physicians who know but little about Ochsner's treatment in localizing infection in appendicitis refer to him as a distinguished authority to justify them in advising against surgical treatment in all acute cases of appendicitis, and then continue to treat the cases by purgation and opium. But if Ochsner's treatment is not to be accepted in its entirety, let us indulge the hope that it may eventually, at least, convince the medical profession of the great evil of purgation in acute appendicitis and of the protection to our patients by gastric lavage and unloading the colon of fecal matter by rectal enemata until the appendix can be removed. Gastric lavage and an empty stomach may also relieve the intense pain in acute cholecystitis, and when an operation will not be permitted, or for any reason is delayed, may aid in preventing perforation of the gall bladder and diffuse peritonitis.

In a careful study of the statistics of all reported operations for diffuse or general peritonitis, the conclusion is incontrovertible that in many of these operations for gastrointestinal perforations performed early there was no peritonitis and often no pathogenic or but mildly pathogenic germs in the leakage. This is especially true in operations for perforations in the stomach, duodenum, jejunum, descending colon and rectum, and in leakage from bladder wounds. This does not, however, negative the fact that these patients should be operated on promptly, and the openings closed, for otherwise local and diffuse or general peritonitis will result and often cause the death of the patient, with or without surgical intervention. Therefore, if we wish to give our patients the best protection, we should operate as soon as a diagnosis is made, in every case of perforation into the peritoneal cavity, or intestinal obstruction from any cause, for but few of these patients will recover without an operation, and the dangers of an operation are multiplied in an increased ratio by delay. The mortality in delayed operations in typhoid perforations, and in perforations of the appendix, or of a pelvic abscess, of primary virulent streptococcal infection, will be practically 100 per cent. The lowest mortality in any series of typhoid perforations operated on promptly is not under 75 per cent., and nearly every case of puerperal peritonitis of streptococcal origin has resulted fatally under any treatment. Experimental research *in vitro* and *in vivo* in primary streptococcal diffuse suppurative peritonitis may finally show that all the strains are not equally virulent in this disease, but this may be of no practical value in the treatment. In many of the most virulently infective cases of streptococcal appendicitis, the peritonitis is localized by fibrinous exudations, but the germ is malignantly invasive and the toxic products lethal. Diffuse or general appendiceal peritonitis does not always indicate a virulent infection, for a germ of relatively mild pathogenic powers may cause a rapidly spreading peritonitis, because there are no fibrinous exudations and adhesions formed to isolate it. Such a case convinced me many years ago that all cases of general suppurative appendiceal peritonitis are not necessarily fatal. The patient was operated on seventy-two hours after the first symptom of appendicitis. His temperature was 104, his pulse 140, and his abdomen distended and muscles rigid. Pus was found in great quantity in the peritoneal cavity, from the diaphragm to the pelvis, and the peritoneum of the viscera and walls was inflamed and red, but there were no adhesions, and the peritoneum was moist and nowhere blistered or badly eroded. Irrigation was not used, but the wound was left open, and the cavity drained with a rubber tube and gauze. Twelve hours after operation the man's temperature and pulse were normal and his recovery was prompt and uninterrupted.

I have confined my remarks mainly to scientific principles as a basis for an intelligent understanding of the most essential things necessary in the prevention and treatment of acute, suppurative peritonitis, and have purposely avoided clinical reports of my cases; nor have I given the statistics of other surgeons to whom humanity owes a debt of gratitude, for these reports have been so accessible in recent medical literature that a repetition before this exceptional audience would be telling facts with which you are entirely familiar. However, I would suggest that future statistics of operations for acute, diffuse and general suppurative peritonitis, to be of the greatest value, must be based on more scientific principles and more accurate data of observation.

In conclusion, let me emphasize in a general way a few things, on the observance of which may mainly depend our future success in the operative treatment of all perforations into the peritoneal cavity; and in the prevention and treatment of local diffuse and general peritonitis from any cause.

1. Operate as soon as a surgical diagnosis is made and avoid purgation and opium before and after the operation. Give no food or liquid, and if there is no gastric perforation empty the stomach by lavage, and remove fecal matter from the colon by rectal enemata.

2. Operate rapidly and, if possible, treat the foci of infection by suturing gastrointestinal perforations, or bladder wounds, by cholecystectomy or cholecystostomy, by appendectomy, or the removal of the uterus or its adnexa, always remembering to avoid peritoneal traumatism so as to protect peritoneal resistance to bacterial invasion and toxemia.

3. Expose or handle the intestines as little as possible, and do not separate adhesions or irrigate or sponge the peritoneal cavity. Establish drainage from the bottom of the pelvis through a suprapubic incision, and, if indicated, also drain the site of infection, using a large split rubber tube with or without gauze, with the patient in nearly a sitting posture.

4. Pour into the peritoneal cavity, before closing the abdominal wound, hot horse serum or saline solution to stimulate leucocytosis, and when the patient is returned to bed use saline solution by rectum, after the fashion of Murphy, and, if necessary, use the horse serum or saline solution subcutaneously.

5. Enterotomy is never indicated, except in some delayed cases of intestinal obstruction or paresis, and it should then be performed quickly and with a minimum exposure of the intestine; enterostomy is contraindicated.

6. Physicians should be educated to impress on their patients the fact that acute diffuse and general peritonitis may usually be prevented by the early surgical treatment of gastric or duodenal ulcer, cholelithiasis and cholecystitis, appendicitis, tubal and ovarian infections,

and acute intestinal obstruction; also in many cases of gastric and duodenal perforations.

Finally, let me emphasize the fact that the treatment by purgation, opium and delay of the pathologic conditions that cause acute local, diffuse and general peritonitis, and bacteriemia and toxemia, has caused more deaths during the last ten years than have been sacrificed on the battle-fields of the world; and that in this progressive age of civilization he who obstructs the progress of science, medicine and surgery in the prevention and cure of disease and the prolongation of life, is committing an offense against the state, humanity, morals and religion for which the ethics of his environment may cause the people to hold him to a rigid accountability.

LAW, THE FOUNDATION OF STATE MEDICINE.

ORATION ON STATE MEDICINE, DELIVERED AT THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, JUNE, 1907.

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If I seek for a justification of your action in assigning to so humble an individual as myself the distinguished honor of delivering the oration on state medicine on the present occasion, I find it in the fact, perhaps known to many of you, that the state which I represent has recently placed on its statute book the most comprehensive and effective legislation for the protection of the public health ever enacted in any state in this country, and that, armed with these strong and well-conceived laws, we in Pennsylvania have been able to accomplish certain definite results which have attracted the attention of sanitarians in all parts of the United States.

The advances which have been made in Pennsylvania have undoubtedly had their counterpart all over the land, although not in so striking a degree. Everywhere the people, and therefore the legislatures, which are but the reflection of the people, are waking up to the vast importance of official sanitary work. The growth of the Section on Hygiene and Sanitary Science in this Association and in the corresponding association in Great Britain attests the strong hold which this subject is gaining on the members of our own profession.

But especially is this last fact to be observed in the increased importance given and space assigned to hygiene in the annual addresses of the presidents of this body. Time was when if matters of this nature were alluded to at all in those papers they were dismissed with a cursory allusion as of very inferior interest and importance, while now it is nothing unusual for the larger portion of the address to be given up to such themes. It is beginning to be seen that preventive medicine is of as serious import for the welfare of humanity as remedial medicine; and remedial medicine is finding her resources enlarged and her scope broadened by the addition to her armamentarium of biologic products, the first search for which was inspired by the desire to produce prophylactics against contagious diseases.

STATE MEDICINE THE ROOT OF HAPPINESS AND SUCCESS.

It is not too much to say that on state medicine depends the happiness of our people and the success of our nation. The varied industries on which we depend for our comforts, the wealth which enables us to enjoy them, and the arts of civilization which adorn and diversify our lives are but the fruitage of the tree whose root is health. The nation which is vigorous in its individual citizens will be strong as a whole. It was not so much the fire and sword of the Goth that devastated the fair fields of Italy and made proud Rome a heap of ruins as the physical degeneracy of a race enfeebled by luxury and the diseases which luxury entails, and ravaged by pestilence.

It is health that nerves the arm that wields the hammer and the sword, that gives keenness to the eye that sights the gun and that penetrates the mysteries of the microscope, that lends acuteness to the brain equally of the statesman, the inventor and the merchant. Without it the arm falls inert, the eye grows dim and the brain dull. Health is the great engine whose throbs, like those of the motor of the Jamestown Exposition, touched by electrical fire, send energy through all the great machinery of a peopled continent.

It is not enough that we should acquaint ourselves with the general principles of this great science of the health of a nation. We must become familiar with the minutest details of the methods by which those principles may be put into practical application.

No more striking object-lesson of this truth could have been given than the experience of two great nations in their conduct of recent wars: America, the boasted seat of applied science and center of illumination, possessing the full knowledge of the laws of hygiene, lost manyfold more of her brave troops on her own soil by preventable disease than by shot and shell at the seat of hostilities. Japan, just emerging, as we are accustomed to phrase it, from the sleep of ages and who had been sitting at the feet of other nations to learn the rudiments of hygiene, made such admirable practical use of her knowledge of the principles thus acquired that she astonished the entire civilized world by demonstrating the possibility of conducting a war on a gigantic scale and under most adverse conditions, in which the deaths and disabilities from disease should be actually less than those from wounds; in which, indeed, the mortality from general causes should scarcely exceed those under ordinary conditions of life. As in war so in peace. It is not enough to possess an intimate knowledge of general laws; we must know how practically to apply these laws. And, more than that, we must possess sufficient self-control, both individually and collectively, to be willing to submit to the enforcement of the legal enactments designed for their application. Of what avail would all the wise precautions of the Japanese army surgeons have been if their troops had, like our volunteers, gorged themselves with all manner of indigestible food and drunk from every wayside pool, instead of confining themselves to the army ration and using only such water as was allowed by the medical officers. The Japanese soldier was so thoroughly a patriot that he was willing to deny himself, and to control his appetites, and he had sufficient intelligence to know that the restrictions placed on him by the authorities were designed purely for his own good and to make him better fitted to serve his country.

SANITARY LAWS NOT ANTAGONISTIC TO TRUE PERSONAL LIBERTY.

It is idle to prate of the enforcement of sanitary laws as an infringement of personal liberty. Submission to reasonable personal restrictions intended for the welfare of all is the very foundation stone of civilized liberty.

The individual who insists on what he is pleased to call his own rights in defiance of law and to the detriment of the common weal is "an undesirable citizen of the republic." If we are to aim, in the language of Dr. Parks, to render growth more perfect, decay less rapid, and life more vigorous, in civilized life we must give up many primitive or individual liberties to insure advanced civilized liberties and to permit a free social and commercial intercourse.

One more factor in bringing about the wonderful achievement of the Japanese army must be mentioned, and that is the high rank accorded to their medical and sanitary departments. In their particular branch of the service these men were supreme. In all great movements they were consulted. Unless a military necessity prevented, they supervised routes of march, sources of water supply and sites for encampment.

DUE RECOGNITION REQUIRED FOR THE MEDICAL AND SANITARY SERVICE.

So long as the medical service is made subordinate or inferior to the strictly military service in our own army, so long will repetitions of the disgraceful slaughters of Camp Alger and Chickamauga be of common occurrence in our military operations. In all matters pertaining to the health of the troops the medical staff of an army should be *the* authority, and in all councils of war their voice should be of equal authority with those of the combatant officers. If, as a great warrior declared, "Providence is on the side of the heaviest battalions," then, other things being equal, success will attend that army whose officers keep the greatest number of fighting men in available condition.

What but the skill of the medical officers of our army makes the present occupation of Cuba by our forces possible without frightful loss of life? What but their knowledge of the mysteries of the transmission of the *Plasmodium malariæ* and the yellow fever micro-organism by mosquitoes revealed to us by the Italian scientists and by Ross and Finlay, and of all the details of the methods of combating those pests acquired in Havana by Major Gorgas and his associates, has enabled us to undertake the stupendous enterprise of the construction of the great waterway by which is to be consummated the union of the Atlantic and the Pacific, and which has converted the Canal Zone from a valley of death into a region in which men can live and labor in health and safety?

Let me not be criticised as dwelling unnecessarily on the subject of military hygiene. The Army and Navy are an essential part of the body politic and what concerns their success concerns the welfare of the nation; but, apart from that fundamental fact, the problems of military and naval hygiene are not only akin to those of civil hygiene, but are often presented in a more concrete form which makes them easier to grasp. Especially is this so with regard to that last suggested. Just as it is the part of wisdom in a general to be guided in all matters pertaining to the health and vigor of his forces by the advice of his medical staff, so it is the part of wisdom in our lawmakers, when called on to legislate on subjects involving questions of health, hygiene or medicine, to consult scientific medical men, men who have devoted their lives faithfully and conscientiously to the study of these matters, rather than to lend an ear to the opinions of men learned in the law, perhaps, but entirely destitute of scientific knowledge, or to the vagaries of quacks and visionaries.

It is a frequent remark that in a representative government health laws can not go far in advance of the intelligence of the people, all of whom, illiterate as well as educated, foolish as well as wise, have the right of suffrage.

And, unfortunately, pseudo-scientists and acute legal gentlemen who are ready, for a consideration, to undertake to prove the worse the better cause on any medical or scientific subject, no matter how profound, swarm in every lobby. For such pernicious intermeddlers and busybodies, the proverb of the old Romans, "*Ne sutor ultra crepidam*," "Let the cobbler stick to his last," would be an effective argument, if any argument could avail against such brazen effrontery. Modesty as a point of attack being barred, is not the suggestion worth consideration that the scientific men who in one way or another occupy official positions in connection with a state government should regularly and as a matter of course be called on for advice in the decision of all questions involving scientific knowledge and training?

Let us give our legislators credit for, in the main, honestly striving to arrive at just conclusions on such questions. How are they to distinguish with any certainty between the false advisers and the true? How judge between the honorable men of science whose only goal is the truth and who seek to promote the public welfare, and the selfish pretender whose end and aim is to fill his pockets from the public purse, or the wild visionary who, deluded by some *ignis fatuus* of his own imagination, seeks to delude others? How, unless the government formally calls on the scientific, thoroughly educated medical and sanitary experts connected with her various services and departments to consider questions of this kind coming before Congress and to advise as to their solution in the interest of the nation's welfare, giving their reasons for such advice? If a provision of this kind were satisfactorily established in connection with the national legislature, the states would not be long in following the example thus set. Still better would be the proposition already advocated more than once by this Association, to establish a Department of Health, with a Secretary of Health at its head who should have a seat with the President's advisors, and who would make it one of his urgent duties to keep legislation of this character under close scrutiny, and to see to it that no member voted wrongly for lack of accurate information and definite explanation as to the merits of a question. The fact that medicine has become a great science and that preventive medicine is one of its most important branches imposes on the government the solemn duty of exercising a wise paternal care for the health of the people so far as the majority will allow.

This will still leave open a great opportunity in this direction for the educated and public-spirited physician; for the intelligence and knowledge of the masses in regard to such matters depend not only or mainly on the little smattering of sanitary knowledge acquired at school in early life, but on the frequent, intelligent imparting of such knowledge by the medical man to his patients. By the sick bed, at the fireside, in the social circle, the physician has constant opportunities of conveying valuable and much needed instruction and of combating the erroneous teaching of fanatics and charlatans.

COMPULSION NOT PERSUASION THE KEYNOTE OF STATE MEDICINE.

Let it be understood at the outset, however, that, no matter how great efforts we may make to educate the people, unless we have the *lex scripta*, the written law, to fall back on, state medicine, while it may be a beautiful science, can never be a practical art. The limitations of human nature forbid. Under the stress of agonizing illness or in the paralyzing presence of a great epidemic people will be impressed for the moment with the necessity for sanitary restrictions and submit to them with tolerably good grace, but the moment the pressure of fear is lifted from their hearts self-love resumes its supreme sway. We are reminded of the legendary episode in the history of the Great Adversary in which it is recorded that:

> When the Devil was sick,
>   The Devil a monk would be;
> But when the Devil got well,
>   The Devil a monk was he.

No, we must trust to no such temporary amendments or death-bed repentances, but must fairly and squarely recognize the fact that, during conditions of ordinarily good public health, the great majority of mankind are neither wise enough voluntarily to submit themselves to the requirements of sanitary law for the sake of preserving their own health and those of their loved ones, or righteous enough to be willing to exercise self-denial and repress the cravings of avarice to save others from sickness, suffering and death. It is gratifying to be able to record the fact that we have a conspicuous example to the contrary in the great and good Chief Magistrate of this nation who has recently cheerfully submitted to all the irksome requirements of domiciliary quarantine in order that the micro-organisms that produce disease might not invade other homes outside the portals of the White House. His example will do much in this as it has in many other ways to aid in the enforcement of righteous laws.

But the laws we must have. These laws must reach into all the relations of human life. As their basis they must start with the prompt and accurate registration of births, deaths and marriages, and of the presence of transmissible and communicable diseases, and they must embrace the control of epidemics by domiciliary quarantine; the employment of prophylactics and disinfectants; the supervision of the transportation both of the quick and the dead, and the burial of the dead; the construction, heating and ventilation of our homes and public buildings; the protection of water supplies and the restoration to purity of our polluted streams and lakes; the manifold occupations and industries of the people; the protection of food stuffs, including milk and other beverages, and of drugs, from adulteration and impurity; the education of physicians, dentists and veterinarians, and the barring of our doors against the introduction of communicable diseases and pestilences from foreign countries.

To accomplish these manifold and diversified ends, certain of these subjects, such, for example, as the prevention or the pollution of interstate rivers and streams, the prevention of food adulteration and the sanitation of public conveyances on interstate lines of travel both by land and water, must be controlled by federal law. Other subjects, such as the problems of rural and school sanitation and protection of state waters, must be regulated by state law, and still others, such as the sanitation of streets and sewers and the disposal of garbage, by municipal ordinances, each occupying its own legitimate sphere, all working together harmoniously for the common good of the nation.

THE AMERICAN RACE MUST BE PROTECTED.

Only by the enactment of judicious legislation of this kind, and its rigid enforcement when enacted, can we hope to perpetuate a vigorous race of American parentage on this North American continent, a race fired by the lofty ideals of our ancestors and nurtured in their traditions. Consider for a moment what manner of men they were and their object in seeking these shores:

Of whatever faith—Pilgrim or Quaker, Huguenot or Catholic—they came here *for* their faith and with the highest standards of right and righteousness; they were, moreover, men of good social standing in their own lands. In the face of the direst ills, and with the highest courage, they conquered these inhospitable shores and made of this land the granary of the world and, delving into its bowels, unearthed its hidden mineral wealth.

Contrast this type of men with those who form the constantly swelling tide of immigration which, attracted by the success of our efforts, is now sweeping in, actuated by no higher motive than the accumulation of wealth, bearing on its bosom the ignorance, the vices, the follies and the pernicious political heresies of the lowest and most dangerous stratum of European society.

THE LESSON OF HUSBANDRY.

In order to build up a race fitted to cope with these dangerous masses, we must combat the seeds which destroy the physiologic condition of the animal body in the same manner that mankind has always combated the seeds that destroy vegetable life. This latter warfare the human race has always acknowledged as possible and necessary for the preservation of the useful members of the vegetable kingdom.

The wise husbandman profits by the latest discoveries of science, as revealed to him in the bulletins of our national and state agricultural departments in order to determine the nature of the blight that is falling on his crops. He seeks the diagnosis of the disease that is attacking his trees, and seeks it from the men who, having patiently acquired an education in science as applied to the study of the pathology of plant life, have devoted their lives to making further discoveries in this domain.

If he finds his cornfield invaded by that troublesome creeping weed, the Canada thistle, he attacks it with the cultivator, the mattock and the hoe. If the San José or the oyster scale is ruining his orchard he sprays them with boiled lime and sulphur wash. If the tussock-moth is robbing him of his shade, he drenches his trees with solution of arsenite of lead, and if the potato bug is making inroads on the solonaceæ in the vegetable garden he attacks the beetle with Paris green. In each case he searches out the cause of the failing health of the vegetable organism and uses the means for the removal or destruction of that cause which science has taught him will be most efficacious, and he does this with reasonable assurance that health will be restored and life saved.

He knows better than to apply to a lawyer, a cobbler or a tailor for this life-saving knowledge. And yet when the life and health of the animal organism in the form of their loved ones are in peril thousands of otherwise intelligent people in our land scorn the advice of the educated scientific physician and throw to the winds the means and appliances which science has taught may be of service in combating disease, pinning their faith rather to the butcher, the baker, the candlestick maker, or to any nostrum seller, impudent charlatan or miracle monger who pretends to powers of healing. Wherein lies this curious difference between the diseases of vegetable life and those of animal life that in one the teachings of science must be followed and in the other set aside?

ANTIVACCINATION.

A still more reprehensible neglect to use the means which experience has placed in our hands for fighting disease is found in the case of the antivaccinationists. These misinformed people do not confine themselves to simple neglect of means, but set themselves in direct opposition to the requirements of state medicine having for their object the destruction of the contagion of the most devastating pestilence the world has ever known. It will require persistent vigilance on the part of the members of our profession who know the horrors of that disease to maintain this bulwark against its ravages.

ANTIVIVISECTION.

Another class of well-meaning but misguided persons who plant themselves directly in the way of advance in medical science are known as antivivisectionists. These kind-hearted sentimentalists would permit thousands of children to die rather than that a few dogs should suffer. If a foreign foe should attack our shores, they would send legions of our noble youth out to bleed, suffer and die in order to protect their homes and their possessions. They do not hesitate to make this supreme sacrifice on the altar of so-called patriotism. But if a physician, inspired with an earnest desire to provide a new means for the prevention of human suffering and death, makes an experiment on a dog or a guinea-pig, taking every possible precaution to minimize the pain to the animal, these tender-hearted persons hold up their hands in holy horror.

They do not pause to consider that diphtheria is a more relentless foe than ever carried a rifle or wielded a sword, and that but for experiments on horses tens of thousands of persons would now be sleeping in early graves who are to-day walking the face of God's earth rejoicing in the possession of health and happiness. They do not ponder on the agonizing convulsions which terminate the lives of those bitten by mad dogs and from which so many have been saved as the result of comparatively trifling suffering inflicted on a few animals. The founder of Christianity pronounced that a human life was of more value than those of many sparrows. It is the Hindu who considers the sparrow more valuable than the man. It affords me sincere satisfaction to be able to announce that at the session of the Legislature of my own state which has just concluded, a bill of this kind which would have absolutely put a stop to modern scientific research and would have forbidden the continued manufacture of diphtheria antitoxin, vaccine virus and all the curative and prophylactic serums in the state, after an obstinate struggle, was not only defeated but was dropped from the calendar.

RECENT SANITARY LEGISLATION IN PENNSYLVANIA.

Allusion was made at the opening of this address to recent legislation in Pennsylvania which has opened the way for unusual advances in sanitary administration. It will not be considered inappropriate, therefore, I trust, to refer to this body of legislation somewhat in detail, as some of its features may perhaps be considered worthy of adoption in other states. The first is the substitution in place of a State Board of Health of a Department of health with a single official at its head, under the title of Commissioner, such official having a seat in the Governor's cabinet. The increase in effectiveness due to concentration of authority, coupled with absolute power of initiative, can readily be understood. In only two states and one district had this form of administration been adopted previously, namely, New York, Texas and the District of Columbia, and with very satisfactory results.

The addition of an advisory board whose principal specified duty consists in the preparation of regulations in no way limits the executive powers of the commissioner.

The commissioner appoints all assistants and employés, assigning their appropriate powers and duties. He may issue subpoenas to secure the attendance of witnesses and to compel them to testify. He may issue warrants to any sheriff, constable or policeman to apprehend and to arrest such persons as disobey the quarantine orders or regulations of the department.

PURITY OF STATE WATERS.

Secondly, the same legislature which established the department and gave the commissioner such broad powers also placed directly and specifically under his charge all the waters of the state and laid on him the formidable duty of reclaiming them from pollution in an "Act to Preserve the Purity of the Waters of the State." Under the provisions of this act no new system of water works for the supply of water to the public, and no addition to a system already existing, and no new sewerage system or addition to a sewerage system already existing may be made without a permit from the commissioner, in whose office must be filed certified copies of the plans, surveys and descriptions of such systems.

When an application is received for the introduction or extension of a water works system, whether by a company or municipality, the plans submitted are carefully gone over by the bureau officers in the engineering division, and, after they have familiarized themselves with them, the field officers receive their instructions from the chief engineer for a careful survey of the whole water shed from which it is designed to draw the supply. This report is returned to the chief engineer, who, in turn, submits the same with his comments and suggestions to the commissioner. The officers of the municipality or directors of the company are then requested to meet the commissioner in consultation and the whole subject is thoroughly discussed, after which a decision is rendered. A board, consisting of the governor of the state, the attorney-general and the commissioner of health, is charged with the duty of deciding whether or not the general health of the public would be subserved by granting a request permitting the sewage from any system otherwise prohibited to be discharged into any of the waters of the state, and on such unanimous decision is based the issuance of a permit by the commissioner.

When it is called to mind that the area of the state is about 45,000 square miles, that it abounds in water courses, most of them available as sources of power, that it contains 30 cities, 849 incorporated boroughs and 1,547 townships, with a population of 7,000,000, that under the lax system of legal supervision of sewerage heretofore prevailing in the state all of these centers of population and all of its manifold manufactories and industries, with comparatively few exceptions, have been for years pouring their filth into the streams, nearly all of which are utilized as water supplies, it will be understood, first, how dire was the necessity for the passage of these laws, and, secondly, how immense is the task thus imposed on the department and what a storm of opposition it must have aroused.

Notwithstanding these untoward conditions, tangible results are already being obtained.

VITAL STATISTICS.

In the third place, Pennsylvania was up to that time without a state system of registration of vital statistics. Its Central Bureau of Vital Statistics possessed little more than a paper existence. Outside of the cities and large boroughs, no record was made of the birth or death of a human being, although associations interested in live stock made it their duty to preserve careful histories of the births and deaths of blooded animals. No death certificates being required before burial, the doors stood wide open for graveyard insurance and the concealment of death by violence or poison. The same legislature, however, removed this blot from the escutcheon of the state by passing an "Act for the Immediate Registration of Births and Deaths." In order to make this law effective in the rural districts it became necessary to appoint nearly a thousand local registrars and two hundred subregistrars. This was accomplished before the end of the year, so that Jan. 1, 1906, found the machinery complete, and in six months from that time Pennsylvania was admitted to the list of registration states by the United States Census Bureau.

During the year ending Dec. 31, 1906, 171,713 births and 122,484 deaths were reported, and the report indexed and bound for permanent future reference.

MORBIDITY REPORTS.

While vital statistics, however, are essential as the basis of all health work, they do not furnish the information needful to enable a department or a board of health to do prompt executive work in repressing the spread of communicable diseases. For this object morbidity reports of that class of diseases are necessary, and those can only be satisfactorily collected through physicians themselves. For this purpose postal cards have been distributed to all the physicians practicing in rural districts, approximating 8,000 in number. These cards contain on the left-hand margin a list of reportable diseases and on the remainder of the face blanks for the various items of information desired. In view of our greatly increased knowledge of communicable diseases and the means for their prevention recently acquired it was deemed desirable to increase greatly the list of diseases to be reported.

Including the returns from cities and boroughs, the entire number of cases of communicable diseases reported during the first year was 87,952. By this method we have been able, so to speak, to keep our finger on the pulse of the state to its remotest corner; and I may add that one of the most gratifying experiences in connection with my official work has been the hearty and prompt response which I have met from my fellow-physicians to this new and somewhat unusual demand on their time and attention. When it is remembered that, in order properly to fill out one of the postal card reports it is necessary to make fourteen distinct entries in addition to date and signature, it will be recognized that the busy practitioner, probably already exhausted with his day's work, is displaying commendable public spirit when he completely complies with this requirement. It should not, however, have caused me surprise in view of my knowledge of the thoroughly altruistic spirit which characterizes our profession.

The value of the aid thus rendered the department in its efforts to prevent the spread of such diseases can not be overestimated.

FREE ANTITOXIN.

One of the first important pieces of information gleaned by the department from its morbidity reports was the extreme prevalence and fatal character of diphtheria in the state, and I soon felt a concern, as my Quaker ancestors would have said, for the young lives which were being so wastefully and so needlessly, as it seemed to me, sacrificed. I knew that many of them could be saved if their parents were able to provide the physicians with antitoxin. From this conviction it was but a step to the belief that it was the duty of the state to furnish it.

To do so with any hope of success it was evident that this remedy must be placed within easy reach of the individual case, inasmuch as promptness in administration is the secret of success. An immense number of depots had to be established and stocked, and the physicians notified of the location of those stations. Reliable men had to be secured as distributors and instructed in the method of distribution. This labor occupied about three months, and the system was inaugurated Nov. 4, 1905. Any respectable physician can obtain the antitoxin, in a sterilized glass syringe with accompanying sterile needle, simply by pledging himself to fill up the blank clinical report, which is contained in the package, and returning it to the department at the termination of the case. He must, of course, assure the distributor that the family is in indigent circumstances and that the product will not be sold.

Since November, 1905, up to March 1, 1907, the number of cases treated has been 4,635 and the number of deaths 445, or 9.6 per cent. The number of exposed persons who have received immunizing injections has been 2,813. The number of those who have contracted the disease after attempted immunization, all of whom recovered, has been 73. It is, of course, quite impossible to estimate how many of the immunized would otherwise have contracted the disease with fatal results. This, of course, would have raised considerably the ratio of lives saved. A liberal calculation shows that, on the average, each life saved cost the state a little over $6. The number of stations at present is 510. The clinical reports must, after a time, furnish data of immense value for the study of this method of treatment of diphtheria. A careful analysis of them is now being made from all the various standpoints. From the point of view of the prevention of the spread of this fatal disease, leaving out of the question the saving of life and prevention of suffering, I can conceive of no more legitimate expenditure of the public funds or one which is more richly remunerative.

ROUTINE RURAL SANITARY ADMINISTRATION.

But, to return to the subject of sanitary administration, morbidity reports, affording definite and prompt information of the presence of communicable diseases in particular localities, are of little immediate practical use unless we possess the machinery for repressing these outbreaks; and reports of nuisances causing pollution of streams have little value unless we have a force by whom these nuisances may be abated. This machinery the department has created by the appointment of local health officers in the rural districts, responsible directly to the Department of Health and dependent on it for their remuneration. There are about 700 such state officers supervised in their work by the sixty-six county medical inspectors.

DIVISION OF MEDICAL INSPECTION.

The morbidity cards, together with the routine correspondence from county medical inspectors, boards of health, health officers or physicians or others, calling attention to the prevalence of communicable diseases at any particular point, or of disease-breeding nuisances, are first received by the chief medical inspector or one of his assistants. The morbidity reports are usually the first and most reliable indications of an incipient epidemic. Unless the circumstances are of an unusual character, they are at once replied to and the necessary instructions are issued from the medical division. When some unusual problem presents itself or some unusual exercise of authority is necessary the question is referred to the commissioner.

COUNTY MEDICAL INSPECTORS.

The relationship of the county medical inspector to the department is that of a consultant, to be called on to diagnose doubtful cases, to investigate epidemics and to order such enforcement of the regulations as he may consider necessary to protect the public health.

THE STATE HEALTH OFFICERS.

The relation of the state health officer to the department is that of a sanitary agent whose duties are to placard premises where communicable diseases have been reported by a physician; to establish quarantine in manner and form prescribed by the regulations of the department; to furnish the householder with circulars governing the care of the special disease reported; to disinfect, to raise quarantine and to remove placards when instructed by the county medical inspector; to report to the department any alleged nuisances, to make sanitary inspections, arrest offenders against the sanitary laws and regulations and order abatement of nuisances.

The advantage in rural districts, where the people are little accustomed to restraint, of having local health officers directly responsible to the state, rather than to local authorities, can not be overestimated. The state badge carries a weight of authority not conveyed by that of a township constable, and the officer does not hesitate to perform his duties because of the fear of incurring the animosity of his neighbors and so losing his place. On the contrary, he knows that only by the utmost firmness and faithfulness in enforcing the state laws and the regulations of the department can he hope to retain his position.

Cities and boroughs having their own health authorities are, of course, not directly subject to the authority of the department, except in the matter of reporting; but if the commissioner finds that in any municipality the sanitary administration is so faulty that the health of the surrounding districts or of other municipalities is menaced he is authorized to step in and to assume entire control.

Thus we have a state system of sanitary administration complete and symmetrical, its head at the seat of power in the state, untrammeled in the exercise of authority, reaching down through the subdivisions of county and township to the people; and a department in daily touch with every nook and corner of the state through its faithful allies, the physicians of the commonwealth. If it fails to accomplish great things for the health and happiness of the people, it will be the fault, not of the system, but of incompetence in its head.

SANITARY LEGISLATION IN THE SEVERAL STATES IN 1905.

But I have already spent too much time on the legislation of Pennsylvania. Let us for a moment pass in review what has been recently accomplished by other states in this line.

This we are able to do with ease through the special bulletin of the State Board of Health of Rhode Island and the Providence Plantations compiled by Dr. Charles V. Chapin. Taking the compilation up by subjects and confining ourselves to the more important, we find that in 1905, which appears to have been a year of unusual activity in sanitary legislation, the matters of registration was taken up in some form, either original or amendatory, in eight other states: California, Connecticut, Michigan, Minnesota, South Dakota, Utah, Wisconsin and Nebraska. In five of these states a complete state system was inaugurated. These were California, South Dakota, Utah, Wisconsin and Nebraska. In the remaining three, the acts were intended to remedy defects in systems already existing. These were Connecticut, Michigan and Minnesota. In California, in addition to the complete law for the registration of deaths only, the old law for the registration of births and marriages received several amendments.

A law establishing a state board of health or considerably enlarging its powers was passed in one state, Minnesota.

Acts establishing or regulating local boards of health were enacted in five states: Indiana, Minnesota, Nevada, New Jersey, Oregon. In Nevada and Oregon, county boards of health were created.

Legislation for the better control of contagious diseases was accomplished in seven states: California, South Carolina, Maine, Tennessee, Utah and Wisconsin. In three states emergency funds were established for special use in epidemics. These were Maine, Pennsylvania and Wisconsin.

Hospitals or sanatoria for consumptives were projected, established or aided in eight states: Massachusetts, Michigan, Missouri, Rhode Island, Wisconsin, Georgia, Indiana, New Hampshire.

Acts to regulate the practice of medicine were established in fifteen states: Colorado, Indiana, Michigan, New York, Missouri, South Carolina, South Dakota, Tennessee, Texas, Washington, Wyoming, Florida, Michigan, North Dakota and Wisconsin. The action of Colorado, Michigan, Wyoming, Nevada and Wisconsin in forbidding the granting of licenses, or certificates, or registration to persons guilty of immoral, dishonorable or unprofessional conduct, and empowering the state boards or courts to revoke and annul any license or certificate issued to such persons can not be too highly commended. The fact that in many of our states even gross immorality is no bar to the practice of medicine inflicts a cruel injury on the profession.

Laws regulating the practice of undertaking and embalming were adopted in ten states: Illinois, Indiana, Massachusetts, New York, Pennsylvania, West Virginia, Wisconsin, Minnesota, North Dakota and Oklahoma.

Cigarette smoking was considered an evil of such magnitude as to require prohibition in five states: Arizona, Indiana, Nebraska, Oklahoma and Pennsylvania.

State laboratories for bacteriologic or chemical analysis were established in four states: California, Connecticut, North Carolina, Wisconsin and Pennsylvania.

The practice of the system of healing known as osteopathy was legalized in eight states: Colorado, Indiana, Montana, Nebraska, Tennessee, South Dakota and New Mexico.

I may here interpolate that an act to introduce osteopathy in Pennsylvania on exactly the same footing with the profession of medicine has just been vetoed by the governor.

The examination and registration of nurses was provided for in four states: California, Colorado, Connecticut and New Jersey.

Seven states adopted more stringent provisions to regulate the sale of poisons and narcotic drugs: Connecticut, Massachusetts, Minnesota, Nebraska, North Carolina, Texas and Wyoming.

An act to provide a method for locating and destroying mosquito-breeding areas has been adopted by the State of New Jersey. This experiment will be watched with intense interest.

This list, of course, could be amplified, but enough has been said to indicate a widespread and intelligent interest in sanitary matters in every section of this immense country. On the whole, it indicates an advance. But any one who is on the ground during a session of a state legislature can not but be struck with the amount of crude, ill-digested and even nefarious legislation of this kind which is presented, and with the necessity for having intelligent medical men on the spot who can watch purely commercial schemes presented under the guise of sanitation and science and inform the legislators of their true character.

An intelligent and conscientious chief executive is, however, often our only bulwark against disaster.

The limitation of tuberculosis by curing the disease in its early stages before it becomes a serious menace to the public health, especially in the case of the indigent, appeals very directly to the sympathies of our people and, as will have been noted, has received considerable attention at the hands of our legislatures.

The scheme which we are outlining in Pennsylvania for this purpose is a comprehensive one. It contemplates utilizing the great forest reservations of the state for the purpose of hospital or sanatorium treatment. It is proposed to have two colonies at widely separated points that they may be accessible from different parts of the state. Instead of massive structures of brick or stone, we shall erect a large number of frame cottages, each of which will accommodate but a comparatively small number of patients. Somewhat apart from these will be an infirmary for those in the more advanced stage of the disease. In this building those to whom we can not hold out hopes of recovery will be afforded shelter and the comforts of a home in the closing days of life, and this extension of relief will be more than justified in the fact that we are removing them from their confined, crowded, ill-ventilated and often impoverished homes at the time when they would be most in danger of communicating the disease to other members of the family and the greatest menace to the public.

After recovery, the male patients will be offered opportunities for work in forestry, for which they will be entitled to their board and clothing, for a sufficient time to test their strength and the reality of the cure. Men whose previous occupations have been such as to create irritating dust, such as saw sharpeners and stone cutters, will be urged to seek permanent work of a less objectionable nature, and patients of both sexes will be counseled to find, so far as possible, opportunities for work in the country.

Entirely distinct from this enterprise, which is so elastic as to be capable of almost indefinite expansion, while it reduces expenditures to a minimum compatible with the best results, is our plan to establish in each of the sixty-six counties of the state a dispensary for tuberculosis, also under the direct supervision of the department of health. The object of these dispensaries will be twofold: First, that many patients who might be unable to leave their homes for a prolonged stay in a sanatorium could frequently come here for advice in regard to matters of diet, medication, when needed, and the open air treatment, so far as it is possible of being carried on at home. Second, they would also receive careful instruction in all the precautions necessary to be observed for the protection of others; and their compliance with these instructions would be made an essential to their continuing to receive state treatment. In fact, "the dissemination of knowledge relating to the prevention and cure of tuberculosis and for the study of social and occupational conditions that predispose to its development" is expressly noted in the act creating the system as one of its important objects. I am proud as a Pennsylvanian to be able to state that our legislature has just appropriated the sum of one million dollars, to be used in the manner indicated, at the discretion of the department of health, and has at the same time authorized the selection of one or two tracts of land, within the boundaries of State Forestry Reservations, to be devoted to this object.

The advances made in other states in this most promising field of state medicine will be watched with the closest attention and every suggestion which promises to make such enterprises more successful and thus aid in lifting this shadow which darkens so many homes, will be taken advantage of. As such plans are being carried out in so many states, why should not we who are entrusted with them join hands in this inspiring work and help each other in solving the problems of our individual states?

While giving one another freely of our best inspirations, let us indulge in a noble rivalry to obtain each for his own state the most successful exhibit and the happiest results. So may we deserve well of the Republic!

Original Articles

THE DIAGNOSIS OF DISEASES OF THE PROSTATE.

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There is no organ in the human body concerning the diseases of which the average physician has less definite knowledge than he has of those of the prostate gland. Yet there are few conditions susceptible of more accurate diagnosis if the various types of its disorders are familiar to the examiner. In the following paper an effort will be made to present a classification and a brief description of the pathology and diagnostic features of these conditions.

Refinement in diagnosing the sub-varieties of prostatitis is not of so much importance in the prognosis and treatment as is the necessity of recognizing the prostate as the source of reinfections and the cause of urinary irritation, sexual weakness or obscure referred pain or symptoms.

When approached in a scientific manner and considered with due regard for the anatomy and physiology of the gland and its related organs, these affections lose much of their former vague character. They offer an exceedingly interesting field for work on account of the diagnostic accuracy attainable and the success which, as a rule, follows the institution of appropriate treatment.

This paper is based largely on the facts observed or confirmed by the study of 108 prostates. Of these 61 were chronically inflamed, 34 were normal, 5 were acutely inflamed, 5 were hypertrophied, 2 were of the subchronic type and 1 was subacute.

Especial attention will be devoted to the chronic inflammations. Of the 61 of this class 47 gave a history of a previous gonorrhea, which was apparently the main etiologic factor. The remaining 14 were caused by masturbation, prolonged ungratified sexual desire and instrumentation. Fourteen of the patients had urethral strictures. In one patient large numbers of colon-like bacilli were found in the secretion from the prostate; no gonococci could be found nor was the history like that of gonorrhea. The ages of the patients varied from 19 to 50 years, with an average of 30. Only 8 of the 61 gave a history of acute prostatitis. Most of the patients came for treatment of a persistent or recurrent urethral discharge. My experience has been that in the great majority of patients chronic prostatitis and seminal vesiculitis are insidious in their onset and the patient is unaware that his prostate is involved. In fact, many patients will insist that the prostate is not inflamed because there have been no symptoms of a sudden or acute onset or pain that suggests the prostate as the seat of the trouble.

Several of the diseases included in the table of classification are so easily diagnosed that they do not justify much consideration and are given merely to complete the list.

ACUTE PROSTATITIS.
  Parenchymatous.
  Interstitial.

PERIPROSTATITIS.
ABSCESSES OF THE PROSTATE.
  Follicular.
  Interstitial.

SUBACUTE PROSTATITIS.
CHRONIC PROSTATITIS.
  Parenchymatous (catarrhal).
  Interstitial.
  Prostatic urethra and verumontanum.
  Atrophic.

SUBCHRONIC PROSTATITIS.
NEUROSIS OF THE PROSTATE.
HYPERTROPHY OF THE PROSTATE.
  Parenchymatous.
  Interstitial.
    Many subvarieties.

TUBERCULOSIS OF THE PROSTATE.
CARCINOMA OF THE PROSTATE.
SARCOMA OF THE PROSTATE.
SYPHILIS OF THE PROSTATE.
CYSTS OF THE PROSTATE.
CALCULUS OF THE PROSTATE.

Each of the above names indicates the character of the inflammation and to some extent its chief location. The line of demarcation, however, between acute and subacute inflammation or the subacute and chronic is not well marked from a pathologic standpoint, but is mainly chronologic. A much prolonged acute condition is properly classed subacute, while a very persistent subacute is gradually merged into the chronic. The subchronic are those of long duration where there is still an increase in the prostatic fluid with but very few pus cells. Two of the patients clearly belong to this type.

ACUTE PROSTATITIS.

Acute prostatitis may readily be recognized by rectal palpation. The gland is tender, hard and swollen. The induration may be limited to one or more follicles, to one-half of the prostate or it may be uniformly enlarged in its entirety. The mucous lining is chiefly involved at times, and the swelling is not proportionate to the purulent secretion expressed by gentle palpation. (Massage is not indicated in the acute condition.) The infiltration may be extensive in the stroma of the gland, in which case there is much enlargement and perhaps throbbing and pain. In severe cases the inflammation may extend through the capsule into the tissues surrounding the prostate, causing a periprostatitis. By palpation, then, one can detect a hard, fixed, tender condition of the anterior rectal wall. An occasional examination of the prostate should be made during the latter stage of gonorrhea or at any time when there is an increase in the frequency or pain during urination or if there is terminal hematuria. The symptoms of acute prostatitis are too well known to be mentioned here. The point I wish to emphasize is that the prostate should be suspected and an examination made even if the evidence indicating it be only indirect or circumstantial.

PROSTATIC ABSCESS.

Abscesses of the prostate are of two varieties: 1. Those caused by the occlusion of the duct of an inflamed follicle. 2. Those beginning as an area of intense inflammation or a necrotic spot in the interstitial tissue. In either case they may extend and become of considerable size and may rupture into the urethra, into the rectum or into the connective tissue around the prostate. The first variety is more frequent and less serious than the second. As a rule, these follicular abscesses rupture into the urethra and drain through it for a considerable length of time, contaminating the urine with proteid. At first this is serum albumin and globulin, later albumose is found instead. The only reason I can give for this change is that when the secretion is exuding rapidly the serum albumin and pus escape from the prostate before the ferment, infection,* tissue digestion or whatever it is has time to change the exudate into albumose as is the case when the secretion is retained longer. Occasionally serum albumin, nucleoalbumin, albumose and globulin will all be found in the fluid from an inflamed prostate.

After abscesses and certain acute inflammations the gland becomes atrophic and is found to be small and irregular in contour.

SUBACUTE AND CHRONIC PROSTATITIS.

Subacute prostatitis of long duration is comparatively rare and is not difficult to recognize by rectal palpation and an examination of the secretion expressed which contains more pus, as a rule, than chronic prostatitis. One patient had a subacute inflammation, apparently caused by the colon bacillus, which kept about the same for eight months in spite of the treatment, but finally yielded. There was much swelling of the gland and a large number of pus cells were found in the secretion, but there was not the usual pain and frequency in urinating. The sexual function was much weakened, at one time no erections being possible.

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*An editorial in THE JOURNAL of the American Medical Association, April 20, 1907, referring to the work of Opie and Barker of the Rockefeller Institute (Jour. Experimental Medicine, March 14, 1907), called my attention to the fact that disintegrating leucocytes liberate proteid digesting enzymes. After a consideration of this subject and a review of the original paper, I have come to the conclusion that this leucoprotease, as it is called, is probably the substance which digests the proteid in the prostate and accounts for the large amount of albumose found in it when inflamed. It has been clearly demonstrated that this enzyme from the polymorphonuclear cells, acting in a faintly alkaline medium, will digest proteid. The prostatic secretion is uniformly alkaline in reaction, when tested with litmus, and apparently forms a suitable medium for the action of this proteid splitting ferment. That there occasionally may be some other factor is suggested by the disproportion in the number of pus cells and the amount of albumose found in a few subchronic conditions where there are scarcely any leucocytes but much albumose.

Chronic prostatitis is the class in which the largest number of diagnostic errors are made, and especially is this true if the physician depend on palpation alone. An unfortunate idea is prevalent that a chronic inflammation of the prostate necessarily causes enlargement or considerable irregularity of the gland. Palpation alone is unreliable, except in the hands of an expert, if the findings be negative, as the inflammation may be so limited to the mucous lining that the prostate feels apparently normal.

SYMPTOMS.

With a persistent or recurrent urethritis the prostate should always be regarded as the most likely focus of the infection. All symptoms involving the urinary or sexual functions should suggest the necessity of examining the prostate and its secretion. Sexual weakness is frequently seen in these patients; erections may be weak or absent, and ejaculations may be premature or painful, nocturnal emissions are frequent and the discharged semen may be stained with blood; this is more likely if the vesicles are inflamed.

Frequency of urination is found in the severe cases, the pain usually occurring during the act of micturition. Urgency in the desire to void urine depends on the degree of posterior urethritis and is nearly always present to some extent when the prostatitis is well developed. In one patient there were symptoms of urinary obstruction due to an inflamed prostate which were entirely relieved after two weeks' treatment. Referred pain may be found anywhere between the umbilicus and the knees, the most frequent place being low down on the back in the region of the sacrum.

A decided feeling of mental depression occasionally follows prostatic massage which lasts for several hours. I am unable to explain the cause of this, as in other patients just the reverse is observed and they have a feeling of well-being. Neurasthenia and melancholic symptoms are sometimes encountered in chronic prostatitis.

THE PROSTATIC SECRETION.

The prostatic secretion expressed by massage may appear at the meatus or may remain in the urethra and be washed out by the urine. It is on two substances found in the secretion that we rely for an accurate diagnosis; they are pus and proteid.

When the urethra has been flushed previously with clear urine or irrigated with a physiologic salt solution and the drop of discharge obtained from the meatus after massage shows pus cells, then we know the prostate is inflamed. Should the number of pus cells be small the smear must be stained with methylene blue or azur and eosin, after fixing with heat above a flame. The presence of polymorphonuclear cells is characteristic of prostatitis if the urethra as a source of contamination is eliminated. There are large and small cells, resembling the mononuclear lymphocytes, which are found in the normal prostate in small numbers, and for this reason, in a doubtful case, the secretion should be stained. The pus and epithelial cells are frequently more or less degenerated and do not stain clearly. This may be due to the natural process of disintegration, but, judging from the albumose constantly present, it appears more likely that a ferment of some kind is the cause of the change.

The presence of germs in the prostatic secretion, after a thorough urethral irrigation, is not as easily nor as frequently demonstrable as one would be led to suppose would be the case from the history of the recurrences in these patients. I have been able to find them in sufficient numbers to be conclusive in only six of the chronic cases. The secretion from all was not examined nor were any cultures taken. Gonococci were found in three, colon bacilli (?) in two and pseudo-gonococci in one. It seems that virulent gonococci are rarely found after two or three years unless there have been reinfections or severe recrudescences.

I purposely have omitted other well-known substances that are seen in the prostatic fluid in order to emphasize the importance of pus in making a diagnosis. Dead spermatozoa are frequently, but not always, found in the secretion expressed in chronic prostatitis. This, I think, in many of the patients, is due to a low grade seminal vesiculitis.

URINE AFTER MASSAGE.

When the secretion does not appear at the meatus, and the urine before massage is free from pus and that after contains it, we have conclusive evidence that the prostate is inflamed. The vesicles should be avoided if a differential diagnosis between vesiculitis and prostatitis is to be made. If there is pus in the urine, the urethra and bladder should be irrigated with a physiologic salt or boric acid solution and a small quantity of this left in the bladder to be passed after massage.

Another substance equally as characteristic of prostatitis is the presence of *proteid* in the urine or fluid passed after massage. This can be demonstrated easily by making a layer test with the urine superimposed on a saturated solution of magnesium sulphate (9 parts) and nitric acid (1 part). This reaction shows the presence of any proteid by a white ring at the zone of contact. The urine before massage should always be tested to find if it is free from albumin, and if it is not the urine should be voided and the bladder filled with a physiologic salt solution. If the inflammation is slight, only a small amount of urine or fluid should be retained, as the proteid may not be detected if greatly diluted. This test has been positive in 51 patients and negative in 29 with healthy prostates. The kind of proteid present naturally varies according to the character of the inflammation. An abscess draining into the urethra gives a large quantity of serum albumin; this also is found, but less abundantly, along with nucleoalbumin in acute prostatitis. In the subacute, chronic and subchronic inflammations albumose is constantly found alone or combined with nucleoalbumin. The urine must be tested for albumose soon after being passed, as certain changes take place, if allowed to stand many hours, that prevent as distinct a reaction as is obtained earlier. A precipitate is formed which settles to the bottom of the glass, and the urine above shows a less marked reaction than at first. This does not always occur nor am I able to explain the nature of the process.

The heat and acetic acid test will not show up the albumose, as it is soluble when heated to the boiling point and does not even give the cloudiness at about 60 C. (140 F.) as does the Bence-Jones albumose. Nitric or citric and picric acids, if added to the boiled urine, will cause the albumose to be precipitated when cool. This again disappears when heated. If serum albumin and nucleoalbumin be present, they also may be first deposited in the bottom of the test tube by placing it in a hot water bath (after boiling and adding the acid) to keep the albumose in solution while they are being precipitated. If the tube now be allowed to cool, the albumose settles on the albumin and a very distinct line of demarcation between them and a difference in the quality of the two layers of the precipitate can be seen.

Frequently in chronic prostatitis considerable débris, composed of pus, mucus, phosphates, epithelial cells, spermatozoa, etc., will be passed in the urine after massage. This enables one to make a diagnosis by a macroscopic examination. Cloudiness that persists after the addition of acetic acid nearly always indicates an inflammation of the prostate. Large casts of the dilated follicles may also be observed. These same patients, however, on other conditions may fail to show any macroscopic débris or casts, but will have the amount of proteid considerably increased.

Two patients had a large quantity of albumose with very few pus cells in the secretion. These were followed and studied for some time and were undoubtedly cases of low grade inflammation, for which chronic prostatitis seems to be an appropriate appellation.

PERIODIC ACTIVITY OF THE PROSTATE.

In a former paper on prostatic albumin,[1] etc., I called attention to a periodic increase in the secretion, without any apparent cause, which occurred every two to six weeks. Further observation has enabled me to confirm this in many other patients. The increase varies from two to ten times the amount obtained after massage during the intervals and is sometimes attended with an aggravation of the urethral symptoms. This seemed to be analogous to menstruation in women.

Since writing this paper I have found some interesting facts bearing on this subject in Deaver's excellent monograph on "Enlargement of the Prostate." John Hunter is quoted as having studied the prostate gland of moles, and found that, while it was small and insignificant during the winter—the period of quiescence—in the rutting season it became large and filled with mucus. These observations were confirmed by Owen and by Griffith. The last-named author also found the same changes in the prostate of hedgehogs. My analogy seems borne out by these facts regardless of whether the prostate and uterus be analogues or not.

The general impression prevails that the secretion and débris are cleared out of the inflamed ducts and follicles by sexual intercourse, but from a number of observations I am sure this opinion is erroneous. The watery portion of the secretion probably escapes as part of the ejaculated fluid, but the masses of mucus, phosphates, etc., may be expressed by massage within a few hours after intercourse, showing that the so-called "active or physiologic massage" is not always to be relied on to clear out the follicles. This, I think, is the reason why many patients are not as much benefited by coitus as they are lead to expect by their genito-urinary surgeons. The seminal vesicles and ampullations of the vas deferens are emptied to a much greater extent than is the inflamed prostate.

A study of the proteid secretion from the prostate, if carried out as a routine in the examination of the hypertrophied gland, may add new facts to our theories as to whether or not gonorrhea is a factor in causing the enlargement, as the proteid is found at times after the pus has almost entirely disappeared. The semen contains a proteid similar to that of prostatic origin which is always present to some extent, but is greatly increased if the vesicles are inflamed.

Neurosis of the prostate is occasionally seen after all the inflammatory symptoms have subsided and is probably due to the exaggerated or perverted impressions transmitted from the rich supply of nerves found in this region. The inflammation seems to be the primary cause, but the pain and irritation outlast the pus and shreds. Difficulty in urinating may at times be observed. Massage does no good, but cold sounds and the psychrophore are more beneficial.

OTHER AFFECTIONS OF THE PROSTATE.

Hypertrophy of the prostate is not difficult to diagnose by rectal palpation, the history of urination gradually becoming more frequent and difficult, after the age of 50, worse at night, the deep urethra lengthened, residual urine present, etc. It is not within the province of the paper to go further into a discussion of the subject of enlargement of the prostate except to urge the importance of recognizing the difference between it and inflammation of the prostate. An hypertrophied gland may become inflamed and give all the symptoms of prostatitis intensified by the urinary obstruction. Acute prostatitis and much less frequently chronic prostatitis may cause urinary obstruction. There is a well-marked difference between these conditions which should always be considered in the diagnosis and treatment. The history, a careful rectal and perhaps urethral examination, a microscopic study of the secretion and a chemical examination of the urine passed after massage of the prostate will enable one to decide which is primary, the hypertrophy or the inflammation.

Tubercular prostatitis is sufficiently like that of gonorrheal origin to make a diagnosis difficult in certain instances. In tuberculosis there may be evidence of the disease in other organs, as the lungs, joints, bones, kidneys and especially in the testicles. Tubercle bacilli in the secretion would, of course, be conclusive, but they probably will not be found. Injection of the fluid into the peritoneal cavity of a guinea-pig would be more likely to clear up the case. The swollen part of the gland is usually larger, rounder and harder than in ordinary chronic inflammation. There may be a history of gonorrhea or secondary infection to add further to the confusion.

Carcinoma of the prostate has two characteristic symptoms, severe pain independent of urination and stone-like hardness. There may be marked irregularities on the rectal surface and the mucous membrane may be adherent. As the disease progresses there is infiltration of the surrounding tissue. Abundant and widely disseminated bone metastases may occur. Casper thinks the pains are evoked through the compression of the nerve trunks by the tumor and its metastatic swellings. These patients steadily grow worse, becoming pale and emaciated. They are only saved by an early diagnosis and a radical operation.

Syphilitic enlargement of the prostate is rare, but should be thought of when no other cause can be determined, and especially should antiluetic treatment be tried if other measures fail and there is a history of syphilis.

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[1] Prostatic Albuminuria not an Infrequent Cause of Error in the Diagnosis of So-called Orthostatic, Postural, Physiologic and Cyclic Albuminuria, N. Y. Med. Jour., Feb. 24, 1906.

CONCLUSIONS.

The prostate gland is without doubt the cause of the majority of obscure urinary and sexual symptoms and should always be examined where there is any uncertainty as to their origin.

Among the factors that tend to perpetuate a chronic or recurrent gonorrhea a nidus of infection or irritation in the prostate is the most frequent cause. It is in this variety of prostatic inflammation that the largest number of errors are made in the diagnosis.

Palpation, pus and proteid are the three things to rely on in reaching a conclusion as to the condition of the prostate. By palpation through the rectum, the gland, if diseased, may be found enlarged, nodular, irregular, boggy or apparently normal. Pus in the secretion expressed from the meatus or found in the urine or fluid voided after massage, when the urethra and bladder are excluded as possible sources, is positive proof that the prostate is inflamed. Proteid in the fluid passed after massage is equally as reliable as pus in the diagnosis of prostatitis.

1014 Century Building.

THE DIAGNOSIS OF PYELONEPHRITIS

BASED ON THE ABNORMAL RETENTION AND THE DELAYED EXCRETION OF METHYLENE BLUE.*

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The following report on what I believe to be a useful differential diagnostic symptom between simple involvement of the pelvis of the kidney and involvement of the pelvis and the parenchyma of that organ, is preliminary to a more detailed publication based on further clinical and experimental data.

There are two types of pyelitis, acute and chronic. In both the parenchyma may be involved, as autopsy of such cases shows. How can we determine whether the parenchyma is involved?

As far as one can judge from the literature there is no symptom which reliably differentiates between pyelitis and pyelonephritis. A patient, without palpable kidney tumor, without tenderness over the kidney areas, is suffering from a chronic pyuria. Despite careful bladder irrigations and in some cases despite drainage of the bladder (3 cases reported by Osler), the pyuria continues. Cystoscopy shows a chronic cystitis and by means of ureteral catheterization it is found that pus is passed from one kidney, whereas from the other the secretion is normal. Examination of the specimen from the diseased side shows a faint trace of albumin and considerable pus. Does this pus come from the pelvis or from the pelvis and the kidney parenchyma? Are we face to face with a chronic pyelitis or a chronic pyelonephritis? That question crops up in every case, and such cases are by no means rare.

In the literature there are no definite aids that I know of to assist in this differentiation. In the two cases that are to be reported, I think I have found a differential sign which will throw some light on this question and probably help us in differentiating between simple pyelitis and pyelonephritis with formation of multiple suppurating foci in the kidney parenchyma.

Case 1.—*History.*—Mrs. W., aged 35, married; has two children; was operated on for anal fistula six years ago. She had cystitis for some time, for which she was treated. About March, 1904, she developed an ascending infection of her left kidney with chills, high fever and pains in left lumbar region. No kidney enlargement and only slight local tenderness. Operation was disadvised because of poor general condition. She was treated with the usual measures and for several weeks during this illness was put on methylthionin hydrochlorid (methylene blue). Gradually the patient improved and the fever disappeared. The pains became less and slow convalescence set in. Her pyuria and bladder irritability persisted despite regular bladder irrigations, and ten months after the onset of the acute symptoms, I had an opportunity to make an inspection of her bladder and catheterize her left ureter.

Cystoscopic Examination.—Dec. 29, 1904, the bladder showed marked thickening of the mucosa, which was thrown into folds. Left ureteral orifice red and swollen. Bladder excessively irritable. Urine from left kidney was rapidly excreted and neutral in reaction. It contained pus cells, epithelial cells; no casts, no tubercle bacilli. Colon bacilli were present. As there was no mass in the kidney region and no tenderness on deep pressure, it was assumed that the pus came from the kidney pelvis and that the acute pyelitis of earlier date had become a chronic pyelitis. With this diagnosis in mind, lavage of the left pelvis was determined on and measures were taken to diminish the vesical irritability. At this time every specimen of urine was bottled and labelled in order of voiding. On standing, one-half to one inch of pus almost regularly deposited in a six-ounce bottle. In some bottles there was more pus than in others, and it was observed that occasionally there was very little and again at other times a great deal of pus.

On Jan. 2, 1905, the left kidney pelvis was irrigated with boric acid followed by silver nitrate. No effect was noted.

Jan. 19, 1905: Lavage was discontinued, as patient had her menses and a mild attack of influenza. On this date I noticed that the pus deposited in one of the bottled specimens was stained blue, while the supernatant fluid was yellow and unstained. The appearance of this blue immediately suggested methylthionin hydrochlorid (methylene blue), and to determine absolutely what this was I made various tests and microscopic examinations.

Examination of Pus.—Professor Giess of the department of physiologic chemistry, Columbia University, very kindly examined this blue pus, as well as other similar specimens passed at subsequent times, and reported as follows: "The urinary sediment was very blue, so that the quantity of pigment was relatively large and easily handled. The pus varied considerably in its coloration, many corpuscles appearing to be entirely uncolored. Others were deeply colored. Many of the latter were disintegrated into granular débris. The pigment was undoubtedly methylene blue, as shown very distinctly by its response to reducing and oxidizing agents. It was easy to convert the color to the leuco-methylene blue condition and this in turn to methylene blue. I gave no attention to solubility tests, but aimed directly at the main point. No doubt combinations of the pigment in the pus interfere with the usual solubility tests, but by treatment with acids any such combinations were broken and the tinctorial effects above referred to obtained."

Here, then we have a patient who discharges methylene blue stained pus, eight to nine months after administration of the drug. That there is no question of fraud is self-evident, as the pus alone is stained while the supernatant fluid is unstained. Moreover, the blue stained pus is limited almost completely to one specimen. Both these facts preclude deceit on the part of the patient. Where did this blue stained pus come from?

It is evident that the bladder, as well as the kidney pelvis, could be excluded from our reckonings. The bladder had been irrigated countless times and inspected several times—the pelvis also had been irrigated. The assumption was forced on the patient's physician, Dr.

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*Read before the Genitourinary Section, N. Y. Acad. of Med., April, 1907.

Sternberger, and myself, that the pus must come from small abscesses in the kidney parenchyma. The small amount of blue stained pus pointed to a small pus focus. In other words, the diagnosis of chronic pyelitis was inaccurate. The patient was suffering from pyelonephritis. The methylene blue administered during the acute attack had apparently been stored in the developing parenchymatous abscesses. One of these had ruptured into the pelvis and blue stained pus appeared in the urine. This explanation also fitted in with the observation that there was frequently marked variation between the amounts of pus in consecutive specimens without signs of ureteral obstruction.

Subsequent History.—These deductions naturally compelled us to stop lavage of the pelvis and to direct our efforts to the patient's general condition, hoping in this way to obtain a beneficial effect on the diseased kidney. The general health improved markedly, and frequently for several days or even weeks the pus content of the urine was almost negligible.

On the following dates in 1905, to our knowledge, methylene blue stained pus reappeared in the urine, almost all the specimens being examined for the first two or three months, and thereafter only those voided during three to four days of each month.

Pus stained with methylene blue appeared in specimens voided on January 28, 1 specimen; January 31, 2 specimens; February 17, 1 specimen; March 3, 1 specimen; March 17, 1 specimen; July 8, 3 specimens; October 13, 1 specimen.

Second Cystoscopic Examination.—On Jan. 1, 1906, I again made a cystoscopic examination and found that the left half of the bladder near the trigonum was slightly congested and the mucosa thrown into folds. The right half of the trigonum and right ureter were perfectly normal. The left ureteral orifice was irregular in shape, open and rigid. There was no ulceration. Both sides discharged regularly. The urine now contained much less pus, no casts nor albumin, specific gravity 1.010. Total amount for twenty-four hours was about 100 ounces.

In 1906, specimens with blue stained pus appeared repeatedly. I have notes of such reappearance on several occasions. The last reappearance was on Dec. 15, 1906. Throughout this time the patient's general health had improved and she had gained some 20 pounds. She was able to do everything she wanted. The only restrictions placed on her related to diet. The urine toward the end of 1906 still contained small amounts of pus and was almost free from albumin and of low specific gravity, because of the large amounts voided.

On March 19, 1907, the patient was again carefully examined. Cystoscopy showed an almost normal bladder. The ureteral orifices were normal. About the left there was the slightest congestion. Ureteral catheterization was readily done. Dr. Sondern made the following report on the specimens obtained:

The left kidney apparently secreted more rapidly than the right. The urine was less concentrated than the right. There was blood in both specimens and a trace of albumin. There was a small amount of pus in the specimen from the left kidney. Bacteriologically, this specimen was sterile in various media up to ninety-six hours. The phloridzin test was negative on both sides in the first thirty minutes after injection.

In this abstract I have left out all details that do not bear directly on the point in question—i. e., the diagnosis of involvement of the parenchyma in pyelitis cases. In this patient we have seen a recurrent discharge of methylene blue stained pus at various periods after the administration of this drug. There was no regularity in the discharge, as far as time was concerned. The first specimen thus stained that was noted was passed eight to nine months after the primary excretion of methylene blue stained urine had ceased. Again and again other specimens were discharged, stained with the same pigment. The last time such excretion was noted was 2¾ years after administration of the coloring matter. This phenomenon is in itself worthy of careful consideration, as it is well known that methylene blue administered by the mouth disappears from the urine in three to six days. After such administration the urine holds the methylene blue almost wholly in solution. On the other hand, in this case the methylene blue is not in solution, it is more or less fixed to the pus cells and it has been, so to speak, shut up in the organism for several months, even years.

Case 2.—*History.*—Mr. M., aged 45. Had gonorrhea ten years ago, since which time urine had been turbid. Chancre nine years go. Operated on twice for hemorrhoids. Complained of turbidity of urine, loss of appetite and weight. Had never had pain, no marked increase in frequency of micturition.

Examination.—The general physical examination was negative. There was no tumefaction or tenderness in the kidney regions. The urine contained a large amount of pus. Specific gravity 1.024; alkalin reaction; moderate amount of albumin; no casts; no gonococci nor tubercle bacilli.

Jan. 5, 1907: Five grains of methylthionin hydrochlorid (methylene blue) given. In twenty-four hours the coloration of the urine disappeared. On January 7, cystoscopy showed marked thickening of the mucosa, which was thrown into folds. Swelling of the trigone. Two small hemorrhages close to the right ureteral orifice. Left ureter normal.

Diagnosis.—Chronic cystitis.

Therapy.—Bladder irrigations every day; hexamethylenamin (urotropin), etc.

Jan. 18, 1907: Urine had not improved despite local therapy. On this date, 12 days after methylene blue had disappeared from the urine, it reappeared in one specimen, which contained a deposit of blue pus. On the strength of this, the diagnosis was changed, and I thought that the patient had in all probability suppurative pyelonephritis. I was not absolutely satisfied, as yet, that the condition was more than a chronic pyelitis, though the diagnosis of pyelonephritis was naturally uppermost in my mind, and to rule out chronic pyelitis, the following measures were adopted on Jan. 27, 1907:

Cystoscopy and Bilateral Ureteral Catheterization.—The bladder was somewhat more injected. The hemorrhages about the right ureter had disappeared. The catheterized specimens were as follows:

	Right Kidney.	Left Kidney.
Amount secreted in 5 minutes	3 drachms	1 drachm.
Phloridzin test (gr. 1/10)	Positive in 24 mins.	*Positive in 18 minutes.
Urine	Cloudy	Clear.
Reaction	Acid	
Specific gravity	1.026	1.018.
Blood present	Positive	Negative.
Albumin	Moderate amount	Negative.
Urea	2½ grs. to the oz.	6 grs. to the oz.
Microscopically	Numerous pus cells.	Negative. No casts.
Bacteriologically	*Bacillus coli communis.*	

This examination showed that the trouble was on the right side. Meanwhile the patient's condition remained unchanged. There was no rise in temperature, no pain, and a fresh test with methylene blue was begun. On February 5 I gave the patient for four consecutive days 3 grs. of this drug three times daily, and by February 11 all traces of the methylene blue had disappeared. As the diagnosis still might rest between chronic pyelitis and chronic pyelonephritis, I washed out the pelvis of his right kidney three times in one week without any effect on the pyuria and without recovering any methylene blue. At last lavage I collected a specimen from the left kidney, and in this casts and albumin were found. On the strength of the negative results of lavage and on the fact that the left kidney was beginning to show signs of a probably toxic influence, I decided to do a nephrotomy.

Nephrotomy.—On Feb. 21, 1907, this operation was performed. The kidney was very large and the seat of the multiple small pus foci. The pelvis was full of pus and contained a large coral-shaped calculus. The size of the organ and its adhesions made the operation a difficult and bloody one. The subcapsular abscesses were yellow. The pus in the pelvis was similar in color. There was no sign of methylene blue in its blue state. The diagnosis of pyelonephritis was thus verified at operation.

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*First specimen examined.

After this operation the patient did very well and the nephrotomy wound gradually closed. On March 17, 1907, there reappeared a methylene blue stained specimen. Since February 11 there had been no sign of this coloring matter. During the following week two other specimens of blue stained pus appeared.

Nephrectomy.—As the wound in the kidney closed the patient ran high temperature, which finally, on April 8, 1907, demanded a nephrectomy. The kidney was completely changed. Instead of a large solid organ with multiple small abscesses, the kidney was converted into a large, soft, fluctuating organ full of pus, a pyonephrosis, with a newly formed conglomerate calculus in the beginning of the ureter. In the remains of the kidney there were none of the old parenchymatous abscesses. In the large quantities of pus that were lost during the operation, no blue discoloration was noted. Unfortunately, all this pus was not collected for chemical examination, as it is more than probable that the methylene blue is deposited in its leuco form, and does not betray its presence by its typical blue color.

If this case be analyzed as to the source of the blue stained pus it at once becomes evident that it could not come from the bladder, as that organ had been very frequently irrigated and also inspected with negative results. From the pelvis it could not come, as this, in addition to being irrigated repeatedly, had also been opened by direct incision and drained. The only possible source that is left us is in the multiple small abscesses in the kidney parenchyma.

Before closing there are several points that I wish to refer to briefly. I do not know whether the methylene blue is excreted in these cases in the blue as well as in the white form. I am inclined to think, but am by no means sure, that it may be excreted in either form, for I have noticed that specimens which I looked at shortly after passage were blue and became bluer and bluer on standing, the white or leuco-methylene blue being gradually converted into the blue form. Another peculiarity occasionally noted was the breaking up of the chemical combination in which the pigment was bound and the progressive staining of the supernatant fluid; this conversion of the fixed and insoluble methylene blue into a soluble substance probably resulted from the action of bacteria, as in specimens bottled with chloroform such changes never occurred.

These remarks will give some insight into the difficulty of recognizing the pigment as it is deposited in the tissues. That we can not rely on its blue color alone for its recognition is evident, for it is more than likely that it is fixed in the pus, etc., in its leuco form. In the kidney that I removed in Case 2, the material was so changed that it was unsuitable for the proper elucidation of this point. Up to date my experimental work along these lines is not ready for publication; still this work indicates, as you will see in the specimen later referred to, that the pigment is deposited in great part, if not wholly, in its leuco form.

The last point that I wish to refer to relates to the time and manner of the deposition of the methylene blue. I feel sure that it is not found in all abscesses of the kidney, as I have had occasion to examine some pus from large abscesses after administration of the drug and failed to recognize the pigment. More than likely the presence of methylene blue in the abscesses is the result of the excretion of the renal epithelial cells. One might suppose that the ascending infection in the collecting tubules leads to a stenosis behind which the methylene blue is excreted and the developing abscess thus receives its quota of pigment.

As evidence in favor of this view, I would show these specimens taken from a dog, in which I had produced an ascending pyelonephritis. Methylene blue was administered daily for several days following the operation and the kidney was removed about two weeks later. This specimen when fresh showed very little pigmentation, but after treatment with oxidizing agents, even after fixation in alcohol, shows, as you can readily see, multiple grayish-blue pus foci throughout the organ. These areas lose their color if treated with reducing agents and regain the same on subsequent oxidation.

On the other hand, as yet, I have not recognized the pigment in the pus of old thick-walled abscesses. If such old abscesses progress and involve adjacent tubules, I naturally would expect to find methylene blue in goodly amounts in them, provided my explanation of this whole phenomenon is correct.

SUMMARY.

If, then, I should summarize the above clinical and experimental data, I would state:

1. There is no differential diagnostic sign between simple pyelitis and pyelonephritis.
2. Pyuria from the upper urinary tract may be due to either of these conditions.
3. By the use of the above described methylene blue test it would seem that a differential diagnosis may be made.
4. Methylene blue is deposited in the parenchymatous abscesses and may be stored in these for years.
5. A late discharge of methylene blue, bound to the pus, is indicative of the rupture of such parenchymatous abscesses into the pelvis of the kidney, and is consequently diagnostic of pyelonephritis.

MENINGOCOCCUS SEPTICEMIA.

DEMONSTRATION OF THE MENINGOCOCCUS IN THE BLOOD SMEAR.

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The number of cases of meningococcus infection in which the organism has been found in the blood is as yet rather small, and the one described below, in which it could be demonstrated directly in the blood smear taken from the ear, so far as I have been able to ascertain, is the only one now on record.

Patient.—A man, aged 27, whose family and previous personal history contained nothing of importance. He had been in good health until the night of March 19, when he complained of pain in the head and neck and also in the joints and muscles. He was nauseated, but did not vomit. Within the next days the headache became progressively worse and very severe. There had been no distinct chill, but fever up to 104 F.

Examination.—He was admitted to Dr. Futcher's[1] service at the St. Agnes Hospital at 11:30 p. m. March 23, in a condition of marked stupor, from which he could be aroused only with difficulty. When I saw him, March 24, about noon, he was profoundly unconscious. There was marked dyspnea; the pulse was just perceptible at the wrist. On both feet, over the flexor surfaces of both forearms and the anterior surfaces of the legs there were numerous ecchymoses. The man's face was markedly cyanotic, and about the nostrils there was an abundant herpetic eruption. There was evident rhinitis and conjunctivitis. Kernig's sign was present, as also moderate retraction of the head. On lumbar puncture, a small amount of hemorrhagic, markedly turbid fluid was obtained. Death occurred about an hour later. An autopsy unfortunately could not be obtained.

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[1] I am indebted to Dr. Futcher for permission to use the clinical notes referring to the patient.

Examination of the Fluid.—In the meningeal fluid, coffee-bean shaped diplococci could be demonstrated both within and outside of the cells, which latter were almost all polynuclear elements. The organisms were not numerous, however. Some were small, others presented a swollen appearance, while a few occurred as tetrads.

Blood smears showed a leucocytosis of high grade—50,000 at a conservative estimate, with the following relative values: Small mononuclears, 17 per cent.; large mononuclears, 21 per cent.; polynuclear neutrophiles, 62 per cent.; eosinophiles and mast cells, none in a count of 500 cells. Fully 8 per cent. of the leucocytes contained diplococci, which in their morphologic habitus could not be distinguished from those found in the meningeal fluid of this case, nor from diplococci isolated by culture from other typical cases of meningococcus meningitis. Like these, they were Gram negative. It is noteworthy that the large mononuclear leucocytes were engaged in phagocytosis almost to the same extent as the neutrophiles. While in the majority of the phagocyting cells only one or two pairs of diplococci were seen, others were literally studded with them. One large mononuclear contained 26 pairs, and a neutrophile between 50 and 60 pairs. Extracellular organisms were also encountered, but were not numerous.

The bare figures give hardly a proper idea of the extent of the septicemia. But calculating the degree of leucocytosis at at least 50,000 cells in each c. mm. and that 73.8 pairs of cocci were found in 500 leucocytes, it would follow that in one c. mm. of blood there were 7,380 and in one cubic centimeter 7,380,000 diplococci, the vast majority of which had been disposed of by phagocytosis. As a general rule the organisms were well preserved and stained deeply with methylene blue, but in some cells they were greatly diminished in size and manifestly undergoing dissolution. Many neutrophiles were vacuolated to a considerable extent, suggesting that digestion of the cocci had occurred in the vacuoles; in some, indeed, basophilic débris could still be discerned (see illustrations).

Similar appearances were seen in some of the large mononuclear leucocytes, which latter were also engaged in the phagocytosis of red cells. The increase in both the relative and absolute number of these latter is especially noteworthy. In the relatively small number of meningococcus meningitis cases (10) in which I have made differential counts before, I did not meet with this feature. There was always a polynucleosis of high grade with low mononuclear values. It would be tempting to bring these cells into a connection with a possible proliferative endarteritis, but in the absence of an autopsy this hardly seems warrantable. The significance of their presence and identity must hence remain an open question.

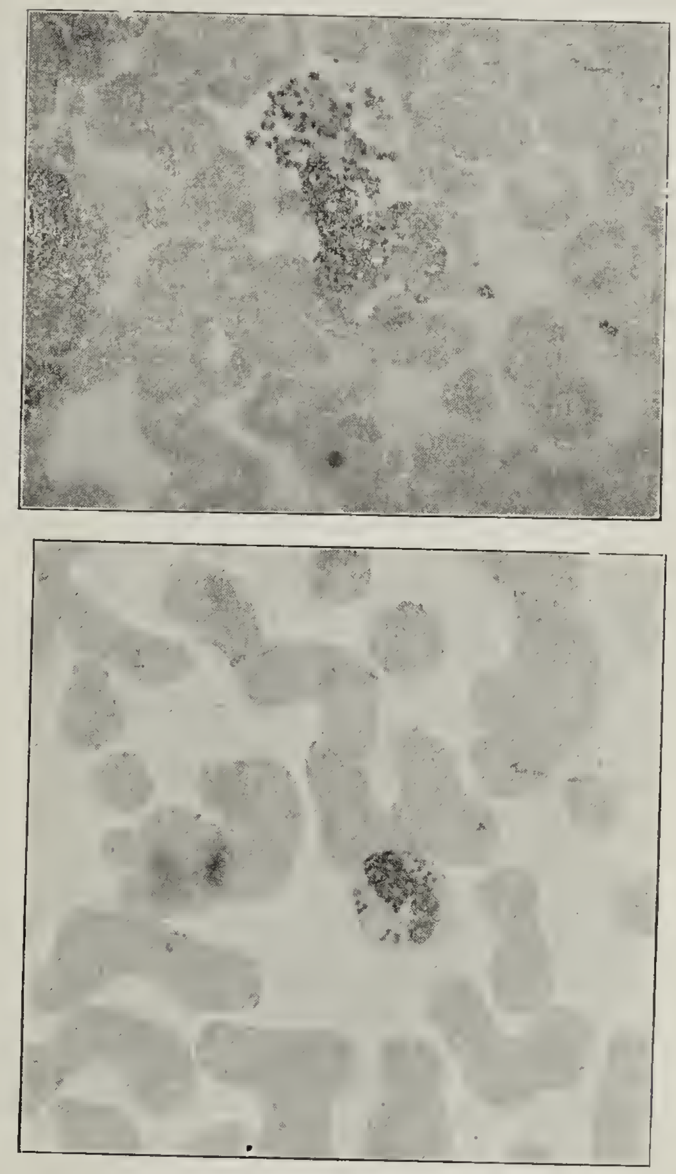
REVIEW OF LITERATURE.

The first case of meningococcus septicemia in which the organism was found in the blood (by culture) is reported by Gwyn.[2] The patient was a man, aged 24, with symptoms of meningitis, swelling and redness of both elbows, the right wrist, the right knee and several of the smaller joints of the hands. Growths were obtained on the day preceding death (the fifth of the disease) from the meningeal fluid, the pus from the knee joint and the blood.

The second case is reported by Salomon.[3] There were symptoms of meningitis, associated with pain and swelling of several joints (wrists, elbows and ankles). The organism was cultivated from the blood on the eighth day of the disease and was also demonstrated in the meningeal fluid.

In his communication Salomon also refers to a statement by Jäger[4] to the effect that in one case he had been able to cultivate the meningococcus *intra vitam* from the urine.

The third case is described by Warfield.[5] There were no definite symptoms of meningitis, but at autopsy (brain not examined) an acute ulcerative endocarditis was found. The organism was isolated by culture from the blood during the life of the patient (about the twenty-sixth day of the disease) and postmortem from the vegetations on the valves. This case is the first recorded in which the meningococcus was demonstrated to be the cause of a malignant endocarditis.



Blood in meningococcus septicemia.

Two additional cases are reported by Martini and Rohde.[6] In both meningeal symptoms were observed, but in the one they only appeared after three or four weeks of general illness. The organism was isolated from the blood in both cases. Their demonstration in bouillon cultures deserves especial mention. A series of bouillon tubes were inoculated, each with about 2 c.c. of blood and incubated at 37.5° C. After sixteen hours the organisms were found—many of them intracellularly in leucocytes. The search was greatly facilitated by centrifugalizing the bouillon cultures containing the blood and examining the leucocytes in the surface layer of the centrifugate.

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[2] Bull. Johns Hopkins Hosp., June, 1899. This case is also reported by Osler, Boston Med. and Surg. Jour., vol. cxxxix.

[3] Berlin klin. Wochschr., 1902, No. 45.

[4] Die epidemische Meningitis als Heeresseuche, Coler, Berlin, 1901.

[5] Warfield: University of Penn. Medical Bull., July August, 1903.

[6] Berlin klin. Wochschr., 1905, No. 32.

The writers are manifestly not aware of Gwyn, Salomon and Warfield's findings, as they regard their cases as the first in which the meningococcus has been demonstrated in the blood.

The only additional cases in which this demonstration has apparently been made are two instances of meningitis, recorded by Follet and Sacquépée.[7]

Including my own there are thus only eight cases in which the meningococcus has been found in the blood. This is a remarkable fact considering the large number of cases of meningococcus meningitis which have been observed within the last few years; but it may find its explanation in the small number of blood examinations which have probably been made, as contrasted with examinations of the meningeal fluid in which the demonstration of the organism is no doubt more likely to lead to a definite result. Considering, however, that in the meningeal fluid even negative findings are not unusual, it seems advisable in all doubtful cases to resort to blood examination also. Martini and Rohde's method should be tried, besides cultivation on blood serum, hydrocele agar and blood agar. My own observation I am inclined to view as a curiosity only and as not likely to be duplicated except on rare occasions. Nevertheless, a careful search should be made, which occasionally may lead to a fruitful result, and it is possible that by working with large drops of blood and Ross' dehemoglobinizing method positive findings may be more frequent.

Special Article

WATER SUPPLY AND PUBLIC HEALTH.

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(*Concluded from page 1863.*)

CHAPTER VII.

ARTIFICIAL METHODS OF WATER PURIFICATION.

(*a*) *House-Filters.*—The purification of water by artificial means as distinguished from natural or so-called self-purification may be accomplished in various ways. The use of domestic or house filters for this purpose has obtained wide extension, especially in countries where public water supplies are known to be impure. Some of the articles styled as filters or purifiers and sold as such have little value, and if they accomplish anything at all merely remove excessive color or turbidity from the water without materially increasing its safety. The principle underlying the operation of all of the better class of house filters is essentially the same, the actual straining out of the bacteria contained in the water. It needs no argument to show that only those filters made of exceedingly compact material can achieve the end desired. Through filters of loose or coarse material bacteria can pass freely without let or hindrance. Among the best known filters composed of compact material with fine pores through which the water is forced under pressure are the Pasteur-Chamberland and Berkefeld. Both of these types have been repeatedly demonstrated to be efficient when operated under the conditions obtaining in a bacteriologic laboratory, and it has been found that many of the cylindrical tubes of baked clay or of infusorial earth, when properly attached to a water tap, will continue to yield a nearly germ-free effluent for some days. It has been repeatedly demonstrated, however, that not all of the tubes put out by the manufacturers of even the best types of filters present an impassible barrier to the passage of bacteria. This is true even when the tubes are properly sterilized at the outset and are connected and handled with suitable precaution. A recent investigation by Pfuhl[23] has served to bring into sharp relief the impossibility of depending on an untested filter tube to furnish a germ-free filtrate. Phosphorescent vibrios and colon bacilli suspended in water appeared in the filtrate in a very short time in some of Pfuhl's tests. Great variation was noticed in the permeability of the different cylinders. A more vigorous application of suitable tests on the part of the manufacturers before allowing their tubes to be placed on the market would doubtless help to remedy this condition.

There is no doubt that a considerable, if varying, degree of safety is attained by the use of the best filters. Where such filters have been employed on a large scale, as in the well known case of the military garrisons in certain French cities, a decrease in typhoid fever among the filter users has been shown to occur. Few will question that where the small filters are controlled by bacteriologic tests and operated under careful supervision, they constitute a very efficient safeguard against water-borne disease. Under actual conditions in the household and elsewhere, the use of the best compact porous filters sometimes presents certain difficulties. The following quotation from a recent paper on military hygiene[24] ilustrates this point: "It might be thought that nowadays most people understood the proper use of filters on the Pasteur principle; it has, however, been found that in regimental soda water factories in India (managed and supervised by regimental officers), where the water was known to be dangerous, and in need of efficient filtration, the filter bougies have been fixed in such a way as to permit of the water passing through the joint, instead of through the wall of the bougie; this being done in order to get a more rapid flow." The yield of these filters, particularly and necessarily those of the more efficient types, is always scanty, and if the details of connection and cleansing are entrusted to unskilful or negligent hands the proper operation of the filter may be rendered entirely futile. Not a little time and care are needed to insure that a battery of these tubes in a large school or factory is kept continually in efficient working order. Daily inspection of trustworthy and experienced persons is indispensable, and bacterial tests should be made at frequent intervals. The report on filters by a committee appointed by the French Academy of Medicine (1903)

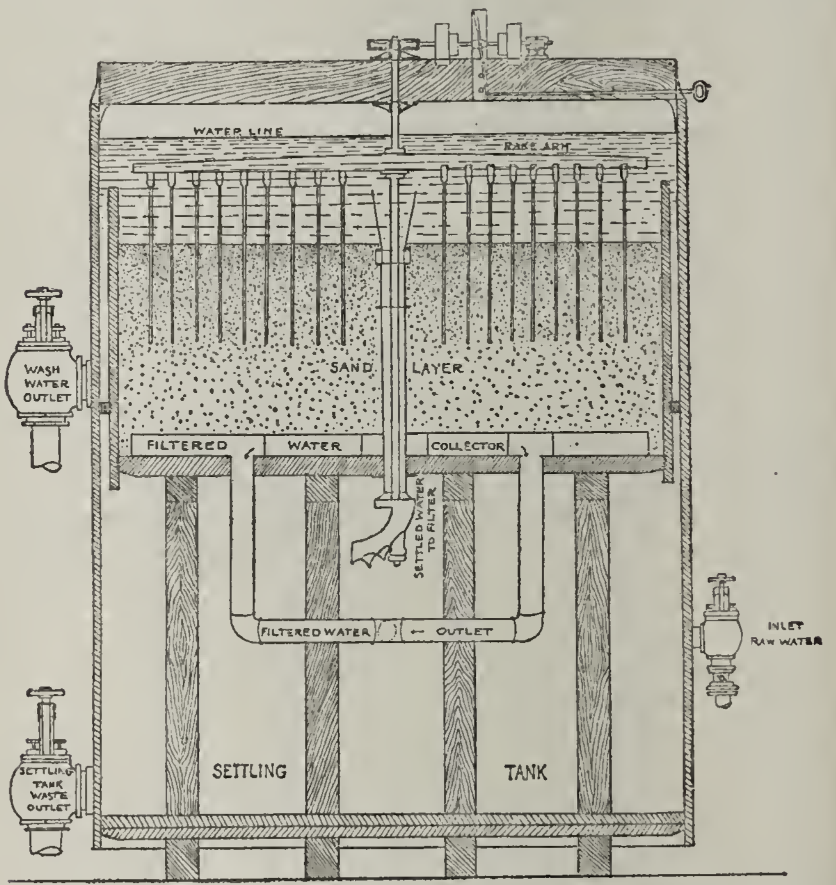

Fig.—3.—This shows a section through a common type of mechanical filter. The cleansing of the sand is accomplished, at short intervals, by agitation with a revolving rake. The tank in the figure is about 12 ft. in diameter.

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[7] Presse médicale, 1906, No. 6.

[23] Festschr. f. R. Koch, 1903, p. 75.

[24] Davies, Jour. of the Royal Army Med. Corps, 1904, 2, p. 706.

lays emphasis on some of the difficulties of filter management on a large scale: "During fifteen years, a large number of filters have been used in barracks and hospitals; they have proved to be wonderfully serviceable. But they require minute attention; and every fortnight the taking to pieces, cleaning inspection and replacement of perhaps 150 fragile tubes and receptacles. In default of such attention, the filters rapidly become useless, or even dangerous.

"Sterilization by heat is a recent invention. The apparatus employed has already produced excellent results, and is very favorably regarded. Pathogenic germs are absolutely destroyed, and the sterilizing power is not subject to such limitations as that of filters, which are liable to become dirty and obstructed, as well as to cracks and breakage. The action of the sterilizers is continuous, night and day, and requires very little supervision; only a few are needful, and they can be satisfactorily cleaned, every two or three months in a few hours by an armourer's assistant. A longer experience may perhaps reveal certain inconveniences and disadvantages, but while retaining filters a large number of sterilizers should be employed, and a final judgment should be deferred until some years have elapsed."

(*b*) *Slow Sand Filtration.*—(Note: This section is omitted here, since a special article on sand filtration has appeared in THE JOURNAL, Oct. 3, 10, 17, 24, 1903.)

(*c*) *Mechanical Filtration.*—Many of the smaller cities in the United States have adopted for the purification of the public water supply some one of the numerous methods or devices of mechanical filtration. It is estimated that in the United States at the present time a total population of over 2,600,000 is supplied with water treated by mechanical filters. The ordinary type of mechanical filter is an iron or wooden cylinder filled with rather coarse sand through which water is driven with pressure. An important feature of mechanical filtration, which is sometimes called the American or rapid system, in contradistinction to the English system or slow sand filtration elsewhere described, is the use of a coagulant. Sulphate of alumina is the material most commonly employed for this purpose. When the water to be treated does not contain sufficient alkali to combine with the acid of the coagulant, lime or soda ash is often added to supply the deficiency. In the past alum has been sometimes used in the place of sulphate of alumina, but this substance is not employed in the best modern plants. Salts of iron, particularly copperas (ferrous sulphate) in late years have been successfully used in place of aluminum salts. When these chemicals are added to the water a flocculent precipitate (aluminum hydrate or ferric hydrate respectively) is formed in which bacteria and other suspended particles are entangled and by which they are speedily entrained to the bottom of the settling tank. The water in which such precipitation has occurred can then be passed relatively rapidly through rather thin layers of sand or fine gravel (Fig. 3).

Bacterial examinations of the effluents from carefully constructed and properly managed mechanical filters show that the percentage of removal of bacteria is nearly, and in some cases quite as great as with slow sand filtration. Elaborate experiments at Louisville, Cincinnati, Pittsburg and New Orleans have shown that highly turbid waters, especially waters containing a large amount of clay in finely divided particles, many of which are smaller than the average bacteria, can be better clarified by mechanical filtration than by slow sand filtration. On the other hand, the bacterial efficiency of slow sand filters is on the whole somewhat greater than that of the mechanical filters. Mechanical filters on their side yield in proportion to their size and initial expense a much larger quantity of water than the slow sand filter. It is estimated roughly that the rate of filtration in the mechanical filter is increased forty times. One of the best of the modern rapid filtration plants is that located at Little Falls, N. J., for treating the water of the Passaic river.[25] The engineer entrusted with the work recommended that a filter of the mechanical type be installed at this place, partly on account of the desirability of removing the high amount of color in the river water, partly on grounds of economy. The lower initial cost and the superior efficiency in removing color and turbidity are the respects in which the advantages of mechanical filtration are most apparent. Statistics regarding the reduction of typhoid fever mortality in cities supplied with water treated with mechanical filtration have not yet been obtained of sufficient cogency to permit of any direct comparison between the results obtained by this method and those secured by slow sand filtration. The experience of the city of Butler, Pa., where the temporary discontinuance of a mechanical filter brought on a disastrous epidemic of typhoid fever, indicates that a mechanical filter may, when properly operated, afford a considerable degree of protection to the users of a polluted water. It is maintained by some authorities that a relatively clear water should be treated by slow sand filtration, while a coagulant should be used in dealing with extremely muddy waters, which are not very highly polluted.

In recent years important improvements have been made in types of construction of mechanical filters, and in particular in the apparatus for feeding the coagulant. Automatic control of many details by the use of ingenious mechanical contrivances has made the possibility of failure through the ignorance or inattention of attendants more remote than formerly.

The methods of coagulation and slow filtration are not mutually exclusive. The preparation and application of the coagulating solutions require, however, knowledge of the changing character of the water under treatment, and expert supervision is found to be as necessary as in slow sand filtration. The view has been advocated that in cases where the water is not very turbid except at certain seasons of the year, slow sand filtration should be practiced at times when the water is reasonably clear, coagulant being added only during the short period for which it is found necessary to produce successful clarification. Experts have recommended that the water supply of the city of Washington, D. C., should be treated by this combination of methods. As has been pointed out, the initial cost of construction of a mechanical filtration plant is somewhat less than that of a slow sand filter of the same capacity, but the cost of operation is greater. It can never be safely forgotten that both systems require constant expert supervision to maintain them in a state of hygienic efficiency. The experience of the next decade is likely to furnish data that will clear up some of the disputed points concerning mechanical filtration, notably as regards its influence in lowering the typhoid fever death-rate.

Other Means.—While slow sand filtration, or mechanical filtration or the use of small domestic filters are the methods of water purification most generally employed at the present time, there has been no lack of suggestions and experiments in other directions. The method of purifying water by heat is the only practicable one under certain conditions, and it need hardly be said that this method affords a unique guarantee of bacteriologic purity. The typhoid bacillus is killed by exposure for ten minutes to a temperature of 57° C. and is destroyed surely by a shorter exposure to higher temperatures. The other chief water-borne micro-organism, the cholera spirillum, is yet more sensitive to the action of heat. In any given case, therefore, when there is strong reason to suspect that a water is polluted, undoubtedly the safest procedure for an individual consumer is the purification of the water by boiling. The assurance of safety thereby obtained is unquestionably greater than by any other method. Objections to the flat taste or cloudy appearance of freshly boiled water can be readily removed in household practice by passing the water after boiling through a filter of coarse material, e. g., sandstone, which aerates the water and restores it to its pristine brilliancy.

Some popular misunderstanding seems to have arisen concerning the length of time water should be boiled in order to render it safe for drinking purposes. It must not be forgotten that what is aimed at is not bacterial sterility, but practical safety. The spores of certain saprophytic micro-organisms, such as the hay bacillus, will resist boiling for hours and the attempt to render water absolutely germ-free by continuous boiling is not likely to succeed in all cases. Direct experiment has shown, however, that as regards the bacteria of the ordinary water-borne diseases, it is sufficient to insure safety if the water be boiled for ten minutes. Boiling for one hour or even for one-half hour is not necessary.

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[25] A good description of this plant is given in the Transactions of the American Society of Civil Engineers, 1903, 50, p. 394.

Objection to the use of boiled water is sometimes made on the ground that unless the water be carefully protected after boiling a multiplication of bacteria will take place which will raise the germ content to a point higher than that originally obtained. Such an objection fails to take into account the really significant feature. A multiplication of the saprophytic bacteria present in a pure spring water may likewise occur, even at a low temperature, but there is no reason for supposing that the sanitary quality of such a water is in any degree impaired. In other words, it is not the number, but the kind of bacteria present that possesses sanitary significance. It is a relatively simple matter to guard against accidental introduction of typhoid bacilli or of cholera spirilla into a boiled water, especially since these germs rarely if ever occur floating in the atmosphere and then only in the immediate neighborhood of the sick.

The sterilization of water by the use of chemicals has also been frequently attempted, sometimes with a high measure of success. In recent years the purification of water on a large scale through impregnation with air containing a high percentage of ozone has been undertaken in certain German water works. The ozone is generated by electricity by special appliances and the amount introduced into the water is so adjusted on the basis of carefully controlled experiments as to afford a maximum of operative efficiency with a minimum output of ozone. In several places small ozone plants were installed in connection with water works, and the waters treated by this process are said to be very low in bacteria, the number in the raw water being sometimes reduced from 20,000-30,000 per c.c. to only 8-10. The matter of expense, however, is not reassuring for the future of the ozone treatment on a large scale and the wholesale treatment of public water supplies with ozone does not seem destined to wide extension. A plant established in Wiesbaden has been recently abandoned.

A number of other methods have been proposed for the sterilization of water by chemical means. Compounds that liberate chlorin (Moritz, Traube), bromin (Schumburg) or iodin (Vaillard) have been especially used for this purpose. The risk of imparting a disagreeable taste to the water seems, however, to be considerable and in practice these methods have usually failed to meet the expectations of their advocates.[26] Recently the use of copper sulphate has been championed as a means of freeing water supplies both from algal pests (Chapter III.) and from disease germs.[27] "At ordinary temperatures 1 part of copper sulphate to 100,000 parts of water destroys typhoid and cholera germs in from three to four hours. The ease with which the sulphate can then be eliminated from the water seems to offer a practical method of sterilizing large bodies of water, when this becomes necessary." Further experimentation seems desirable.

An effective mode of chemical treatment would possess obvious advantages. In tropical countries and among exploring expeditions or soldiers on the march the surer method of sterilizing water by boiling encounters overwhelming obstacles. The substances that have been proposed for use under such conditions have not, however, given very satisfactory results. Potassium permanganate is reasonably efficacious in destroying pathogenic bacteria in water under laboratory conditions, but in the field its value is problematical, especially in those cases in which the water contains much organic matter. Parkes and Rideal[29] have recommended sodium bisulphate in the proportion of fifteen grains to the pint, action of the chemical to continue for 15 minutes before use of the water. Other observers have failed to confirm altogether their statements, and it is obvious that natural conditions may vary so greatly as to make generalizations based on laboratory experiment of little value. The use of citric acid (lemon-juice) as a germicide may be looked on with even greater scepticism. On the whole, the employment of chemical substances for water purification can hardly be said to be as yet on a very sure foundation.

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26. See for example Schüder on the bromin method, Zeits. f. Hyg., 1901, 37, p. 307.

28. Trans. Epidem. Sec., London, 1900-01, 20, p. 33.
letin No. 64.

27. Trans. Epidem. Soc., London, 1900-01, 20, p. 33.

Clinical Notes

IMPROVED METHODS FOR THE GUAIAC TEST FOR BLOOD AND THE OXIDATION TEST FOR INDICAN.

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The usual method for the guaiac test calls for an old sample of turpentine which has dissolved active oxygen from the air, or in lieu of it a fresh bottle of hydrogen dioxid. The turpentine of ripe age is not always at hand and, like the hydrogen dioxid that has been used through the summer, is of uncertain oxidizing power. An oxidizer of constant strength in any climate is much to be desired. In the usual process liquid reagents are employed in the test tube, which means a larger volume of the blood material than can always be obtained and a response not sensitive enough for small quantities. Sometimes a few threads of blood-stained linen are all that can be had.

THE MODIFIED GUAIAC TEST.

To meet this difficulty the following modification is proposed: The oxidizing agent is sodium perborate as made by Schering from sodium dioxid and boric acid. It is better than sodium dioxid alone because it does not absorb water and carbon dioxid from the air and is, therefore, more stable. The sample I have used has been kept loosely boxed for a year and a half. Immersed in water this yields hydrogen peroxid and oxygen as freely as when first obtained. Because of its compactness the tablet form is preferred.

METHOD.

A solution is made of freshly broken pieces of guaiac resin by boiling them with alcohol in a test tube for a few minutes until the tincture is yellow. The suspected material, which may be a drop or two of blood or of bloody urine or of water in which a blood-stained fabric has been steeped, is cautiously mixed with a drop or two of guaiac solution to make a milky mixture. This is brought in contact with a fragment of sodium perborate on a white plate.

If the proportion of blood is large the white perborate turns blue in a few minutes and remains blue until the drying of the guaiac leaves a yellow residue which changes the blue to green. This blue-green color persists on and about the perborate and is well shown on the white background for at least a week. If the proportion of blood is small the white perborate takes on a pale blue hue which turns green as the guaiac dries. The next day a distinct green stain is left on the white plate. The test is simple and delicate, though it must necessarily be open to the fallacies that belong to the guaiac test in any form. A distinct reaction was obtained from a small five-year-old blood stain on linen.

THE INDICAN TEST.

Jaffe's test for urinary indican commonly employs a solution of chlorinated lime or of chlorinated soda or of hydrogen dioxid. Great care is enjoined lest excess of the reagent should carry oxidation beyond the desired point of indigo-blue to that of isatin, a yellow substance. All of these reagents are liable to be of indefinite strength, and, therefore, each must be added at first in amounts suit ble for a strong specimen, though later it may prove to be lacking. Potassium chlorate has been advocated because of its definite composition, but the reaction with it is often disappointing and tardy.

Because of its permanent strength and prompt action, sodium perborate stands us in good stead. From healthy urines, containing about 1 to 5 mgs. (.001 to .005) of indoxyl salts per liter, I obtained a distinct indigo-blue reaction, uniformly, by the following procedure:

METHOD.

To a test-tube filled one-fourth with urine an equal quantity of concentrated hydrochloric acid is added to liberate the indoxyl-sulphuric acid or urinary indican and then as oxidizer a piece of sodium perborate as large as a full-sized pea. The mixture, which immediately effervesces briskly, is gently agitated to dissolve the perborate. The urine promptly deepens in color and if the amount of indican be large, turns faintly blue. To concentrate the color, one cubic centimeter (16 minims) of chloroform is added, the tube closed with the thumb and the contents *gently shaken for at least two minutes.* The chloroform separates at the bottom as a layer varying in depth of blueness with the proportion of indican. Some pathologic urines yield a layer almost black in color. If the shaking is too vigorous the chloroform is emulsified and remains milky, though with a decided blue tinge.

If the patient is taking potassium iodid, Jaffe's test is always liable to a fallacy from the violet blue color of free iodin in chloroformic solution. If this complication is suspected, the acid fluid is poured off and to the blue chloroform potassium hydroxid is added. Color due to iodin disappears while indigo-blue remains.

RECOVERY FROM BROKEN NECK.*

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This case is of interest, not because a broken neck is especially rare, nor is recovery with partial restoration of function very unusual, but complete recovery following operative interference from fracture through the cervical vertebræ is almost unprecedented. I use the term broken neck advisedly—the conclusions of practically all observers have been that a dislocation of the cervical vertebræ without some fracture is impossible. If we are familiar with the bony contour of the vertebræ, with their articular processes placed nearly vertical, we readily understand how a dislocation without a fracture of greater or less magnitude is impossible.

Medical literature contains reports of a number of cases of fracture of the cervical vertebræ showing partial recovery with persistent deformity of the neck, greater or less pressure on spinal cord, possible paralysis, bed sores, etc., but I have been able to find but three cases where there was complete and absolute recovery following surgical interference in these cases. The case is as follows:

History.—Roger C., aged 16, weight 110 pounds. On March 6, 1907, he was looking over the gate of a freight elevator, had his chin over the same, the elevator descended, striking the back of his head, and at the same time the gate ascended, catching him at about the region of the larynx, the two lines of force exerting a peculiar shearing pressure on the boy's neck. He was hurried to the City Hospital, where I saw him twenty minutes later, at which time he presented the clinical picture of pressure on the cord.

Examination.—The boy was unconscious. He was rigid, with violent incoordinate movements, the limbs markedly flexed, all the flexors predominating, complete anesthesia, greatly exaggerated knee jerk, ankle clonus, paralysis of sphincters of rectum and bladder. Breathing was diaphragmatic, shallow and slow. He was cyanotic, the pulse being 120 and thready. His head was slightly crowded back out of position; there was a dimple in the back of the neck over the spine of the third cervicle vertebra. The palpating finger in the pharynx could distinctly make out the prominence of the body of the second vertebra dislocated forward. The boy was *in extremis,* and I advised his parents that he would probably die on the operating table, but he was doomed in any event, and should be given the chance of surgical interference. Dr. J. E. Moore, whom I asked to see him, concurred in this opinion, and the lad's parents consented to the operation.

Operation.—He was placed on his back on the operating table, without anesthesia, his head and shoulders extending over the edge of the table. While the hospital internes held him by his shoulders and body, with one hand under his occiput and the other under his chin (my feet on the edges of the table for a leverage) I made powerful traction on his head with no other result than twice to dislocate his lower jaw, which had to be reduced. Then with a folded towel over the teeth of his upper jaw to protect my hand, I made traction from here and the occiput. Dr. Moore meantime, with his fingers in the pharynx, crowded back on the vertebræ; this also was unsuccessful, and finally I had an interne grasp my wrists and pull with me; we used all our strength, first extended and then flexed the head on the neck sharply, when the vertebræ slipped into place. The relief to the patient was instantaneous, showing pressure on the cord was relieved; his pulse and respiration quieted down, the incoordinate movements ceased, and sensation returned. He was put to bed with the head of the bed raised, a ten-pound extension on his head pulling from the vertex through the medium of a Barton's bandage, pulleys and weights.

Further Treatment.—Bromids were crowded with the expectation of meningitis developing. He was catheterized for the first twenty-four hours, then voided urine involuntarily, while the bowels responded to enemas. His temperature for the first ten days ranged from 100 F. to 102 F., while his pulse continued high, averaging 120. He had no symptoms of effusion or pressure other than that he was unconscious for twelve days. He was fed by rectum for four days. At the end of the seventh day, still making extension on his head, his body was slipped over the edge of the bed and held by orderlies and internes while I applied an extremely heavy cast from his hips to the top of his head, enveloping him entirely save his face from his mouth to his brows. In the photograph (Figure 1), the cast has been cut away from his chin to dress a small area of pressure necrosis due to the extension. This cast absolutely immobilized his head, neck and shoulders. After the plaster had set the extension was removed. He was left in this cast four weeks. After his return to consciousness on the twelfth day all medication was stopped, and save for a burn on his left arm and leg, resulting from leaking hot water bags applied by a green orderly when first received in the patrol room, he was very comfortable. His temperature had dropped to normal, although his pulse still persisted between 100 and 110. At the end of the fifth week after his injury his cast was removed to find that the boy had made a perfect recovery. He was allowed to get up and go about with a simple collar of plaster, more to remind him to be careful than anything else. At the end of the sixth week he was discharged, cured, with perfect function.

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* Reported before the Minnesota Academy of Medicine, May 3, 1907.

A skiagraph was kindly made for me by Dr. J. Clark Stewart seven weeks after the injury. In comparing it with skiagraphs of a normal neck it could be seen that the second intervertebral space where the dislocation occurred was a little more pronounced, but the vertebræ were in perfect position.

TREATMENT OF HAY FEVER.

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As all rhinologists are aware, it is often found that the only areas of contact in the nostrils of the hay-fever patient are formed by congested sections of the anterior third of the inferior turbinate and the resisting nasal septum. Such areas are frequently limited to the very tips of the inferior turbinates, however, as is well known, contact areas may be found in various other sections of the nostrils.

A contraction should be brought about through the application to these areas of a weak solution of cocain and adrenalin by means of pencil or pledget. If these areas of contact are not extensive, the contraction may be made permanent by the cauterization of their irritable surfaces with chromic or trichlor-acetic acid or both, providing the patient speedily becomes a normal breather and remains such. Atropin sulphate, administered in doses of gr. 1/200 immediately preceding cauterization, will aid contraction and prevent copious secretion. Applications of this drug may be repeated occasionally. It may be found that doses of gr. 1/400 will prove as efficient as the larger dose.

If the obstructive areas are extensive and it is difficult or quite impossible for the patient to get air through the nostril I remove sections of the areas involved wherever they exist, even at the height of the attack, with scissors and snare or punch-forceps, whether congestion or hypertrophy exists; and when it is necessary to prevent contact areas I do not hesitate to remove even extensive areas entire. I have been doing this for the past five years with most excellent results.

If the affection is bilateral it is usually well to leave one nostril for a day or two.

If septal obstructions are present their removal and subsequent nasal breathing may be all that is necessary to bring about a normal condition. As it is usual after nasal operations, the patient should be instructed to sit erect with basin directly beneath the chin until all bleeding has ceased. The nostril will require little or no packing if the patient is mindful of the instruction to breath through the nose, to keep the nostril operated on as free from clot, etc., as possible, blowing the nose when necessary (never both sides together) and following the same instruction regarding bleeding if there is a recurrence after leaving the operating room, substituting gauze for basin if such a recurrence happens before reaching home.

If the operator decides wedging is necessary he should use just enough sterile wedging to prevent adhesion and only between those sections absolutely requiring it, for it is essential that the patient breathe through that nostril, if not freely, at least as much as is possible. Occasionally it may be necessary to keep a wedge between certain surfaces for a few days, but it is remarkable how speedily healing takes place if the patient is persistent in nasal breathing. A slight coating of chromic and trichlor-acetic acids over small areas may sometimes prove useful following operations to favor contraction and to prevent secondary hemorrhage. It may also prevent the necessity of wedging, as it promotes a crusting which often makes adhesion impossible.

It is well to remember that atropin sulphate, in the above mentioned doses, may be helpful during the healing process in these cases. Also in subsequent years if there is the slightest nasal disturbance due to small recurring contact areas, when the patient has not been entirely faithful to his instruction in breathing, atropin sulphate and absolute nasal breathing will overcome what otherwise might prove a severe recurrence of hay fever.

As I stated in my first letter to The Journal,[1] I do not consider a nostril capable of establishing a contact area, especially below its median line, normal. If, for the purpose of diagnosis, I can establish such an area in the nostrils of a hay-fever patient at any period other than his hay-fever attack, in other words, if I have not seen the patient during his hay-fever period or during an attack of "cold in his head," I irritate the nostrils, and if I am able to bring about a contact area I treat it appropriately, being governed in this by the extent of the area involved.

The nostrils having been relieved of all obstruction, it must be insisted that the patient wear the plaster mouth guard, during sleep at least, as soon as possible, and one may be certain that when his patient informs him that he has been able to wear the plaster the entire night without discomfort he is going to have little further trouble, and this he should be able to do within the first four days of treatment unless the obstructions are more than ordinarily extensive.

When the contact areas are very small it is not at all unusual to find that the patient has worn the plaster without discomfort the entire night following the first treatment. The plaster mouth guard must be worn until the patient has overcome his faulty breathing.

A nasal spray or douche should not be ordered under any circumstances. Air breathed normally through unobstructed nostrils, and nasal secretion, providing the patient is following Nature's general requirements necessary to good health, will bring about a more speedy recovery than any production of the laboratory possibly could.

The patient must be impressed with the necessity of nasal breathing to resist asthmatic attacks during these periods, and he who has had such attacks must be assured that he may expect a recurrence yearly if he does not possess nostrils as nearly normal as possible and use them as Nature intends he should. After the physician has given his patient such nostrils he must not instruct him to avoid anything or any place or thing which has previously excited the periodic sneezing attacks, but rather the patient must be advised to revisit such a place or have some golden-rod brought to him, or, as I often do, have it for him in the consulting room, and insist that he bring his nose in contact with it.

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[1] The Journal, Sept. 8, 1906, p. 793.

These tests carried on even during the healing process establish a confidence in the operator's efforts, for it will be found that what was previously an excitant is no longer one.

It should not be suggested that the hay-fever patient go to the mountains or take a sea trip, but rather that he remain at home and be cured, and ordinarily he may be assured that it will not be necessary for him to neglect business during the period of treatment.

A SIMPLE METHOD OF OBTAINING STOMACH CONTENTS.

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NEW ORLEANS.

At times it happens that some difficulty is experienced in obtaining stomach contents by the expression method from patients after a test breakfast or test meal, and the operator hesitates to use violent suction methods by means of pump or otherwise. In such a case the simple device which I have used successfully for some time will be found quick and economical:

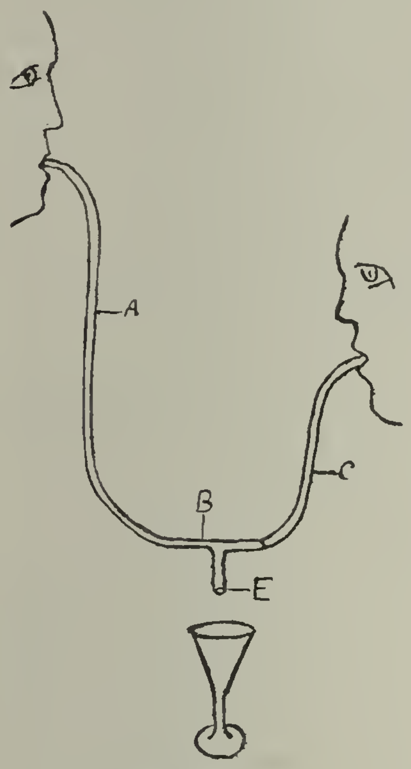

Figure 1.

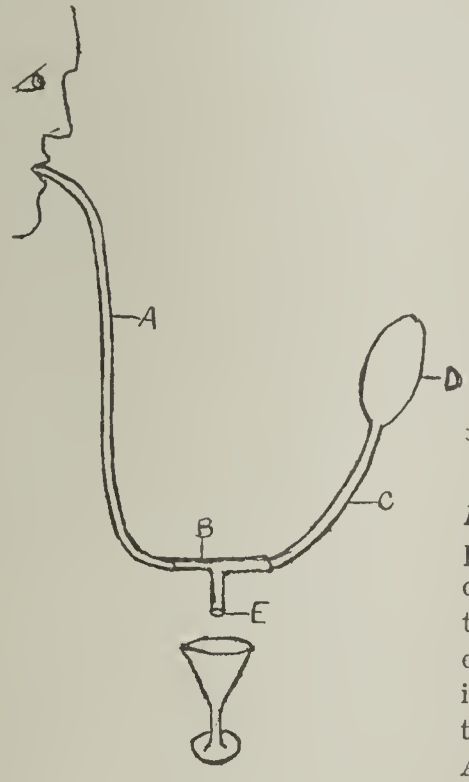

Figure 2.

A in Figure 1 represents the stomach tube in place in the patient's stomach; B, a glass T tube; and C, a piece of rubber tubing used for suction purposes. To the latter the lips of the operator (Fig. 1) are applied and gentle suction is made; or, a rubber bulb D (Fig. 2) is attached to the end of the tube. When suction is made by the operator's lips the free end of the T tube, E, is closed by means of the index finger and gentle suction is practiced. As soon as fluid makes its appearance in the glass T tube, the finger is withdrawn and the fluid is allowed to flow into a receptacle held in position to receive it. If the bulb is employed, it is first compressed, the free end of the glass T tube is closed by means of the index finger, the pressure is then released from the bulb and the fluid allowed to flow for collection. During the course of this procedure, care should be exercised to have the end of the stomach tube to which the T tube is attached on a lower plane than the lower border of the stomach. The patient may be placed in the sitting or recumbent posture during this manipulation.

124 Baronne Street.

A PORTABLE APPARATUS FOR STOMACH DOUCHE.

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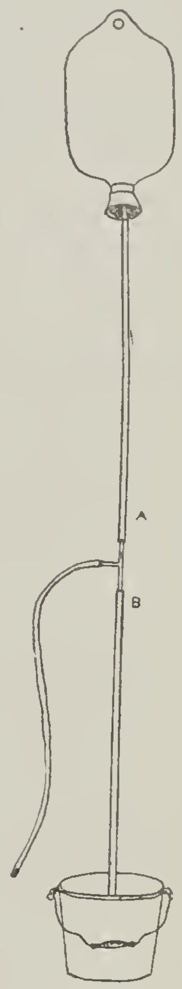
ROME, GA.

A simple and at the same time efficient means for irrigating the stomach can be made by bisecting the tube of an ordinary fountain syringe and inserting a glass T tube to which an ordinary stomach tube may be attached.

The stomach tube may be first introduced and then the attachment is made. While the left hand steadies the stomach tube the fingers of the right hand alternately compress at A and B.

By having the stomach tube and a glass T the ordinary household fountain syringe may be made available in less than a minute in emergency cases.

The whole apparatus may be sterilized and wrapped in paper so as to be carried in the coat pocket.



Recovery After Carbolic Acid Poisoning.—The *Gaz. méd. Belge*, xix, 208, relates that d'Hotel was able to save two patients who had taken carbolic acid by prolonged rinsing out of the stomach, although an interval of one and a half and two hours had passed before he saw the patients. In the first case he poured tepid water containing ipecac through a funnel introduced into the nostril, with traction on the tongue, injection of ether and measures to induce artificial respiration. After a time vomiting occurred and the patient was made to drink large amounts of the water. Consciousness gradually returned and in two hours he had practically recovered. The cure was completed by administration of sodium sulphate. The other patient was a young woman who was apparently dead when first seen, with no response to pricks or revulsion, two hours after having swallowed three or four tablespoonfuls of the official phenic acid. He improvised a stomach tube out of a fountain syringe and washed out the stomach thoroughly, keeping up the lavage for a long time. Gradually the complete coma yielded to consciousness and in a short time the patient was entirely restored. The stomach was rinsed out until there was no odor of the carbolic acid in the returning fluid. He believes that the shock and the absolute immobility of the coma in these cases prevented absorption of the carbolic acid remaining in the stomach after the absorption of a certain proportion had induced the symptoms of serious intoxication. The discoloration and odor of the urine showed that only a small percentage of the poison ingested could have been absorbed. No complications of any kind followed.

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SATURDAY, JUNE 8, 1907.

THE DIAGNOSIS OF SYPHILIS BY SERUM REACTIONS.

We have previously explained[1] at some length the principles involved in the reaction known as "deviation of complement," and we wish here to describe certain practical results that have been obtained by the application of this reaction. The principle of the reaction as first demonstrated by Bordet and Gengou is as follows: Bacteria contain a substance which combines with the specific immune substance of sera of animals immunized against them, and if bacteria are permitted thus to combine with the immune substance (amboceptor) of a serum devoid of complement, the resulting combination has the power to unite with the complement contained in any serum to which it may be added. Consequently, if we add bacterial substance to an unknown serum, which has been freed from complement by heating, and then find that the mixture of bacteria and serum has the power to unite with the complement of a normal serum, we have evidence that the unknown serum contains immune bodies (amboceptors) which are capable of combining with the bacteria used in the experiment. This reaction can be used, therefore, in case of a serum of known properties to establish the identity of an unknown organism, and, conversely, by using a known organism to establish that the serum of a given individual contains antibodies to that organism. The latter observation, in appropriate cases, may lead to the conclusion that the individual has suffered or is suffering from an infection with the specific organism used in making the test.

The application of this reaction to the diagnosis of syphilis was made possible by the observation of Wassermann and Bruck[2] that the infected tissues and body fluids of an individual contain sufficient amounts of bacterial substance to permit of their use in carrying out the reaction in cases in which the organism itself can not readily be isolated. At first this was found true for tuberculous infection, and soon after, in association with Neisser, it was found possible to demonstrate antibodies for syphilis in the cerebrospinal fluid of syphilitics. In the case of investigations on syphilis the original obstacle was the fact that the organisms can not be isolated for use in the test, but following Wassermann's observations it was found that the tissues of fetuses with congenital syphilis contain enough of the substance of the *Treponema pallidum* to give the reaction.

The method of performing the test is, briefly, as follows: Fresh organs from a fetus infected with syphilis are ground up and an extract made with salt solution, which will contain, in addition to the soluble constituents of the tissues, the soluble constituents of the organisms contained in the infected tissues. To this is added a small quantity of the spinal fluid of the patient under examination, which has been heated to 56 C. to destroy any complement it may contain; and the complement is provided by adding fresh serum from a normal guinea-pig. The mixture is left standing for an hour in the incubator, and if the patient in question is syphilitic the following reaction will occur: The syphilitic antibodies contained in the spinal fluid will combine with the treponema substance contained in the extract from the fetal tissues, and the resulting compound will unite with the complement contained in the fresh serum which has been added. As a result there remains no free complement in the mixture, which fact is ascertained as follows: A small quantity of serum from an animal immunized against the red corpuscles of another animal is heated to 56 C. to destroy all the complement it contains, and then added to the mixture of syphilitic material and serum previously described. Now if the complement of this mixture has all been combined by syphilitic antibodies the heated hemolytic serum will not be activated, and consequently will have no power to hemolyze red corpuscles. The presence of syphilis in the individual from whom the spinal fluid was obtained is shown, therefore, by the inability of the mixture of which this fluid forms a part to hemolyze the specific red corpuscles. If he has not syphilis the complement is not bound by the extract of syphilitic tissue, and hence is free to activate the hemolytic serum.

It can readily be seen that this method of diagnosis can be performed only by men experienced in the finest details of serum research, and only in places with enormous hospital facilities permitting the obtaining of fresh syphilitic fetuses at frequent intervals. As the substances involved in the reaction lose their properties in a very short time the tests can be made only when fresh material is on hand, thus restricting greatly the wide use of the procedure, but possibly in time this difficulty may be overcome. In spite of all these handicaps the method has been applied in several of the large German hospitals, with the greatest success, and in this way it has been possible to obtain evidence of the previous occurrence of syphilis in many cases of tabes, paralysis, pachymeningitis and other parasyphilitic affections. The results so far obtained furnish support to the customary view of the relation of syphilis to many chronic nervous diseases, for Wassermann and Plaut demonstrated syphilitic antibodies in the spinal fluid of thirty-two out of forty-one paretics; and Schütze obtained positive results in eight cases of tabes in which a history of syphilis was obtainable, but negative results in four cases without a history of syphilis. In active syphilis, however, the reaction sometimes fails,[3] and hence a negative result is not always conclusive. That such procedures can be carried out so successfully by different observers furnishes a striking illustration of the degree of refinement to which our "immunologists" have carried their technic.

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[1] The Journal, Dec. 1, 1906, p. 1832.

[2] Bibliography and details of the methods of applying the test will be found in an article by Albert Schütze, in the Berl. klin. Wochschr., Feb. 4, 1907, p. 126.

DR. SAMUEL WARREN AND SURGICAL HISTORY.

The one-hundredth anniversary of the birth of Dr. Samuel Warren, whose contemporaries always affectionately called him Sam, and who, a little more than half a century ago, was the most popular writer of fiction in England, was celebrated very quietly in literary circles May 25. Dr. Warren had studied not only medicine but law, and turned aside from both professions to write the best-selling books of his time. He is best known for his "Ten Thousand a Year," the names of certain characters in which, as, for instance, Oily Gammon and Tittlebat Titmouse, will probably be long used as types of their kind. For physicians, however, his most interesting works are "Passages from the Diary of a Physician" and the "Diary of a Medical Student." These two books contain probably more material for the inside history of medicine and surgery and medical education in the early part of the nineteenth century than any even of the formal histories of these subjects.

We have progressed in our day beyond taking Dr. Warren's "Ten Thousand a Year" so seriously as did his contemporaries—or even as he himself took it, for he was said to have shed tears over the woes of some of his aristocratic characters—but his contributions to the intimacies of the physician's life and of medical students' experiences deserve to be on the shelves of every physician interested in medical history. Nowhere, for instance, will one obtain better descriptions of the conditions of surgery before the introduction of anesthesia and antisepsis than in the "Diary of a Medical Student." This contains a series of sketches of the life histories of some of the patients who applied for treatment at Guy's Hospital, London, during Dr. Warren's student days there. Undoubtedly there are fictitious elements in the pictures, but certain portions of them at least were drawn from life and have the value of genuine historical writing. There is a description in one of these sketches of the huge operating table, covered with leather (shades of sepsis!), on which patients were firmly fastened before the operation was begun. The description of the screams of the patient and of the circumstances attending an operation, when friends were occasionally allowed to be present, shows what heart-rending scenes there must have been in hospitals in the preanesthetic days. The number of the cases described in which death in fever took place from the third to the seventh day after the operations recall vividly the lack of knowledge at the time with regard to the prevention of infection.

After reading of these scenes and learning to appreciate the high death rate that must have obtained in the hospitals the old tradition of popular antipathy to these institutions is not surprising. It was founded not so much on ill-treatment or lack of proper care, as is sometimes said to have been the case, but rather on the fact that anesthetics had not been introduced, hence the infliction of excruciating pain by the surgeon was inevitable and heart-rending scenes were constantly occurring, while the lack of aseptic precautions made post-operative mortality high. Many operations must have seemed to the patient as if done only for the instruction afforded, since so many of those operated on in any grave manner perished almost as inevitably as if they had been allowed to die without operative intervention.

THE TRANSMISSION OF MEDITERRANEAN FEVER.

So far as we know, it has never been definitely proved that the so-called Mediterranean or Malta fever exists in the United States. It has been suggested that some of the obscure fevers of the south might be of this nature, but it has not been proved that this is the case. That the disease exists in the West Indies and in the Philippines has been known for some time. Patients suffering from Mediterranean fever have been imported into this country, but no spread of the affection has been noted, and apparently with ordinary care there is little to fear from the human patient. The recent report of a British Government Commission[1] seems to show that others than human beings may aid in conveying the disease, and that a possible source of danger to this country exists.

The last report of this commission summarizes the work of several years carried on by a variety of investigators, not only at Malta, but also at other distant points where the disease occurs. The investigations show that the *Micrococcus melitensis,* the cause of the disease, leaves the body by the urine and also by the milk. The breath, saliva and sweat do not contain the organism, and it is doubtful if it is present in the feces. Especial stress is laid on the excretion by the milk, for it has been found by the commission that not only in the human being, but also in the goat the organism is excreted in this manner, and often in enormous numbers. In Malta, where the disease is most prevalent, goat's milk is commonly used in place of cow's milk, and bacteriologic examinations have shown that a large percentage of the animals are infected. The commission has decided, after prolonged investigation, that contaminated goat's milk is the common method by which the disease is conveyed. It has been found that not only in Malta, but also in some parts of India and in the Orange River Colony, the disease is associated with the use of goat's milk, and it is further shown that in Gibraltar the gradual disappearance of the disease has been associated with the discontinuance of the importation of Malta goats to that place and the gradual exclusion of infected animals from the rock. Other evidence of the transmission by goats lies in the fact that the fever is not a place disease; it at times occurs as localized outbreaks, officers and women, who consume much more milk than the enlisted men, are much more frequently attacked, and finally there has been a marked diminution in the disease in the last year under measures directed against contaminated milk. The danger to this country lies in the fact that goats are imported here from the Mediterranean countries. The commission reports one very instructive outbreak of the disease on shipboard due to drinking the milk of some goats on their way to the United States. These animals actually arrived and have since, we believe, been detained at one of the government quarantine stations, where it has been shown by bacteriologic examinations that many of them are infected with *Micrococcus melitensis.* Had not the men on the ship conveying the goats used their milk, the infected condition of the animals would doubtless have remained undiscovered and they would now be domiciled somewhere in this country. Infection from goat's milk here would be unlikely, as Americans do not use the milk as a beverage, but this is not the only means of transmission. The commission shows that fly transmission may occur, and that possibly infected women may convey the disease through sexual contact. In any event, the possible danger from the introduction of infected goats should be borne in mind, prevention in such matters being a much simpler matter than cure.

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[3] See Wassermann et al, Zeitschr. f. Hyg., 1906, lv, 451, and Morgenroth and Stertz, Virchow's Arch., 1907, clxxxviii, p. 166.

[1] Report of the commission appointed by the Admiralty, the War Office, and the Civil Government of Malta for the Investigation of the Mediterranean Fever. Published by the Royal Society, April, 1907.

DEATHS IN POLICE STATIONS.

New York City has recently had another of those sad experiences, the death in the cell of a police station of a patient who should have been in the ward of a hospital. These incidents are so common that they scarcely attract attention, and a recent occurrence would probably have been the subject of no more interest than usual had not the victim been a young and well-thought-of physician. He was overcome so far as to be unable properly to account for himself and he was taken to the station-house. There was no hint, apparently, that possibly he might be ill, instead of under the influence of liquor, as was at once concluded, so he was placed in a cell, where he was found dead in the morning. An investigation of the case was made by the coroner and his physicians, and, after a searching autopsy, no doubt was left but that the patient had been suffering from the coma of kidney disease. The victim's habits with regard to liquor and the state of his internal organs made it certain that he had not indulged in alcohol to excess and that he was not under its influence when brought to the police station. These facts have been substantiated.

This is a typical example of what may happen to any sufferer from kidney disease or diabetes or from any other form of chronic ailment which may produce a lethargic or comatose condition. If he happens to be stricken on the street, especially if the coma is not complete, he may become the victim of the senseless system which concludes that every person who is unable to orient himself, or who is not in perfect possession of his faculties, must of necessity be intoxicated. Unfortunately, many such sufferers when they begin to feel the symptoms of coma are tempted to try the effect of a glass of wine or whisky in the hope that it will dispel the lethargy that is oppressing them. Liquor taken under such circumstances may be vomited; it will almost surely make itself noticeable on the breath, and it is likely to be even more potent in its effect on such persons than on ordinary individuals. The possibilities of error in these cases, therefore, are greatly multiplied. Even experienced physicians may be deceived, and in large cities young physicians on the ambulance service not infrequently make rash and unfortunate judgments in such cases.

The only safeguard in these cases is the unfailing exercise of the greatest possible care lest a mistake be made, and the constant memory of the number of sad errors that have been committed. The slightest suspicion of the presence of kidney disease or diabetes in an individual must be sufficient for the substitution of the hospital for the prison, even though there may be the odor of liquor on the breath. The physicians may not be able to do much to relieve the condition in such cases, but at least death will not take place under the awful conditions of a prison cell. Better that hospitals should have to care for a few additional "plain drunks" every year than that a single genuinely ailing person should end his existence in a cell. Each succeeding generation of physicians has to learn anew this lesson, and while the difficulty can well be understood, it would seem that a little more insistence on the part of those who teach policemen the principles of first aid to the injured might bring about an amelioration of present conditions and a lessening at least of the number of cases of deaths under such circumstances in city station-houses.

SUMMARIES IN MEDICAL ARTICLES.

Every once in a while some one protests against the nuisance of medical articles with indefinite titles—titles that give no clew to the article's contents. Neisser has just emerged from his seclusion in studying anthropoid syphilis in the Dutch East Indies to inveigh against this practice; and any one who has ever had occasion to search the literature of any subject knows what a wretched source of useless work is the medical article with an indefinite title. But the purpose here is to call attention to another matter of inconvenience in medical articles, and that is the frequent lack of summaries of contents. To keep in touch with current literature is an enormous task. It is a physical impossibility for any one with an engrossing occupation to read completely even a few of the medical journals. It may be said, indeed, that it is a useless expenditure of time to undertake to read thoroughly even one's favorite journal. The average careful man, therefore, undertakes to get at the gist of the literature which interests him and he reads carefully only that in which he is particularly interested at the moment or which seems to be of particular value; the rest he either neglects or lays aside for possible future reference. In sketching the literature in this way nothing is so valuable as good summaries of contents. Sometimes this is desirable in the form of a summary of facts to be brought out in the article, given at the beginning, but most frequently it is best placed as a summary of conclusions at the end of the article. If the article is worth writing, its author has a definite point in view or a definite group of facts which he wishes to bring out. That is what the readers want on the first glance at the article, and that should be furnished in the summary. If the reader can find a summary he knows at once the article's substance; it gives him an immediate orientation of the subject presented, and he knows, without wading through pages of matter, if he wants to consider it. From the author's standpoint also it is advantageous. The summary arrests the attention of the reader; it will stimulate an interest, if the subject is one in which the reader is at all interested, and it thus increases the possibilities of the article being read. Another thing that it indicates, which is not unsatisfactory, is that the writer has clearly in mind what he has undertaken to state.

MISQUOTATIONS AND MISUNDERSTANDINGS.

In these days of reporters and public appetite for sensational items it behooves physicians to be careful as to their public utterances. Medicine and theology are the two things in regard to which any bizarre statement is most readily taken up and exploited for all it is worth, and any careless expression that is capable of exaggeration or misinterpretation is dangerous. Even with the necessary qualifying clauses it is not safe, and the physician who indulges in epigrammatic utterances is especially in peril. One case of that kind has introduced into our language a term derived from the surname of one of the most distinguished physicians of the day, and the notoriety is most painful to him. Another prominent physician was recently misquoted as advocating euthanasia for consumptives, and his explanations and qualifying remarks will doubtless be overlooked by many who originally were powerfully impressed by the alleged quotation. A short time ago the utterance is said to have been made that 75 per cent. of the medical students graduated annually are incompetents, and the lay papers have taken the matter up *con amore* with any amount of comments disparaging to the medical profession generally, ignoring the fact that the same statement, in a sense of the word, might be just as correctly applied to beginners in every branch of human occupation. A half truth, or a whole one that requires qualification, is a dangerous thing to let loose on a public hungry for sensations, and it is no profit to an honest medical man to be put before the public as a heretic or sensationalist.

APPOINTMENT OF ASSISTANT SURGEONS IN THE ARMY.

At the examinations recently held for the appointment of assistant surgeons in the Army, thirty-three candidates were invited to appear; of these only eleven completed the examination, the remainder having failed to present themselves, having been physically disqualified or withdrawing for various reasons. Of the eleven who took the entire examination seven were found qualified, an unusually large proportion of successful candidates in comparison with past experience. There are now thirty-one vacancies in the junior grade of the medical department, taking into consideration the resignations which are now pending, and the prospects of filling them are poorer than for many years past. At the corresponding period last year there were nineteen vacancies and a much larger number of candidates for admission to the corps. The outlook for filling the vacancies in the medical department is, therefore, exceedingly discouraging. The recent increase of the coast artillery by over 5,000 men has, of course, still further decreased the relative proportion of medical officers, while the occupation of Cuba has greatly increased the demand for their services. It is believed that this dearth of candidates for the medical department is entirely due to the insufficient inducements offered young professional men in the medical corps of the Army, and the repeated failure of Congress to pass a measure for the relief of this condition, which has been so earnestly advocated by the Surgeon General, the War Department and the medical profession at large.

Medical News

ILLINOIS.

Smallpox.—Pontiac is reported to have 12 cases of smallpox.——Two cases of smallpox were discovered in Joliet, May 22.——A case of supposed smallpox is reported from Barry, Pike County. An investigation is being made by the State Board of Health.

Examinations to be Held.—Examinations will be held June 20 in Chicago, Springfield and East St. Louis for director of the Psychopathic Institute at the Illinois Eastern Hospital for the Insane, Kankakee, and for assistant physicians, clinical assistants and internes.

Personal.—Drs. William O. Langdon and R. Dillard Berry have resigned from the staff of the Springfield Hospital.——Dr. Edward F. Gavin has been elected president and Dr. Fred L. Gourley secretary of the Waukegan board of health.——In the case of P. M. Combes against Dr. W. Fred Harvey, Rushville, in which $10,000 damages were asked on account of alleged improper medical services, the jury returned a verdict for the defendant.

Chicago.

Senn Club.—Dr. John B. Deaver, Philadelphia, will deliver the address before the Senn Club at its meeting, Monday, June 17.

May Mortality.—During May, 3,028 deaths were reported from all causes, equivalent to an annual death rate of 16.91 per 1,000. Pneumonia led the death causes with 685, followed by consumption with 352; heart diseases, with 243; nephritis, with 215, and violence (including suicide), with 201.

Physicians' Club Election.—The Physicians' Club of Chicago, at its annual meeting, May 28, elected Dr. Daniel R. Brower, president; Dr. Edwin B. Tuteur, vice-president; Dr. William T. Belfield, secretary, and Drs. Alfred C. Croftan, Charles L. Mix, Charles E. Paddock and Daniel A. K. Steele, directors.

Deaths of the Week.—During the week ended June 2 there were 643 deaths reported, or 198 more than for the corresponding period of 1906; the respective annual death rates per 1,000 being 15.91 and 11.83. The deaths from pneumonia numbered 116, followed by consumption with 70; heart diseases, 62; violence (including suicide), 61, and nephritis, 54.

Personal.—Dr. Gustav Ruediger of the Memorial Institute for Infectious Diseases has been appointed professor of pathology and bacteriology in the University of North Dakota and placed in charge of the state health laboratory.——Dr. Arnold C. Klebs sailed for Europe, May 30.——Dr. Alex. C. Wiener sails for Europe, July 9.——Dr. Orville W. McMichael sails for England, June 19.——Dr. Chalmers Prentice returned from Europe, May 25.

Chicago Suicides.—During the first four months of the year 46 Americans, 30 Germans, 9 Bohemians, 5 Poles, 5 Swedes, 4 Russians, 3 Italians, 3 Irish, 3 Norwegians, 3 Hungarians and 3 Danes committed suicide. The routes chosen were gas in 40 cases, gunshot wound in 22, carbolic acid in 17, hanging and drowning each in 9, cutting throat in 7, and miscellaneous methods, 10. During March 37 suicides were reported; during April, 33; during February, 36; during January, 15.

Heavy Mortality.—The climatic conditions of the first five months of the year in Chicago show the malevolent influence of the unseasonable weather. The 15,103 deaths reported make a daily average of more than 105, equivalent to an annual mortality of 17.32 per 1,000 of population. This is 16.7 per cent. higher than the rate of the corresponding period of last year and 13.4 per cent. higher than the average for the previous decade. Six of the important death causes contributed more than one-half of the total number of deaths. These are: Pneumonia, 3,000, or 762 more than last year; tuberculosis, 1,685; heart diseases, 1,179; nephritis, 1,012; cancer, 588, and nervous diseases, 570, a total of 464 more from the six latter causes than during the corresponding period of last year. These diseases are those over which sanitary science and preventive medicine have as yet obtained little or no control. The more or less controllable diseases, such as diphtheria, influenza, scarlet fever, measles and whooping-cough show a greater proportionate increase. From these five causes 1,155 deaths have occurred thus far this year, or 526 more than for the corresponding period of 1906.

INDIANA.

License Revoked.—At the April meeting of the State Board of Medical Examination and Registration the license of Julius C. Bloom, Elwood, who is said to have obtained it by fraud, is reported to have been revoked.

The Medical Student.—The May issue of the *Medical Student*, devoted to the interests of the School of Medicine of Purdue University, contains an excellent article by President W. E. Stone of the university on the "Evolution of Medical Education in Indiana."

April Disease and Death.—The most prevalent malady during the month was tonsillitis, followed in order by bronchitis, rheumatism, influenza, measles, pneumonia, typhoid fever, pleurisy, intermittent and remittent fever, scarlet fever, diarrhea, diphtheria, whooping-cough, smallpox, peritonitis, erysipelas, typho-malarial fever, dysentery, cholera morbus, cerebrospinal meningitis and cholera infantum. There were 91 cases of scarlet fever in 20 counties, with one death; 160 cases of diphtheria in 21 counties, with 25 deaths; 280 cases of typhoid fever in 37 counties, with 38 deaths. Tuberculosis caused 424 deaths, or 13 more than in the corresponding month of last year; pneumonia caused 284 deaths, or 102 less than in April, 1906. Measles was unusually prevalent and fatal. It was reported to exist in every county in the state and in some was epidemic. The total deaths from the disease numbered 42, while in the corresponding month of last year only 3 deaths were reported from this cause. The total deaths for the month were 2,813, equivalent to an annual rate of 12.7 per annum. Of the total deaths 12.3 per cent. were of children under one year of age and 32.3 per cent. of individuals over 65.

IOWA.

Medical College Graduation.—At the commencement exercises of Keokuk Medical College, May 14, a class of 30 was graduated. At the alumni reunion two members of the class of 1852, who had not met for 55 years, were present.

Personal.—Dr. Loran M. Martin, Sioux City, who recently returned after 18 months abroad, has been elected professor of gynecology in the Sioux City College of Medicine.——Dr. Nicholas C. Schlitz, Des Moines, was presented with a gold watch chain and fob by the senior class of Drake Medical College, May 24.

Communicable Diseases.—A number of cases of meningitis are reported in different parts of the state. In Ankeny three cases have developed, several in Council Bluffs and a number in Appanoose County.——Smallpox is reported to have broken out in numerous places in Southwestern Iowa, and strict quarantine is established at Riverton, Sidney and Hamburg.——A number of cases of smallpox are said to exist near Paulina.——There is said to be 15 cases of smallpox in Dexter, and on the advice of the State Board of Health all public gatherings have been interdicted.——At Adel a number of cases of smallpox are said to be present.——Smallpox is reported in epidemic form at Jesup, where there are from 20 to 30 cases.

KANSAS.

Personal.—Dr. Frank McKinney has been appointed a member of the board of health and city physician of Baxter Springs.——Dr. Charles H. Linley has been reappointed health officer of Atchison.——Dr. David W. Collins, Arrington, has been appointed poor physician of Kapioma Township, Atchison County.

Communicable Diseases.—During April there were 458 cases of measles reported in Kansas City.——Scarlet fever is reported from near Kansas City, Coffeyville, Parsons and Wichita.——At Hutchinson 24 cases are reported and under quarantine.——Several cases of scarlet fever are reported from Wichita.

State Society Meeting.—At the forty-first annual meeting of the Kansas State Medical Society, held in Kansas City, Kan., May 8-10. the following officers were elected: President, Dr. J. E. Sawtell, Kansas City; vice-presidents, Dr. Thomas Kirkpatrick, Garnett; Dr. Millard F. Jarrett, Ft. Scott, and Dr. George M. Gray, Kansas City; secretary, Dr. Charles S. Huffman, Columbus; treasurer, Dr. Lewis H. Munn, Topeka; librarian, Dr. Samuel G. Stewart, Topeka; delegates to American Medical Association, Drs. Lyman L. Uhls, Osawatomie, and Herbert L. Alkire, Topeka; councilors, Drs. Ora P. Davis, Topeka; Hugh B. Caffey, Pittsburg, and W. Preston Sterret, Kansas City.

MARYLAND.

Baltimore.

Personal.—Drs. Samuel Amberg, W. L. Moss and Payton Rous sailed for Europe, May 29.——Dr. H. C. Irwin, St. Joseph's Hospital, has become resident physician of the Franklin Square Hospital.——Dr. Mary C. Willis has recovered from her recent serious illness.——Dr. Sidney H. Adler has been appointed resident physician of the Uniontown (Pa.) General Hospital.——Dr. Thomas B. Futcher sailed for England, June 1.

Women's Medical College.—At the twenty-fifth annual commencement exercises of the Women's Medical College, Baltimore, a class of six was graduated. The address was delivered by Rev. Timothy Stone. The following faculty appointments are announced: Professor of surgery, Dr. Alexius W. McGlannan; associate in surgery, Dr. Maurice Lazenby; professor of neurology, Dr. W. B. Cornell; lecturer in bacteriology, Dr. Henrietta M. Thomas, and lecturer on pharmacology, Dr. Roland T. Abercrombie. Of the 98 graduates of this institution since its commencement, 25 are reported to be married, and of those who are in active practice 85 per cent. are said to be engaged in hospital or institutional work.

Centennial of University.—The centennial celebration of the University of Maryland began in Anatomical Hall of the School of Medicine, May 30. Dr. Samuel C. Chew made an impressive address, and Dr. John C. Hemmeter read greetings from 100 universities in various parts of the world. In the evening a large number of class banquets were held. On the next day the graduating exercises were held, at which 237 were graduated, including 62 in medicine. The addresses were made by Prof. Francis L. Patton of Princeton University, and President G. Stanley Hall of Clark University. Honorary degrees of LL.D. were conferred on Drs. William T. Councilman, Boston; Simon Flexner, Philadelphia; Prof. G. Stanley Hall, Worcester, Mass.; Major James Carroll, U. S. Army; Surgeon General Walter Wyman, P. H. and M.-H. Service; Samuel J. Meltzer, New York City; William T. Porter, Boston; William J. Mayo, Rochester, Minn.; William T. Howard and Samuel C. Chew, Baltimore; the degree of D.Sc. on Drs. Alexander C. Abbott, Philadelphia; Henry J. Berkley, Baltimore; Charles P. Noble, Philadelphia; J. Homer Wright, J. Whitridge Williams, Baltimore; J. Ford Thompson, Washington, D. C.; Isaac S. Stone, Washington, D. C.; Henry D. Fry, Washington, D. C., and Nathaniel G. Keirle, Baltimore; the degree of S.T.D. on Bishop Luther B. Wilson of the Methodist Episcopal Church, and the degree of M.D. on Drs. Thomas C. Gilchrist, Eugene F. Cordell and B. Merrill Hopkinson of Baltimore. A feature of the ceremony was the singing of the Latin ode composed by Dr. Cordell and the Hygiea by Dr. Hemmeter. At the banquet in the evening 300 were present and Dr. G. Lane Taneyhill acted as toastmaster. The services concluded June 2 with a sermon by Rt.-Rev. Luther B. Wilson of the medical class of 1887.

MISSOURI.

Contagious Diseases.—Smallpox is reported to be on the increase in Sedalia, where more than 100 cases are said to exist.——Ten cases of smallpox are reported at the Children's Home, Joplin.——Several cases of scarlet fever are said to exist in Bonne Terre. The parochial school has been closed on account of the prevalence of the disease.

Society Meetings.—At the annual meeting of the Southwest Missouri Medical Society, held in Springfield April 26, the following officers were elected: President, Dr. Green B. Dorrell, Republic; vice-presidents, Drs. William P. Patterson, Springfield, and Charles A. Moore, Aurora; recording secretary, Dr. Herbert S. Hill, Springfield (re-elected), and treasurer, Dr. William Patterson, Springfield (re-elected).——The Southeast Missouri Medical Association, at its meeting in Frederickstown May 9, elected Dr. Frank S. Vernon, Farmington, president; Dr. Ira A. Marshall, Ironton, vice-president; Dr. Gervase L. Johnson, Kennett, recording secretary; Dr. Thomas C. Allen, Bernie, corresponding secretary, and Dr. W. R. Goodykoonts, Caledonia, treasurer.——The medical fraternity of Webb City and Carterville met May 14 and organized the Webb City Medical Society. The following officers were elected: President, Dr. Charles E. McBride; vice-presidents, Drs. Ogla S. Wilfley and Lincoln C. Chenoweth; secretary, Dr. Lawrence C. Cook, and treasurer, Dr. A. S. Growden.——The name of the Buchanan County Medical Society has been changed to the St. Joseph-Buchanan County Medical Society.

NEW YORK.

Medical Board Named.—The State Board of Regents has nominated the following State Board of Medical Examiners, as provided for by the law passed by the recent legislation: Drs. William W. Potter, Buffalo; William S. Ely, Rochester; Eugene Beach, Gloversville; Floyd M. Crandall, New York City, of the regular school; Drs. Frank W. Adriance, Elmira; Floyd S. Farnsworth, Plattsburg, and W. S. Searle, Brooklyn, of the homeopathic school; Dr. Lee H. Smith, Buffalo, of the eclectic school, and Ralph H. Winchester, Rochester, osteopath.

Personal.—The village board of health of Bath was organized May 23 with Dr. John O. Aldrich, president, and Dr. Henry J. Wynkoop, secretary.——Dr. Lawrence P. Conley, Clifton Springs, has recovered from his recent operation for appendicitis.——Dr. Frederick Hoyer, Tonawanda, celebrated his eighty-fifth birthday, May 9.——Dr. Donald L. Ross, formerly physician of the Craig Colony for Epileptics, Sonyea, has been appointed medical superintendent at the Glenwood Sanitarium for Epileptics, Dansville.——Dr. Louis A. Harris, Newburgh, has been obliged to retire temporarily from the practice of medicine, on account of ill health.——Dr. Charles E. Alliaume has been appointed health commissioner of Utica.——Dr. Irving P. Lyon has succeeded Dr. John H. Pryor as chairman of the tuberculosis committee of the Buffalo Charity Organization Society.——Drs. Arthur F. Jackle, James Riley, James C. Haley, Ray Edson and F. L. Anderson have been appointed internes at the Sisters' Hospital, Buffalo.

New York City.

Medical Library Association.—At the annual meeting of the Medical Library Association of Brooklyn, held May 14, an appeal was made to the public for support of the institution, which is said to be the fourth largest medical library in the United States and has at present 60,000 volumes.

Medical Book Robber.—A man who gave his name as George I. Paulding has been arrested on the charge of stealing medical books and 28 physicians of the city, from whom valuable books have been stolen, have been notified to appear to identify the prisoner and property.

Personal.—Drs. and Mesdames Thomas E. Satterthwaite, Charles T. Poore, Richard W. Muller, John S. Thacher and Dr. James Ramsey Hunt sailed for Europe.——Prof. Gustav Killian of the University of Freiburg, Germany, was given a dinner at the Hotel Astor, May 31, by the members of the American Laryngological, Rhinological and Otological Society.——Dr. Abraham Jacobi was the guest of honor at a dinner given by Guy L. Kiefer, health officer of Detroit, May 22.

Anti-Tuberculosis Work.—Nine dispensaries have entered into an agreement with the committee on the prevention of tuberculosis of the Charity Organization Society to divide the city into districts, for the purpose of treating tuberculosis patients. The dispensaries that have entered into this plan are the Department of Health, Bellevue Hospital Dispensary, Gouverneur Hospital Dispensary, Presbyterian Hospital Dispensary, Harlem Hospital Dispensary, Vanderbilt Clinic, New York Dispensary, New York Hospital Dispensary, and the Health Department of the Bronx.

NORTH DAKOTA.

Epidemic Diseases.—Gladstone is said to be suffering from an epidemic of diphtheria.——On account of the prevalence of measles at Arena, the public school in that place has been closed.

State Board Meeting.—The North Dakota State Board of Health held its first meeting May 1. Attorney-General T. F. McCue is president of the board; Dr. Charles E. Bennett, Aneta, vice-president, and Dr. James Grassick, Grand Forks, secretary.

Personal.—Dr. Joseph C. Suter and family, Crystal, have removed to Vancouver, B. C.——Drs. James W. Stribling and Eleanor J. Hill have resigned as assistant physicians at the Hospital for the Insane, Jamestown.——On April 24, 20 friends of Dr. John E. Engstad, Grand Forks, celebrated the twenty-second anniversary of his practice in the state with a banquet, at which he was the guest of honor.

OREGON.

Personal.—Frederick J. Ziegler has been elected city physician of Portland, vice Walter V. Spencer, resigned.——Dr. Woods Hutchinson, Portland, has moved to New York City.——Dr. Burton H. S. Leigh, Portland, has returned from Europe and expects to locate in Chicago.

Proposed Hospitals.—It is proposed to erect a new station and emergency hospital in Portland at a cost of not less than $75,000.——The physicians of Oregon City are planning to erect a hospital in that place to cost about $7,000.——Articles of incorporation were filed for St. Anthony's Hospital, Portland, with a capital stock of $55,000. The hospital will be under the charge of the sisters of the Order of St. Francis.——The Navy Department is preparing plans for a hospital at the Puget Sound navy yard, Bremerton, to accommodate 100 patients, and to cost $150,000.

Graduations.—On May 1 the fortieth annual graduating exercises of the Medical Department of Willamette University, Salem, were held, when a class of 16 was graduated. The charge to the class was given by Dr. Lewis F. Griffith, and the address of the evening by United States Senator Charles W. Fulton, Astoria.——The University of Oregon, Medical Department, Portland, held its commencement exercises, April 29, when a class of 20 was graduated. Ex-Senator John M. Gearin delivered the address of the evening; Dr. Kenneth A. J. MacKenzie delivered the charge of the graduates; President Campbell of the university conferred the degrees and Dr. Simeon E. Josephi, dean of the medical faculty, awarded the diplomas.

OHIO.

Society Meeting.—At the annual meeting of the Barberton Medical Society, May 10, Dr. Cullen H. Whipple was elected president; Dr. Norman F. Rodenbaugh, vice-president, and Dr. Arthur H. Stall, secretary and treasurer.

Personal.—Dr. Charles S. Hamilton, Columbus, dean of the Starling Medical College, has been elected chancellor of the combined schools and Dr. George M. Waters, dean.——Dr. Alfred C. Beetham, Bellaire, has been appointed local surgeon for the Pennsylvania System.——Dr. Andrew J. Timberman, Columbus, has been appointed a member of the board of education.——An attempt was made to murder Dr. Elias V. B. Kendig, Haynesville, May 19. While making a call in the country he was fired on from ambush, but fortunately, was uninjured.——Dr. Carl R. Knoble, Sandusky, has been made police and fire surgeon of the city.——Dr. John B. Kotheimer, Youngstown, has left for Europe.

Epidemic Diseases.—Diphtheria is reported to be epidemic in Kent, where 20 cases and 2 deaths have occurred. The Central school, Kent, has been closed on account of the disease.——In the ten days prior to May 19 seven deaths from cerebrospinal meningitis were reported near Akron.——Eleven families at Fostoria were quarantined May 12, because of smallpox.——New cases of smallpox are reported to have developed at Versailles, Yorkshire, Piqua and Sidney.——There are now 28 smallpox patients in the Isolation Hospital of Toledo.——Smallpox in mild form has broken out a second time at Chicago Junction, where there are said to be 30 cases at present.

PENNSYLVANIA.

Officers Elected.—At the annual meeting of the Susquehanna County Medical Society, held in Montrose, May 7, the following officers were elected: President, William B. Beaumont, West Auburn; vice-president, Harvey M. Fry, Rush; secretary, Edward R. Gardner, Montrose, and treasurer, John G. Wilson, Montrose.

Pennsylvania Relief Fund Report.—The report of the Pennsylvania Railroad Relief Fund for April shows that $113,144.41 was paid in death and sick benefits by the employés relief fund for the company's lines east of Pittsburg and Erie. Of this amount $44,585.36 was paid as death benefits to the families of members, and $68,559.05 was paid for the relief of members disabled and incapacitated for work. Since the organization of the relief department in 1886 there have been paid in death benefits $6,688,108.94; and on account of disablements $9,673,067.09, making a total of $16,361,176.03.

Personal.—Dr. Benjamin M. Bartilson, Braddock, was recently operated on for appendicitis at the Braddock General Hospital.——Dr. Henry H. Riegel, Catasauqua, celebrated on May 8 the fiftieth anniversary of his entry into the profession.——Dr. Thomas J. Gilmore, Williamsport, is ill with typhoid fever.——Dr. Nathaniel Z. Dunkelberger, Kutztown, is reported to be seriously ill with peritonitis.——Dr. George W. Dipple, Pittsburg, sailed from New York, May 21, for Germany.——Dr. R. F. Ridgeway, interne at the Harrisburg Hospital, who has been seriously ill with appendicitis, has gone to his home at Cream Ridge, N. J., to recuperate.

Philadelphia.

Dowieite in Jail.—On the charge of criminal neglect, which resulted in the death of his infant child, George Osborn, a faith-cure adherent, was sent to prison by the coroner, May 8, pending the action of the grand jury.

Jacobi Memorial.—Dr. Clara Marshall, dean of the Woman's Medical College of Pennsylvania, notifies us that in the report of the unveiling of the Jacobi Memorial, in the issue of June 1, the accepter on behalf of the corporators was Dr. Lillian Welsh of Philadelphia, not Dr. William Welch of Baltimore, as there stated.

Health Report.—The report of the bureau of health for the week ended June 1 shows 470 deaths, a decrease of 27 as compared with the previous week, and an increase of 56 over the corresponding week of last year. The principal causes of death were: Typhoid fever, 9; measles, 1; diphtheria, 8; cerebrospinal meningitis, 6; consumption, 66; cancer, 32; diabetes, 4; apoplexy, 17; heart disease, 38; acute respiratory disease, 54; enteritis, 27; appendicitis, 2; Bright's disease, 32; congenital debility, 12; suicide, 5; accidents, 10, and marasmus, 2. There were 117 cases of contagious disease reported, with 18 deaths, as compared with 177 cases and 19 deaths reported in the preceding week.

Personal.—Dr. S. Weir Mitchell has received the honorary degree of LL.D. from the University of Toronto, Canada.——Dr. P. Brooke Bland has been appointed to the gynecologic staff of the Jefferson Medical College Hospital.——Dr. Charles S. Barnes has been appointed clinical gynecologist to the Garrettson Hospital.——Mr. William T. Elliott, president of the Central National Bank, was elected a member of the board of trustees of Jefferson Medical College, May 31.——Dr. Charles A. E. Codman has been elected attending physician at and Dr. S. MacCuen Smith consulting aurist to the American Oncological Hospital.——Dr. E. A. Abbott, Chief of the Bureau of Health, received the degree of D.Sc. from the University of Maryland, May 31.——Dr. Ernest Laplace has been appointed surgeon to the American Hospital for Diseases of the Stomach.——Dr. W. M. Late Coplin has been elected medical director of the Jefferson Hospital, vice Dr. Joseph Neff, who resigned to accept appointment as director of public health and charities.——Dr. William J. Roe has been appointed oral surgeon at the Philadelphia Hospital.

Alumni Meetings.—At the annual business meeting of the Alumni Association of Jefferson Medical College, June 1, the following officers were elected: President, Dr. J. Chalmers Da Costa; vice-presidents, Drs. Isador P. Strittmatter, Louis Jurist, Augustus A. Eshner and Lawrence F. Flick; recording secretary, Dr. Alfred Heineberg; corresponding secretary, Dr. Charles S. Barnes; treasurer, Dr. Randle C. Rosenberger, and chairman of the executive committee, Dr. P. Brooke Bland, all of Philadelphia. The annual banquet of the association was held on the evening of June 1 and was attended by 300 alumni.——The twenty-fifth annual banquet of the Alumni Association of the Medico-Chirurgical College was held May 30. The Rev. Dr. J. Henning Nelms delivered the address of the evening. Mayor Reyburn was one of the guests of honor.

TENNESSEE.

Commencements.—At the annual commencement exercises of the University of Tennessee, Medical Department, Nashville, a class of 42 received diplomas. Dr. W. E. McCampbell delivered the charge to the graduates, and Congressman L. G. Padgett delivered the commencement address.——The twenty-seventh annual commencement exercises of the Memphis Hospital Medical College were held April 27, when a class of 66 was graduated. The diplomas were presented by Hon. William H. Carroll, president of the board of trustees, and Governor Vardaman of Mississippi delivered the address of the day.——The twenty-second annual commencement of Vanderbilt University, Medical Department, Nashville, was held May 1. The faculty address was delivered by Dr. Richard A. Barr, the commencement address by Dr. J. B. Winton, and degrees were awarded to a class of 40.——The commencement exercises of Knoxville Medical College were held May 16. The doctorate address was delivered by Dr. Pinder M. Flack, Louisville, Ky.——The East Tennessee Medical College, Knoxville, graduated a class of 15, May 23. No public commencement exercises were held.

College Moved.—The medical, dental and pharmaceutical departments of the University of West Tennessee, formerly located at Jackson, have been moved to Memphis. At the reorganization of the faculty, April 22, the following faculty was elected: Dr. Miles V. Lynk, president and professor of materia medica, therapeutics, forensic medicine and ethics; Dr. Robert G. Martin, secretary and professor of clinical medicine; Dr. Ernest W. Irving, treasurer and professor of principles and practice of medicine; Dr. Jacob C. Hairston, professor of didactic and surgical gynecology; Dr. A. L. Thompson, obstetrics; Dr. Cleveland A. Terrell, general surgery; Dr. Andrew N. Kittrell, anatomy; Dr. E. C. Craigen, physiology and hygiene; George R. Jackson, Ph.G., pharmacy; Mrs. B. S. Lynk, Ph.C., chemistry; Dr. F. E. Nesbit, eye, ear, nose and throat; Dr. Lawrence G. Patterson, histology and bacteriology; Dr. J. L. Delaney, pathology; Dr. Lucius S. Henderson, pediatrics; Dr. R. L. Adams, demonstrator of anatomy; Dr. A. D. Byas, physical diagnosis; Dr. W. H. Luster, chemical laboratory, and Drs. Robert G. Martin, Andrew N. Kittrell, G. F. Pinkston and Charles H. Shelby, clinical instructors.

TEXAS.

College Closed by Fever.—The State Agricultural and Mechanical College, Bryan, was closed May 25, on account of an epidemic of typhoid fever, of which 30 cases are reported.

Correction.—The president of the district society informs us that the statement in The Journal, May 25, regarding the prevalence of smallpox in Midland, was incorrect. He states that there had been but five cases in Midland County in the last three years.

Personal.—Dr. Frank D. Gray has been re-elected dean of the Fort Worth Medical College.——Dr. James A. Gibson, health officer of Jefferson County, who was tendered the appointment of quarantine officer at Velasco, has declined the appointment.——Drs. Thomas J. Bennett, William J. Mathews, Thomas R. Pettway, Frank Litten and Goodall H. Wooten have been appointed members of the board of health of Austin.

Warning from State Health Officer.—On May 24 the state health authorities began the inauguration of a system which, it is claimed, will keep yellow fever out of the state. The state health officer has issued orders to all inspectors along the Mexican border and at all Texas ports not to allow any passengers from Central or South America or Mexico to enter Texas without giving their names and destinations, and unless such passengers can give a satisfactory account of themselves they will be kept five days in detention.

Precautions Against Yellow Fever.—State Health Officer Brumby on May 24 addressed a letter to the general managers of the railroads of the state, urging the necessity of taking steps to "anticipate yellow fever by destroying all possible breeding places of the mosquito. No one," he says, "should be more interested in the prevention of yellow fever and its concurrent quarantine than the railroads of our state." He calls attention to the habits of the *Stegomyia calopus* and asks the managers to order that all water containers in and about stations, warehouses and sheds, especially at terminals on the coast, be filled with salt water or screened, or that kerosene be poured on them once a week.

VERMONT.

Health Officers' School.—Dr. Henry D. Holton, secretary of the State Board of Health, has announced that the annual school for health officers of the state will be opened at Brattleboro, June 17 to 20 inclusive.

Communicable Diseases.—The school at Bridgeport has been closed on account of the prevalence of measles; 26 houses have been quarantined.——Two more cases of diphtheria have developed at St. Johnsbury Hospital.——The health officer of Berlin reports that 11 houses are now under quarantine for smallpox.——Several cases suspected to be smallpox are said to exist in Moutpelier and West Northfield.

VIRGINIA.

Commencement.—The annual commencement exercises of the University College of Medicine, Richmond, were held May 20. The doctorate address was delivered by the Hon. R. T. Barton, Winchester. At a meeting of the Alumni Association of the University College of Medicine, Richmond, held May 20, Dr. Hugh McGuire was elected president, and Dr. Roshier W. Miller, Barton Heights, re-elected secretary-treasurer.——The annual commencement exercises of the Medical College of Virginia, Richmond, were held May 21, when a class of 26 was graduated. Rev. George W. M. McDaniel delivered the doctorate address.

Personal.—Dr. Charles E. Verdier has been appointed surgeon of the Norfolk Blues, succeeding Dr. Junius F. Lynch, recently promoted surgeon with the rank of major.——John H. Hinchman, Richmond; William A. Stole, Gold Hill, and D. G. C. Woodson, who are to graduate from medical colleges of Virginia, have been appointed ambulance surgeons for Richmond.——Dr. Lonsdale J. Roper, Norfolk, has been appointed surgeon to the King's Daughters Hospital in that city.——Dr. H. Anlick Burke, Petersburg, has been appointed resident physician at St. Vincent's Hospital, Norfolk.——Dr. J. W. Stephenson has been appointed resident physician at Memorial Hospital, Norfolk.

WASHINGTON.

Meningitis Epidemic Abating.—Dr. Augustin de Y. Green, city health officer of Tacoma, reports that since February there have been 50 deaths from cerebrospinal meningitis in Tacoma, and six or eight recoveries. The epidemic is believed to have materially abated.

State Pure Food Law.—The pure food law recently enacted by the legislature is nearly identical in its essential features with the national Pure Food and Drugs Act. Any food or drugs, the sale of which is prohibited by this law, may be seized by the legislature is nearly identical in its essential features of any food or drug sold must be furnished by the dealer or the manufacturer to the state on demand for analytic purposes. The chemist of the state agricultural experiment station is required to make all analyses necessary for the state. Articles of food may be taken from any hotel, restaurant, etc., and subjected to analysis, and if found sophisticated the owner may be prosecuted. The penalty for violating the law is, for the first offense, a fine ranging from $25 to $500, and for subsequent offenses, imprisonment.

WISCONSIN.

Commencement.—The fourteenth annual commencement exercises of the Milwaukee College of Physicians and Surgeons were held May 20, when a class of 23 was graduated.

Personal.—Dr. Newton I. Tibbitts has been appointed health officer of Peshtigo.——Dr. George T. Dawley, New London, was thrown from a bicycle recently, fracturing one of his ribs.——Dr. Kilian T. Baner, Milwaukee, has been appointed interne at the Milwaukee Maternity Hospital.

Tuberculosis Hospital.—The committee in charge of the movement to raise $25,000 for a tuberculosis sanatorium reports subscription of more than $10,000.——An exhibit will be open in a few days at Milwaukee, consisting of pictures, charts, models, literature and other matter relating to the control of tuberculosis, under the auspices of the Milwauke Tuberculosis Association.

GENERAL.

Yellow Fever in Cuba.—According to the official notification, May 28, yellow fever exists in Havana and Matanzas provinces, Cuba. Quarantine has been established and vessels arriving at New Orleans will be required to undergo the usual term of detention.

Resolutions Regarding Dr. Solly.—At a meeting of the board of directors of the National Association for the Study and Prevention of Tuberculosis, held in Washington, May 7, resolutions were unanimously adopted regarding the death of Dr. S. Edwin Solly, Colorado Springs, formerly a member of the board.

Mortality of Havana for April.—The total mortality of the municipal district of Havana in April was 632, with a daily mortality of 21.06, equivalent to the annual death rate of 27.46 per 1,000 inhabitants. The diseases that caused the greater number of deaths are as follows: Circulatory system, 121; tuberculosis, 108; acute bronchitis, broncho-pneumonia and pneumonia, 49; enteritis (under 2 years), 49; simple meningitis, 45; cancer, 26; congenital debility, 26; cerebral congestion and hemorrhage, 11; measles, 11; Bright's disease, 10; grip, 9; enteritis (2 years and over), 9; diphtheria, 7; myelitis, 7; convulsions (under 5 years), 7; cirrhosis of the liver, 7; hepatitis, 7.

CANADA.

Indian Doctor Acquitted.—Chief Hill of the Six Nations Indians, of Brantford, Ont., who was recently brought before the police magistrate, charged with illegally selling medicine and practicing as a physician, has been discharged on the ground that an Indian does not come under the statutes of Ontario. The Ontario Medical Council has decided to appeal the case.

Smallpox in Ontario.—Dr. Bell, inspector of the Provincial Board of Health, has completed an investigation into the outbreak of smallpox in several townships in the counties of Leeds and Greenville.——Two schools in Regina, Sask., have been closed on account of smallpox.——Smallpox was discovered May 15 in the Nova Scotia Hospital for the Insane, Dartmouth, where an attendant was taken ill. The hospital is under quarantine.——Audubon township, Sandwich West, is reported to have 64 cases of smallpox.

Personal.—Dr. Frank England, Montreal, and Dr. W. S. England, Winnipeg, are visiting the hospitals of Baltimore, Philadelphia and New York.——Dr. Stewart Mackid, Calgary, Alberta, has returned from a year's graduate work in the hospitals of Berlin, Paris, Vienna and London.——Dr. McLeod of Stonewall, Man., is visiting in Japan.——Dr. John Matheson, Brandon, Man., has returned from a course in surgery in Chicago and New York.——Dr. Victor Williams, Winnipeg, has gone abroad for graduate work in eye, ear, nose and throat, in England, Ireland, Scotland and Germany.

FOREIGN.

Personal.—Charles A. Ballance, F.R.C.S., London, one of the leading specialists in brain surgery in the United Kingdom, was operated on for an attack of acute gangrenous appendicitis about six weeks ago, and has made a good recovery.

Extension of Scottish Hospital.—The addition to the Glasgow Samaritan Hospital was formally opened recently. The new wing contains four large wards with accommodation for ten beds each, and four smaller wards with space for three and two beds each, two large convalescent rooms and two well-equipped operating theaters. The administrative block between the old and new buildings has also been remodeled.

Stiebel Prize Awarded to Vulpius.—The Stiebel prize is awarded every fourth year at Frankfurt a. M. for the best work on pediatrics or embryology. It amounts to about $104, and was bestowed this year on O. Vulpius of Heidelberg for his work on "Tendon Transplantation and Its Application in Treatment of Paralysis," published in 1902. He turned the sum over to the fund which is being collected to found a home for cripples in Heidelberg.

Plague in India.—Despite the strenuous efforts on the part of the Indian government to stamp out the disease the plague still continues to ravage the country, as it has done now for over ten years. The total deaths for the period from October, 1896, to December, 1906, number 4,411,704. It has been established that practically the only disseminators of the plague are the rats and rat fleas. The natives, unfortunately, instead of cooperating with the authorities in trying to exterminate the rats, feed the rodents and allow them to propagate freely. The native population is also opposed to inoculation—the only safe protection against the ravages of the disease.

Government Sale of Quinin in Italy.—As has previously been mentioned in these columns, the Italian government supplies quinin practically at cost to all consumers, and it can be obtained at all the postoffices throughout the kingdom. The amount thus sold last year was 18,712 kilograms, nearly 40,000 pounds. The net profit amounted to 293,295 lire, nearly $60,-

000. This sum has been set aside to promote malaria prophylaxis in Italy and to give prizes to proprietors who take pains to protect their workmen against malaria. Five such prizes were awarded last year, each of $100, and $6,000 was given to the Italian Red Cross for the antimalaria campaign this year.

Campaign Against Infant Mortality in Germany.—The German authorities report that the mortality among infants averaged 19.8 per cent. throughout the empire during 1906. In Bavaria the proportion was 25 per cent.; in Prussia, 19.4 per cent. In France for the corresponding period it was 13.7 per cent.; in Sweden, 8.6, and in Norway only 7.9 per cent. In the United States, for 1900, the infant mortality was 14.94 per cent., but it was only 13.5 per cent. in American white families. The high infant mortality in Germany has long been recognized and energetic measures are now under way to reduce it. In Charlottenburg, where the proportion is 28.6 per cent., land has been donated and subscriptions collected to found a large model, central institution for scientific study of the most approved means of caring for and raising infants and educating mothers for this task. The scheme includes a "mothers' dispensary" and exhibition of everything connected with the care of infants. Nearly $250,000 has already been contributed, but four times this amount will be required to equip the institution as planned. A representative committee from all the states of the empire has charge of this campaign against infant mortality, and a conference was recently held at Berlin in the parliament buildings to discuss ways and means. Several "mothers' dispensaries" are already in successful operation in German towns, modeled on the French "infant consultations." They are regarded as important also from the standpoint of training medical students to give practical advice to mothers and nurses in regard to the rearing of infants. As mentioned elsewhere, the French authorities have decreed the extension of the system throughout France. In all the "consultations" already established it is the universal experience that the mothers are inclined to err on the side of feeding the children too often and too much.

LONDON LETTER.

(From our Regular Correspondent.)

London, May 18, 1907.

The Declining Birth Rate.

The birth rate continues to decline. The figures for 1906, just issued, show that the marriage rate was 15.6 per 1,000, 0.3 above that for 1905 but 0.2 below the decennial average. The birth rate was 27, being 0.2 below that of 1905, and the lowest on record. On the other hand, the death rate was 15.4, 0.2 higher than in the previous year but 1.4 less than the decennial average. The fall in the birth rate of London is still more remarkable. The rate was 26.7 per 1000, the lowest ever recorded. Calculated on the base of possible mothers, the fall in the birth rate in the past 36 years amounts to no less than 27 per cent., or, taking married women alone, to 22 per cent. Put in another way, if the fertility of married women in proportion to their numbers was identical in 1870-72 and in 1906 the legitimate births would have numbered nearly 156,000 instead of 120,814. Twenty per cent. of the decline in the birth rate is due to decrease in the proportion of married women in the adult female population and 5 per cent. to decrease in illegitimacy. With regard to the remaining 75 per cent. the report states that "there can be no doubt that much of it is due to deliberate restriction of child bearing."

The Anti-Tuberculosis Campaign.

At the annual dinner of the National Association for the Establishment and Maintenance of Sanatoria for Workers Suffering from Tuberculosis, the report presented showed good progress. The object is to establish sanatoria where the members of the working class can be sent while suffering from tuberculosis in its early stage. These institutions it is proposed to establish by means of cooperation of friendly societies, trades unions, and other organizations. It is hoped that they will become self-supporting so that patients will feel that they are not subsisting on charity. Appeal is now made for support only for the provision of the necessary buildings. The societies involved comprise about 3,000,000 workers, irrespective of their wives and families. A special feature of the scheme is that while the breadwinner of the family is being treated at the sanatorium his wife and children receive the whole of the sick pay which he would have received under the old system. This is provided for by an extra self-imposed levy on the members of the society. This scheme is the first serious attempt to emulate the German system of workmen's insurance. The first or model sanatorium under the scheme, containing 200 beds, has been opened at Benenden, Kent.

VIENNA LETTER.

(From our Regular Correspondent.)

Vienna, May 17, 1907.

A New Lupus Hospital in Vienna.

The plans for the new hospital for lupus have been definitely approved by the commission appointed for this purpose, and as the time for construction has been shortened, it will be ready in a few months. It will provide accommodations for from 80 to 90 in-patients and a large and spacious out-patients' hall, 20 Finsen lamps and all the latest equipment for modern photo-therapeutic measures will be installed. A surgical ward, together with an operating theater and a laboratory for chemical and biologic research, will be added to it. A novel feature in this kind of a charitable institution is the home or "refuge" as it is called. This is a pavilion in the grounds of the hospital, communicating with the garden and capable of accommodating 70 lupus patients, who while not bedridden, find it undesirable to mix with the street crowd. The present lupus hospital is but a small institution compared with the one to be erected, but still it does an enormous amount of good. As it is partly a private institution, certain fees are charged for treatment, although the sum is very low. Thus $1 daily is the maximum fee for an in-patient, while many patients are paid for by the state. The present director is Professor Lang, whose surgical method of treating lupus was at one time the best and only method of treatment. The cost of the new hospital will be defrayed partly by the state hospital fund, partly by the government, and partly by donations and voluntary contributions.

Correspondence

Physical Examination for Entrance to West Point.

Washington, D. C., May 29, 1907.

To the Editor:—Boards of medical officers for the physical examination of candidates for admission to West Point are appointed each year by the Secretary of War at various military posts, scattered over the country, and so situated as to be nearest the homes of the respective candidates. These boards consist of one or more medical officers of experience in the service and with practical knowledge of the requirements for officers of the Army. When candidates are rejected by the boards they are often taken at once by parents or friends to more or less prominent civilian practitioners, usually specialists, and it frequently happens that these physicians give certificates flatly contradicting the findings of the boards of medical officers of the Army. While there is no question of the integrity and honesty of purpose of these civilian practitioners, it does not seem quite fair that they should give such certificates without full and careful inquiry into all the circumstances of the case, and communication, if possible, with the medical officers concerned. It should be borne in mind that these officers have special knowledge of the requirements of the military service and approach this examination from the side of protection of the government's interests, while the civil physician is necessarily more or less influenced by the point of view of his patient. Moreover, it is believed that impersonation is sometimes resorted to in circumstances of this sort, and it certainly behooves a careful physician to go slowly before committing himself to a certificate contradicting one already given by his brother practitioners of the Army.

Charles F. Mason, Major, Surgeon, U. S. Army.

Rubber Tube Percussion.

Monrovia, Cal., May 25, 1907.

To the Editor:—In replying to Dr. Klebs' article in The Journal, April 6, 1907, page 1187, relative to "Rubber Tube Percussion," I prefer to discuss the merits of the question only, as sarcasm has no bearing on scientific truths. I am aware of the fact that I did not enter into a careful discussion of all the minute details connected with the theories of percussion in the short article in which I described the use of the new method. I simply called attention to the method in the hope that other men might give it a fair trial and determine its value.

Percussion of the chest by ordinary methods is at best unsatisfactory; and, as practiced by many physicians, is unreliable and worthless. During recent years I have acquainted myself with most of the different varieties of percussion and have compared my findings by one with that of the others. I find that the various methods have different value under different circumstances. By being conversant with more than one method one is able to do more accurate work.

The value of a method depends on the proficiency of the examiner and his ability to interpret sounds. No two methods offer the same sounds under the same circumstances, so when one wishes to acquaint himself with a new method he must not be surprised to find that the technic of the new method is somewhat "bothersome" and the new sounds confusing. Like all other methods, it requires practice in order to familiarize one's self with the best method of delivering the stroke and to be able properly to interpret the sound. We must either look on Dr. Klebs as an expert on percussion or consider his criticism and condemnation as hasty. Before describing the method, I employed it in making more than 1,000 careful examinations, and checked it by all other methods with which I am conversant. Dr. Klebs, on the other hand, read my description in The Journal, March 23, tried the method and had it condemned in time to have his criticism appear April 6.

The fact that many of my colleagues to whom I have demonstrated this method are reporting good results from it confirms my opinion that it is of value. Contrary to the opinion of Klebs, I find it most valuable in determining small apical foci, and have used it most successfully in mapping out the apical outline. I have secured best results by using the soft, flexible rubber tubing, by using a light stroke and allowing the tubing to remain in contact with the chest wall.

I do not suggest it as a method to supplant others, but one to be used in conjunction with them.

F. M. Pottenger, M.D.

"Proven."

Los Angeles, Cal., May 23, 1907.

To the Editor:—Although the rank and file of physicians are educated men, it is nevertheless somewhat surprising how many of them who write and speak publicly, tumble headlong into the habit of using the incorrect expressions and spelling employed by others, without considering accuracy. This is especially true when the example is set by an author who is supposed to be authority on English as well as on medicine.

An instance of this is seen in the use of the word proven, the past participle of the word prove. In the discussions in medical meetings and in medical books, the word occurs with surprising frequency. This was noticed recently in a medical work written by twenty-two authors, only one of whom used the expression correctly. I say correctly, taking the Standard Dictionary as authority, which under this word proven, reads: "An improper form of proved—an improper form lately growing in frequency by imitation of the Scotch form of 'not proven' in legal parlance." William H. Dudley, M.D.

State Aid for Private Medical Schools.

Detroit, May 27, 1907.

To the Editor:—The remarks on this subject in The Journal, May 25, suggest to me that there exists another viewpoint besides that taken by the esteemed correspondent. The state, in my opinion, should not support any private medical school, because state support of private medical schools would be, I think, a most flagrant mistake from a national economic standpoint. Medical schools should be state institutions. It is to be regretted that the excellency of some private medical schools and the small number of state medical schools furnish a temporary excuse for the existence of the former. "It is not fair," says the correspondent, "that the owners of these schools should be taxed to support state schools." I think that it would be still less fair that the whole community should be taxed to support private medical schools. It would be taxation without due representation, so to speak. No doubt some private medical schools have done and are doing excellent work. The tendency of our time, however, it would seem, is toward state schools. Nobody, to my knowledge, has ever officially asked a number of men to establish a private medical school; at least, no act of any legislature is known to me, at the present time, covering this point. If any reimbursement should be asked for by any private medical school for abandoning its property—I am speaking generally—it could be properly done only under one condition and in only one way, in my opinion. The condition would be, that the various state legislatures could possibly come to an understanding that some private medical schools, by virtue of their work in the past, or at present, are entitled to some kind of a consideration. The way would be, that the state, in case the private medical schools can not hold their own any longer, would take over the property and adequately compensate the owners.

Emil Amberg, M.D.

Paralysis Following Removal of Gasserian Ganglion.

San Francisco, May 27, 1907.

To the Editor:—In The Journal, May 11, Dr. Miles A. Porter reports a case of paralysis of the facial nerve after the removal of the Gasserian ganglion for tic douloureux.

In The Journal, Dec. 7, 1901, I reported a similar case. My patient was the first on whom I had done the operation, and the technic was practically that of the Hartley-Krause operation, with the high incision, the osteoplastic flap and the non-interference with the zygoma.

In the report of my case of paralysis of the seventh nerve following an operation on the ganglion of the fifth, I excluded certain possible rough causes, and ended by offering no explanation for the occurence. I am in the same position to-day. I do not know why it happened. My patient, who must have been operated on in 1897 or 1898, is, I believe, alive and well to-day, is free from his neuralgia and his face is still paralyzed.

I can not accept Mr. Harold Mouser's explanation of the paralysis in Dr. Porter's case. The chorda tympani is implicated in neither the peripheral nor the deep operation. It is very unlikely that traction on the third branch, to draw the cut end into the skull, as Dr. Porter says he did, but as I did not do, could be transmitted through the devious chorda tympani to the main trunk of the seventh nerve and traumatize the latter so as to paralyze it. I am more inclined to believe that there was, in these two patients, some unusual course of the seventh nerve. Harry M. Sherman, M.D.

2210 Jackson Street.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending June 1, 1907:

Hathaway, L. M., asst.-surgeon, granted leave of absence for thirty days.

Bourke, James, asst.-surgeon, relieved from duty on the U. S. Transport *Sumner*, and assigned as surgeon of the U. S. Transport *Kilpatrick*.

Vedder, Edward B., asst.-surgeon, relieved from duty at Fort Douglas, Utah, and ordered to Fort Walla Walla, Wash., for duty.

Powell, Junius L., surgeon, relieved from duty in the Philippines Division, about Aug. 15, 1907, and ordered to Fort Ethan Allen, Vt., for duty.

Mearns, E. A., surgeon, relieved from duty in the Philippines Division, about Aug. 15, 1907, and ordered to Fort Totten, N. Y., for duty.

Morse, A. W., Gosman, G. H. R., Owen, L. J., Zinke, S. G., Culler, R. M., Weed, F. W., Freeman, P. L., asst.-surgeons, relieved from duty in the Philippines Division, about August 15, and will proceed to San Francisco, Cal., for orders.

Whaley, A. M., asst. surgeon, ordered to accompany 26th Infantry from Fort Sam Houston, Texas, to San Francisco, Cal., and then return to his post.

Willcox, Charles, surgeon, granted thirty days' leave of absence.

Miller, E. W., asst.-surgeon, assigned to temporary duty as surgeon, transport *Kilpatrick* during voyage beginning May 22, from Havana, Cuba, to Newport News, Va., and return to Cuba.

Lambert, S. E., asst.-surgeon, left Fort Logan, Colo., on thirty days' leave of absence.

Bosley, J. R., asst.-surgeon, granted seven days' leave of absence.

Howard, D. C., surgeon, relieved from duty at Army General Hospital, Washington Barracks, D. C., and ordered to Philippine Islands, for duty on the transport sailing from San Francisco, Cal., about Sept. 5, 1907.

Arthur, W. H., surgeon, detailed to represent the medical department of the Army at the fifty-eighth annual meeting of the American Medical Association, to be held at Atlantic City, N. J., June 4-7, 1907.

Little, W. L., asst.-surgeon, granted two months' leave of absence, to take effect about Aug. 1, 1907.

Smart, Robert, asst.-surgeon, is honorably discharged from the service of the United States, to take effect June 29, 1907.

Russell, F. F., asst.-surgeon, detailed to represent the medical department of the Army at the fifty-eighth annual meeting of the American Medical Association, to be held at Atlantic City, N. J., June 4 to 7, 1907.

Morris, E. R., surgeon, granted three months' leave of absence on surgeon's certificate of disability.

Girard, Jos. B., asst.-surgeon general, relieved from duty as chief surgeon, Department of the Gulf, and will proceed to San Antonio, Texas, and report for duty as chief surgeon, Department of Texas, on the departure of Col. Louis M. Maus, asst.-surgeon general.

Gray, W. W., deputy surgeon general, so much of Par. 14, S. O. 91, April 18, 1907, War Department, as directs him to proceed to Omaha, Neb., for duty as chief surgeon, Department of the Missouri, is revoked, and he will report for duty as chief surgeon, Department of the Gulf.

Jarrett, A. R., contracting surgeon, ordered to duty at target camp, Creedmoor, Long Island.

Brown, W. E., contract surgeon, relieved from duty at Fort Walla Walla, Wash., and ordered to the Army General Hospital, Fort Bayard, N. M., for duty.

Koyle, F. T., contract surgeon, relieved from duty in the Department of California, and ordered to sail July 5, for Manila, P. I., for duty in the Philippines Division.

Henning, O. F., contract surgeon, left Fort Barrancas, Fla., on leave of absence for twenty days.

Williamson, J. W., contract surgeon, granted leave of absence for two months.

Van Kirk, H. H., contract surgeon, leave of absence extended to July 1, 1907.

Stephenson, A. V., contract surgeon, left Presidio of San Francisco, Cal., for duty at Fort Miley, Cal.

Smith, W. H., and Lincoln, H. F., contract surgeons, ordered from St. Louis, Mo., to Fort Leavenworth, Kans., for duty.

Stallman, G. E., dental surgeon, left Fort Reno, Okla., for duty at Fort Sill, Okla.

Hussey, S. W., dental surgeon, relieved from duty in the Philippines Division in time to sail for San Francisco, Cal., on the first transport after August 1, granted leave of absence for two months, to take effect on arrival in the United States.

Voorhies, H. G., dental surgeon, ordered from San Francisco, Cal., to Fort D. A. Russell, Wyo., for duty.

Wing, F. F., dental surgeon, relieved from duty at Fort D. A. Russell, Wyo., in time to sail July 5, from San Francisco, Cal., for Philippine service.

Navy Changes.

Koltes, F. X., asst.-surgeon, ordered to Mare Island Yard, Cal.

Neville, R. P., pharmacist, having been examined by retiring board and found incapacitated for active service on account of disability incident thereto, is retired from active service May 23, under provisions of Sec. 1453 R. S.

Decker, C. J., surgeon, sick leave further extended three months from May 23.

Richardson, R. R., P. A. surgeon, detached from the *Boston*, when placed out of commission and ordered to the *Albany* when placed in commission.

Marsteller, E. H., surgeon, sick leave further extended six weeks, from May 28.

Smith, W. B., P. A. surgeon, detached from the *Raleigh* and ordered to the *Helena*.

Stoopes, R. E., asst.-surgeon, detached from the *Concord* and ordered home.

Owens, W. D., asst.-surgeon, detached from the *Villalobos* and ordered home.

Grayson, C. T., asst.-surgeon, detached from the *Maryland* and ordered home.

Winn, C. K., asst.-surgeon, ordered to the *Villalobos*.

Raison, T. W., asst.-surgeon, ordered to the *West Virginia*.

Cohn, I. F., asst.-surgeon, ordered to the *El Cano*.

Butts, H., asst.-surgeon, ordered to the *Maryland*.

Eytinge, E. C. J., asst.-surgeon, detached from the *El Cano* and ordered to the *Concord*.

Wheeler, L. H., asst.-surgeon, detached from the *Helena* and ordered to the *Raleigh*.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 29, 1907:

White, J. H., surgeon, detailed to attend meeting of the American Society of Tropical Medicine, Philadelphia, Pa., June 7.

McIntosh, W. P., surgeon, granted leave of absence for one day, May 24.

Rosenau, M. J., P. A. surgeon, detailed to attend meeting of the American Medical Association, and also the Section on Pathology and Physiology, June 4-8, 1907.

Wickes, H. W., P. A. surgeon, directed to proceed to Perth Amboy, N. J., June 18, for the purpose of assuming temporary charge of the service during the absence of Assistant Surgeon Mullan.

Anderson, John F., P. A. surgeon, directed to proceed to Savannah, Ga., for special temporary duty in connection with the outbreak of typhoid fever.

Robinson, D. E., P. A. surgeon relieved from duty at Baltimore, and directed to proceed to Ellis Island, N. Y., reporting to the chief medical officer for duty.

Wille, C. W., P. A. surgeon, granted leave of absence for eight days, from May 12, 1907.

Berry, T. D., P. A. surgeon, granted leave of absence for one day.

McLaughlin, A. J., P. A. surgeon, granted leave of absence for two months, from July 1, 1907.

Burkhalter, J. T., P. A. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Baltimore, Md., reporting to the medical officer in command for duty and assignment to quarters.

McCoy, G. W., P. A. surgeon, directed to proceed to Bransford, and other places in Tennessee, for special temporary duty; on completion of which to rejoin his station at the Hygienic Laboratory.

Mullan, E. H., asst.-surgeon, granted leave of absence for two days, from June 18.

Olsen, E. T., asst.-surgeon, relieved from duty at Chicago, Ill., and directed to proceed to Ellis Island, N. Y., reporting to the chief medical officer for duty.

Bailey, C. W., acting asst.-surgeon, granted extension leave of absence for five days, from May 27. 1907.

Glascock, Alfred, acting asst.-surgeon, granted extension leave of absence for three days, from May 29, 1907.

Hunter, W. R., acting asst.-surgeon, granted leave of absence for two days, from May 25, 1907.

Owen, Henry, acting asst.-surgeon, granted leave of absence for thirty days, from June 1, 1907.

Tarbell, B. C., acting asst.-surgeon, granted leave of absence for ten days, from April 15, 1907.

Watson, H. J., acting asst.-surgeon, granted leave of absence for thirty days, on account of sickness, from Jan. 22, 1907.

Watson, H. J., acting asst.-surgeon, granted leave of absence for thirty days, from Feb. 21, 1907.

Wright, F. T., acting asst.-surgeon, granted leave of absence for fifteen days, from May 28, 1907, and excused for a further period of fifteen days, without pay, from expiration of said leave.

BOARD CONVENED.

A board of medical officers was convened to meet at Vancouver, B. C., June 8, 1907, for the purpose of examining a person suspected of being afflicted with trachoma. Detail for the board: Surgeon W. G. Stimpson, chairman; P. A. surgeon J. H. Oakley, and P. A. Surgeon W. C. Billings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 31, 1907:

SMALLPOX—UNITED STATES.

California: San Francisco, May 11-18, 1 case.

Florida: Duval County, Jacksonville, May 11-18, 2 cases; Hillsboro County, Tampa, May 11-18, 4 cases.

Illinois: Chicago, May 11-25, 13 cases; Danville, May 16-23, 4 cases; Springfield, May 16-23, 2 cases.

Indiana: Elkhart, May 11-18, 6 cases; Lafayette, May 13-20, 1 case; South Bend, May 11-18, 3 cases, 1 death.

Kansas: Kansas City, May 11-25, 5 cases.

Kentucky: Covington, May 15-22, 1 case; Louisville, May 16-23, 4 cases.

Louisiana: New Orleans, May 11-18, 7 cases (4 imported).

Massachusetts: Lawrence, May 11-18, 1 case.

Michigan: Detroit, May 18-25, 4 cases; Saginaw, May 11-18, 5 cases.

New York: Niagara Falls, May 11-18, 1 case.

North Carolina: Greensboro, May 11-18, 8 cases.

South Carolina: Camden, May 12-19, 1 case.

Texas: Galveston, May 17-24, (10 cases, imported on S. S. *Hanover*); Laredo, May 13-17, 1 case (imported); San Antonio, May 4-11, 1 case.

Washington: Spokane, May 11-18, 20 cases (1 imported).

Wisconsin: Milwaukee, May 11-18, 6 cases.

SMALLPOX—FOREIGN.

Brazil: Manaos, April 27-May 4, 10 cases; Para, April 27-May 11, 6 cases, 2 deaths; Pernambuco, March 15-31, 60 deaths.

Chile: Coquimbo, April 27, 1 case; Iquique, April 27, present.

China: Hongkong, April 6-13, 20 cases, 16 deaths.

Egypt: Cairo, April 23-29, 2 cases, 1 death.

France: Marseilles, April 1-30, 170 deaths; Nice, April 1-30, 15 cases, 4 deaths; Paris, May 4-11, 12 cases, 5 deaths.

Germany: General, April 28-May 4, 9 cases.

Great Britain: Cardiff, May 4-11, 1 case; Southampton, May 4-11, 1 case.

India: Bombay, April 23-30, 1 death.

Italy: General, May 2-9, 50 cases.

Madeira: Funchal, May 5-12, 31 cases, 9 deaths.

Mexico: Mexico City, April 20-27, 16 deaths.

Portugal: Lisbon, May 4-11, 6 cases.

Russia: Odessa, April 20-27, 7 cases, 2 deaths; Riga, Feb. 1-28, 6 deaths; April 27-May 11, 16 cases.

Spain: Barcelona, May 1-10, 3 deaths; Cadiz, April 1-30, 3 deaths; Huelva, April 1-30, 4 deaths; Seville, April 1-30, 3 deaths; Valencia, April 28-May 12, 25 cases, 2 deaths.

Turkey: Bagdad, April 6-13, present.

YELLOW FEVER.

Brazil: Manaos, April 20-27, 1 death; Para, April 28-May 12, 9 cases, 6 deaths.

Cuba: San Nicolas, Habana Province, May 21, 1 case.

West Indies: Trinidad, Port of Spain, May 4-11, 2 cases, 2 deaths.

CHOLERA.

India: Bombay, April 23-30, 2 deaths; Rangoon, April 13-20, 9 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 22, 1 case, 2 deaths.

PLAGUE—FOREIGN.

Arabia: Bahrien Island, April 21-27, 7 cases, 4 deaths; Camaran, April 19-30, 4 cases, 2 deaths.

Brazil: Para, May 4-11, 1 case, 1 death; Pernambuco, March 15-31, 1 death.

Chile: Antofagasta, April 27, 16 cases, 6 deaths.

China: Hongkong, April 6-13, 3 cases, 3 deaths.

India: General, April 16-20, 86,991 cases, 76,647 deaths; Bombay, April 23-30, 343 deaths; Rangoon, April 13-20, 99 deaths.

Peru: Chiclayo, April 18, 2 cases, 1 death; Chosica, April 18, 1 case; Ferrenhafe, April 18, 3 cases, 2 deaths; Lima, April 18, 8 cases, 5 deaths; Paita, April 18, 4 cases, 1 death; Trujillo, April 18, 3 cases, 3 deaths.

Turkey in Asia: Djeddah, April 15-May 5, 36 cases, 34 deaths.

Association News

THE ATLANTIC CITY SESSION.

(*By Telegram Tuesday*).

Monday was rainy but Tuesday is clear and warmer. The cold doubtless kept many away. The weather is too cold for outings. Registration Tuesday night was 2,776; at Boston at the end of the first day's session it was 3,768 and at Atlantic City in 1904, it was 2,240.

HOUSE OF DELEGATES.

Official Minutes of First Meeting—Tuesday, June 4.

The House of Delegates convened in the assembly hall of the Hotel Traymore at 10:15 a. m., and was called to order by the President, Dr. William J. Mayo.

Dr. Walter B. Dorsett, St. Louis, Mo., Chairman of the Committee on Credentials, presented a preliminary report, giving the names of all members who had thus far presented their credentials.

The minutes of the previous annual session were read. Dr. Philip M. Jones, California, moved the adoption of the minutes of the last session. This motion was seconded by Dr. Frank Billings, Chicago, and was carried.

The President then delivered his Address.

President's Address.

To the Members of the House of Delegates of the American Medical Association.

Gentlemen:—Following the example of my distinguished predecessors, I shall take advantage of the opening of the House of Delegates to direct the attention of this body to some matters which will come up before it for careful consideration. It is certainly a wise provision, which relieves the President from anything more than the superficial direction of the affairs of the Association and places the real responsibility on the Board of Trustees, whose prolonged tenure of office enables them to control properly the business of the House of Delegates.

The American medical profession is to be congratulated on the extraordinary influence for good brought about by this organization, largely through the efforts of the Secretary-Editor, Dr. George H. Simmons. By virtue of my office I have been thrown in close association with Dr. Simmons, and I take this occasion to express publicly my high admiration for him and his work. His courage in fighting for the best interests of the profession as a whole, often at a personal sacrifice, must commend itself to every right thinking man.

The Journal, of which he is the guiding spirit, is the greatest medical periodical the world has ever known, having a circulation of almost 50,000. During the past year I have met a large number of distinguished foreign men of our profession, and I can assure you that their appreciation of the high scientific standard of our official organ has been most gratifying. To the efficient Chairman of the Committee on Organization, Dr. J. N. McCormack, the Association [illegible] a debt of gratitude. His rare insight into the necessities of the profession, and his grasp of the essentials which are necessary to give to medicine a commanding influence with the public at large make his work extraordinarily valuable.

And, finally, I must pay tribute to the Board of Trustees, not in the perfunctory expressions of one who is about to sever slight official connection with them, but rather as one who wishes to express his real appreciation of their wise control of the affairs of the Association, a control which has enabled the American Medical Association to become the largest and most powerful medical organization in the world.

Among the important matters which are to come up before you, I would like to direct your especial attention to four problems:

First: The report of the Committee on Medical Education. This question is perhaps the most vital of all, for the future of the medical profession lies in the character and training of the young men who go to fill up its ranks. The time has gone by when any band of men, even if their motives are of the highest, shall be allowed to organize a medical college, and at their own free will, give the title of "Doctor of Medicine." While the Association has no legal authority in this matter, its weight, if brought to bear as a moral force, should be sufficient to correct these evils.

Second: The Council on Pharmacy and Chemistry is doing a work of unexampled importance for the men who are now engaged in the practice of medicine. The proprietary medicine habit of physicians has been in its way even more scandalous than the "patent-medicine" habit of the public at large, because we are at least, supposed to know better. The work of the Council on Pharmacy and Chemistry should be encouraged by every means in our power. We should not only expose the fraudulent character of the claims of the proprietary people, but we should also encourage the honest firms which are making scientific preparations of known composition.

Third: The question of fees for the examination of life insurance should be amicably adjusted if possible. This matter concerns at least 10 per cent. of the profession and has been the cause of much feeling within our ranks. There are indications that some of the large insurance companies would be glad to adjust the differences. Your Committee on Insurance has a report to make on this subject, and I believe that the profession at large would accept without question the unanimous action of the House of Delegates.

Fourth: I would recommend that a committee be appointed to consider measures for expediting the business of the House of Delegates. A large amount of work could be delegated to the committee, which should be appointed months in advance, so that a well-digested report could be promptly presented to this body for action. Our delegates are among the busiest men in the scientific sections and the sacrifice necessitated by serving in this capacity should be lessened, if possible. A full day's work on Monday, two sessions on Tuesday, another on Thursday, and, if necessary, another on Friday, should enable the House of Delegates to dispose of its business, leaving Wednesday at least entirely free for work in the Sections.

Reference Committees Appointed.

COMMITTEE ON MEDICAL EDUCATION.

F. B. Lund, Massachusetts, Chairman.
Charles L. Mix, Illinois.
Stuart McGuire, Virginia.
H. L. Elsner, New York.
S. Solis-Cohen, Pennsylvania.

(Members of the Council on Medical Education are members ex-officio of this committee.)

COMMITTEE ON AMENDMENTS TO CONSTITUTION AND BY-LAWS.

George W. Guthrie, Pennsylvania, Chairman.
C. E. Cantrell, Texas.
R. C. Cabot, Massachusetts.
R. L. Nourse, Idaho.
G. L. Taneyhill, Maryland.

COMMITTEE ON REPORTS OF OFFICERS.

A. Jacobi, New York, Chairman.
Donald Campbell, Montana.
W. T. Sarles, Wisconsin.
Philip Mills Jones, California.
W. W. Richmond, Kentucky.

COMMITTEE ON CREDENTIALS.

Walter B. Dorsett, Missouri. Chairman.
Wisner R. Townsend, New York.
E. K. Williams, Arkansas.
H. Bert Ellis, California.
A. B. Walker, Ohio.

COMMITTEE ON SECTION AND SECTION WORK.

Leartus Connor, Michigan, Chairman.
John T. Rogers, Minnesota.
George R. Shepherd, Connecticut.
S. W. Woodyard, Tennessee.
John Darrington, Mississippi.

COMMITTEE ON RULES AND ORDER OF BUSINESS.

William H. Sanders, Alabama, Chairman.
W. Fred Essig, Washington.
Victor H. Stickney, North Dakota.
L. E. Bowers, Kansas.
John M. Gile, New Hampshire.

COMMITTEE ON LEGISLATION AND POLITICAL ACTION.

C. S. Bacon, Illinois, Chairman.
H. Work, Colorado.
P. W. Tomlinson, Delaware.
Frank Paschal, Texas.
J. H. Hamilton, South Carolina.

COMMITTEE ON HYGIENE AND PUBLIC HEALTH.

W. N. Wishard, Indiana, Chairman.
R. M. Woodward, U. S. P. H. and M.-H. S.
Charles J. Kipp, New Jersey.
John Champlin, Rhode Island.
J. E. Cannaday, West Virginia.

Report of the General Secretary.

READ AND REFERRED TO COMMITTEE.

To the Members of the House of Delegates of the American Medical Association:

Gentlemen:—I submit herewith my report for the past year.

The membership of the American Medical Association on the date of my last report, May 1, 1906, was 23,636. The discontinuances during the year were 2,135, of which 258 were from death, 1,005 resigned, 424 were dropped for non-payment of dues, 419 were dropped as not eligible under Section 1, Chapter 1, Book 1, of the By-Laws, and 29 were discontinued, reported "not found," or mail returned by the Postoffice Department. The comparatively large number of non-eligible members dropped is due to a systematic revision of the membership list which has been carried on during the past year. There have been added to the list 6,014 names, of which 4,322 were subscribers to The Journal previous to becoming members of the Association, while 1,692 were new members joining the Association direct. This gives a net gain for the year of 3,879. The membership on May 1, 1907, was 27,515.

OKLAHOMA STATE MEDICAL ASSOCIATION.

The amalgamation of the Oklahoma and Indian Territorial Associations was unofficially announced in the report for last year. Since that time the general secretary has been officially advised by the proper officers of the union of these two associations under the name of the Oklahoma State Medical Association.

COMMITTEES APPOINTED.

Since the last session the following committees were appointed by the President, in accordance with resolutions adopted at the Boston session:

1. Committee on Tropical Medicine—Ludvig Hektoen, Chicago, chairman; Maximilian Herzog, Chicago; George Dock, Ann Arbor, Mich.; L. F. Barker, Baltimore; Col. F. C. Gorgas, Panama.
2. Committee on Ophthalmia Neonatorum—F. P. Lewis, Buffalo, chairman; J. Clifton Edgar, New York City; F. F. Westbrook, Minneapolis.

ASSOCIATE MEMBERS.

In my report for 1906 I called attention to the advisability of amending Section 5, Chapter 3, Book 1 of the By-Laws, in order to make its meaning more definite and thus to avoid the misconstruction that occurs each year. As the section now stands, it is not clearly specified that it applies only to those who are not eligible to regular membership. Every year someone claims that the provisions of this section permit those who are eligible to full membership, but who do not care to avail themselves of it to acquire temporary membership. It is obvious that it would be unjust to active members to allow practicing physicians, eligible to regular membership, but not caring to assume its obligations, to become associate members and thus obtain special privileges. It is equally obvious that there are many men, pathologists, bacteriologists, etc., who are not medical graduates, or, if graduates, who are not licensed to practice medicine, yet who wish to enjoy the advantages of membership and whose cooperation and support some sections desire without having to go through the formality of election each year. I would therefore respectfully suggest the following amendments:

That a new section, to be Section 3, Chapter 3, Book 1 of the by-laws (page 8), read as follows:

Section 3.—Associate Members.—Representative teachers, students of sciences allied to medicine, resident in the United States, and not eligible to regular membership, may become Associate Members of this Association on recommendation of the officers of a section and on election by the House of Delegates. Such members shall be designated as Associate Members.

The present Section 3 to become Section 4, and to be amended by the insertions of the words "and associate," following the word "pharmaceutical," making the section read as follows:

Section 4.—Privileges.—Dental, Pharmaceutical and Associate Members shall enjoy the same privileges as regular members, and shall be subject to the same conditions.

The present Section 4 to become Section 5, and to be amended by inserting the word "three" following "two" in the second line of the Section, making it read as follows:

Section 5.—Forfeiture of Membership.—Membership obtained under Sections 1, 2 and 3 of this Chapter may be declared forfeited by the House of Delegates for reasons considered sufficient by that body.

A new section, to be known as Section 6, to be inserted and to read as follows:

Section 6.—Invited Guests.—Representative teachers, students of sciences allied to medicine, and distinguished physicians of foreign countries may be invited by the general officers or by the officers of a section to attend the annual session and to take part in the scientific work. They shall be designated as Invited Guests; they shall hold their connection with this Association until the close of the annual session to which they are invited and shall be entitled to participate in the scientific and social functions of the Association.

Present Section 6 to become Section 7.

Present Section 7 to become Section 8.

ROLL CALL.

The committee on recording minutes, which reported at the 1906 session, recommended that the roll be called and that the attendance be made a matter of record at each meeting of the House of Delegates. This recommendation was adopted. I therefore recommend that Book 2, Chapter 5, Section 1 of the by-laws be amended by inserting "Roll Call" as the second item on the Order of Business of the House of Delegates, and that the succeeding numbers be changed accordingly.

REPORTS FROM STATE SECRETARIES.

The relations between the secretaries of the various constituent associations and the General Secretary's office are becoming each year more intimate. As the activities of the organization increase and as membership becomes more valuable, due to greater membership advantages offered, the necessity of an accurate system of registering members becomes more apparent. The reporting system inaugurated two years ago is becoming more and more valuable. During the past year regular reports were received from thirty-nine state secretaries. The reports received from the remaining secretaries, while not regular, were, with one exception, sufficiently so to cover all the membership transaction during the year.

COUNCILORS BULLETIN.

The Councilors Bulletin has been issued at intervals during the past year, and has contained much matter for the consideration of officers of county and state societies. The mailing list has been increased by the addition of the names of the presidents of county societies as well as the secretaries, which has given the Bulletin a circulation of nearly 5,000.

BIOGRAPHICAL CARD INDEX.

There are now on hand in the directory department over 60,000 personal biographical reports from individual members of the profession, obtained primarily for the Directory. They are being used for compiling the biographical card index referred to in previous reports. The work of transferring the biographic data from the blanks to a permanent card and of arranging and indexing these cards is now being carried on.

PORTO RICO ASSOCIATION.

As mentioned in the last two reports, correspondence has been carried on with physicians of Porto Rico, looking toward the organization of a constituent association on that island. Nothing definite, however, has come to my notice as yet.

I can not close this report without testifying to the increasing interest in organization matters which has characterized the profession throughout the entire country and to the better feeling existing in the profession. More attention than ever before is being paid to questions involving the duties, privileges and rights of physicians as members of society, as well as the possibilities of organization, so far as increased benefit to the public is concerned. In many of our local societies the work of the organized profession has been greatly extended, and the influence of the society for good, both to the public and the profession, has been vastly increased. The organized profession owes much to those members, each year increasing in number, who are unselfishly devoting much time and energy to promoting the highest and best interests of the profession and of the public.

Respectfully submitted.

George H. Simmons, *General Secretary.*

Dr. Alexander R. Craig, Pennsylvania, moved that the report be received and referred to the Reference Committee on Reports of Officers, with the exception of that part of it recommending an amendment to Book 2, Chapter 5, Section 1 of the By-laws, that this be referred to the Reference Committee on Amendments to the Constitution and By-laws, with the understanding that this amendment had been properly brought before the House at this session.

This motion was seconded, carried, and the report was so referred.

Report of the Board of Trustees.

READ AND REFERRED TO COMMITTEE

The report of the Board of Trustees was read by the Chairman, Dr. T. J. Happel, Tennessee.

To the Officers, Members, and House of Delegates of the American Medical Association:

Complying with the requirements of the Constitution and By-Laws of the American Medical Association, we present herewith our annual report, in which we have endeavored to give to you, in a plain, practical, businesslike manner, the results of the year's work in the office of THE JOURNAL of the Association, and such other matters as we think may interest you.

Your attention is invited to the fact that the Investors Audit Company of Chicago has presented the financial status in such a way that any one can easily understand the different exhibits.

To the end that you may have as complete a financial résumé as possible, we present this report in full, as follows:

THE INVESTORS AUDIT COMPANY.

CHICAGO, JAN. 29, 1907.

To the Board of Trustees of the
American Medical Association, Chicago, Ill.
Gentlemen:

In accordance with your instructions, we have examined the books and vouchers of the American Medical Association for the year ended December 31, 1906, and hand you herewith the folowing statements:

Comparative Balance Sheet as at December 31, 1905 and 1906 (Exhibit A).
Revenue Account for the year ended December 31, 1906 (Exhibit B).
Disposition of Net Revenue for the year ended December 31, 1906 (Exhibit C).
Net Investment in Directory to date (Exhibit D).
Inventory of Materials and Supplies (Exhibit E).
Details of Bond Account (Exhibit F).
Summary of Publication Expenses (Exhibit G).
Summary of Organization Expenses (Exhibit H).
Summary of Association Expenses (Exhibit I).
Summary of Medical Legislation (Exhibit J).
Summary of Medical Education (Exhibit K).
Summary of Depreciation (Exhibit L).

We would call your attention to the fact that while the accounts show that there has been a considerable increase in the net assets of the Association during the year under audit large amounts have been invested in additional machinery and directory equipment. Compared with the previous year the cash on hand has been reduced by $6,861.32, and the accounts payable increased by $12,169.88.

In the course of the audit we have checked the cash received from the different sources and traced it into the bank. We examined vouchers for all cash disbursements, with the exception of a few issued during the latter part of the year which had not been returned by the bank. These will be examined by us later, and if any remain missing we will report upon the same to you. In checking these vouchers for disbursements we have been careful to see that invoices or other original evidence of the nature of the disbursement were attached to the receipts. We also noted that the vouchers had been approved by the proper officials, that the invoices had been checked both for receipt of goods, prices and extensions and that distribution of the expenditure to the proper account on the books had been made.

We verified the cash in bank by means of statements furnished by the Bankers, and the cash on hand by actual count.

The securities in possession of the Treasurer were examined by us and found to be in order.

We found the bookkeeping and office work to be well and accurately done and the condition of the same to reflect considerable credit on the office force, especially in view of the large increase in the total business done during the year.

We shall be glad to furnish you with any further information in our possession that you may require. Yours faithfully,

THE INVESTORS AUDIT COMPANY,
By E. M. MILLS, Manager.

EXHIBIT A.

AMERICAN MEDICAL ASSOCIATION COMPARATIVE BALANCE SHEET, DEC. 31, 1905 AND 1906.

ASSETS.

Dec. 31, 1905.			Dec. 31, 1906.
$114,323.61	Real estate and buildings		$111,781.91
33,422.45	Machinery		45,531.08
5,341.29	Furniture and fixtures		6,862.43
1,163.11	Library		1,175.16
10,868.39	Net investment in Directory to date (see Exhibit D)		43,820.66
7,167.57	Inventory of materials and supplies (see Exhibit E)		14,336.59
40,199.38	Bonds at cost (see Exhibit F)		40,199.38
60.00	Bills receivable:		
15,052.28	Accounts receivable:		
	Chicago Postmaster—deposit	$455.00	
	Advertising	12,905.90	
	Reprints	757.20	
	Sundry	719.07	14,837.17
19,884.83	Cash:		
	Treasurer's account	$11,697.38	
	Office account	1,276.13	
	Cashier's account	50.00	13,023.51
$247.482.91			$291,567.89

LIABILITIES.

$ 9,736.12	Accounts payable:		
	Sundries	$ 6,706.00	
	Due on machinery contracts (estimated)	15,200.00	$21,906.00
237,746.79	Balance being excess of assets over liabilities		269,661.89
$247.482.91			$291,567.89

EXHIBIT B.

AMERICAN MEDICAL ASSOCIATION REVENUE ACCOUNT FOR THE YEAR ENDED DEC. 31, 1906.

INCOME:		
Advertising	$ 98,458.85	
Subscriptions collected	87,694.97	
Membership dues collected	103,076.10	
Jobbing	18,707.22	
Reprints	5,417.75	
Buttons	1,519.89	
Books	3,008.56	
Rents of Association properties	3,240.00	
Sale of paper, boxes, etc.	1,639.76	
Interest on bonds	1,560.00	
Interest on bank balances	977.25	$325.300.35
DEDUCT:		
Publication expenses (see Exhibit G)	$246,088.43	
Organization expenses (see Exhibit H)	7,290.83	
Association expenses (see Exhibit I)	12,629.54	
Medical legislation (see Exhibit J)	1,663.74	
Medical education (see Exhibit K)	3,520.61	
Depreciation (see Exhibit L)	6,904.34	
Pharmacy and chemistry	4,053.08	
Books	3,031.12	
Buttons	1,235.92	
Insurance and taxes	1,841.12	
Interest and discount	1,106.71	
Exchange	752.27	
Building maintenance	330.11	
House expense	433.43	
Commissions for securing new members, etc.	626.70	
Bad debts, less recoveries	449.80	
Collections	1,427.50	293,385.25
Net revenue for the year ended Dec. 31, 1906		$31,915.10

EXHIBIT C.

AMERICAN MEDICAL ASSOCIATION. DISPOSITION OF NET REVENUE FOR THE YEAR ENDED DEC. 31, 1906.

INCREASE IN ASSETS:		
Furniture and fixtures	$ 1,521.14	
Library	12.05	
Inventories	7,169.02	
Net investment in Directory	32,952.27	
Machinery	12,108.63	$53,763.11
DECREASE IN ASSETS:		
Real estate and buildings	$2,541.70	
Bills receivable	60.00	
Accounts receivable	215.11	
Cash	6,861.32	
	$ 9,678.13	
INCREASE IN LIABILITIES:		
Accounts payable	$12,169.88	21,848.01
Net revenue for the year ended Dec. 31, 1906, as per account annexed		$31,915.10

EXHIBIT D.

AMERICAN MEDICAL ASSOCIATION. NET INVESTMENT IN DIRECTORY AS AT DEC. 31, 1906.

Directory equipment, etc.	$ 6,124.75
Directory sales commissions	735.50
Directory advertising commissions	109.38
Express	67.55
Postage	4,254.13
Correspondents, information, etc.	7,983.81
Pay roll	23,674.96
Jobbing	1,651.00
Advertising (In JOURNAL)	385.00
Paper	1,391.86
Supplies	129.49

Stationery	412.77	
Insurance	201.50	
Miscellaneous	320.13	$47.441.83
Less:		
Advance Directory sales	$3,546.17	
Advance Directory advertisements	75.00	$3,621.17
		$43,820.66

EXHIBIT E.

American Medical Association. Summary of Inventory as at Dec. 31, 1906.

Paper stock	$7,025.80
Metal	4,260.68
Type	2,509.26
Buttons	321.60
Ink	163.00
Coal	56.25
	$14,336.59

EXHIBIT F.

American Medical Association. Details of Bond Account as at Dec. 31, 1906.

	Par value.	Cost.
5 Atchison, Topeka and Santa Fe Ry. Co. 4 per cent. 100-year gold bonds	$ 5,000.00	$ 4,988.75
5 Erie R. R. Co. 4 per cent. gold bonds	5,000.00	4,932.50
5 Baltimore & Ohio R. R. Co. first mortgage 4 per cent. bonds	5,000.00	5,032.50
5 Reading Company general mortgage 4 per cent. bonds	5,000.00	4,870.00
5 Union Pacific R. R. Co. first mortgage 4 per cent. bonds	5,000.00	5,207.50
14 City of Chicago 4 per cent. school bonds	14,000.00	15,168.13
	$39,000.00	$40,199.38

EXHIBIT G.

American Medical Association Summary of Publication Expenses as at Dec. 31, 1906.

Paper		$72,776.71
Type, metal and electros		3,290.45
Ink		3,500.34
Salaries		31,500.04
Pay roll		65,078.67
News reporting and editorials		8,949.84
Binding		651.00
Machinery repairs and renewals		2,098.42
Advertising and subscription commissions		14,812.56
Postage:		
First class	$ 8,228.73	
Second class	17,066.62	25,295.35
Power		2,526.26
Light		2,005.02
Fuel		629.81
Miscellaneous expense		7,172.82
Factory supplies		1,656.04
Office jobbing		2,421.40
Express and cartage		1,723.70
		$246,088.43

EXHIBIT H.

American Medical Association. Summary of Organization Account as at Dec. 31, 1906.

Dr. J. N. McCormack:		
Salary for year 1906	$4,999.92	
Traveling expenses, Sept. 4, 1905, to June 1, 1906	1,311.50	
Stenographic services and sundry office expenses	174.00	$6,485.42
Agents' expenses		551.08
Jobbing		246.85
Miscellaneous		7.48
		$7,290.83

EXHIBIT I.

American Medical Association. Summary of Association Account as at Dec. 31, 1906.

Salary Assistant to the General Secretary	$1,083.31
California Physicians' Relief Fund	3,000.00
Trustees' meetings	2,782.43
Scientific research	500.00
Reporting, transcribing, etc	1,811.87
Sections' secretaries' expense	600.00
Boston meeting	1,054.15
Jobbing	485.60
Binding	116.89
Postage	120.47
Scientific exhibit	483.28
Freight, express and cartage	130.54
Badges and buttons	81.00
Premium on Treasurer's bond	75.00
Salary, Treasurer	200.00
Miscellaneous	105.00
	$12,629.54

EXHIBIT J.

American Medical Association. Summary of Medical Legislation as at Dec. 31, 1906.

Dr. Chas. A. L. Reed:		
Sundry office expenses	$1,272.27	
Expenses Washington meeting	141.50	$1,413.77
Dr. W. L. Rodman:		
Expenses Washington meeting		30.85
Jobbing		188.80
Supplies		18.05
Miscellaneous		12.27
		$1,663.74

EXHIBIT K.

American Medical Association. Summary of Medical Education as at Dec. 31, 1906.

Salaries, secretary and clerks	$2,155.35
Meetings	316.54
Reporting proceedings of Council on Medical Education	73.40
Postage and supplies	343.00
Jobbing	253.60
Traveling	43.77
Inspection medical schools	309.70
Miscellaneous	25.25
	$3,520.61

EXHIBIT L.

American Medical Association. Summary of Depreciation as at Dec. 31, 1906.

Building	$2,836.30
Machinery	3,370.12
Furniture and fixtures	697.92
	$6,904.34

TREASURER'S REPORT.

Report of the Treasurer of the American Medical Association for the Year Ending Dec. 31, 1906.

RECEIPTS.

1906.	
Jan. 1—Cash balance in bank	$ 4,408.86
June 1—Interest at 3 per cent. for 9 months on $15,000. Certificate of deposit Sept. 1, 1905, to June 1, 1906	337.50
June 1—Cash received from editor of Journal	10,000.00
Dec. 10—Interest at 3 per cent. for 6 months on $15,000. Certificate of deposit June 1, to Dec. 1, 1906	225.00
1905.	
Interest coupons on 39 $1,000 bonds, 4 per cent	1,560.00
Interest 2 per cent. on daily cash balance (on $5,000 or more) for months of June to December inclusive, 1906	166.02
1906.	
Dec. 10—Deposit in checking account from certificate of deposit in First Trust and Savings Bank	15,000.00
	$31,697.38

DISBURSEMENTS.

1906.	
Nov. 20—Cash paid editor of Journal on order of Trustees	$10,000.00
Dec. 10—Cash paid editor of Journal on order of Trustees	10,000.00
Dec. 31—Cash balance in bank	11,697.38
	$31,697.38

Property of American Medical Association in Hands of Treasurer, Jan. 1, 1907.

	Cost.	Par value.	
Cash in checking account First National Bank, Chicago			$11,697.38
5/1000 bonds U. P. Ry., 1st 4's	$5,207.50	$5,000.00	
5/1000 bonds Erie Ry. Co., 1st 4's	4,932.50	5,000.00	
5/1000 bonds Rd. Gen., 1st 4's	4,870.00	5,000.00	
14/1000 Chicago City, 4's	15,163.13	14,000.00	
5/1000 bonds A. T. & S. F., 4's	4,988.75	5,000.00	
5/1000 bonds B. & O., 1st 4's	5,032.50	5,000.00	
	$40,194.38	$39,000.00	39,000.00
			$50,697.38

Very respectfully submitted,

Frank Billings, *Treasurer.*

SUBSCRIPTION DEPARTMENT.

The regular weekly issue of The Journal of the American Medical Association, from Jan. 6, 1906, to Dec. 29, 1906, inclusive, 52 issues, was as follows:

CIRCULATION.

Jan. 6	42,641		July 7	46,706	
Jan. 13	42,885		July 14	46,060	
Jan. 20	42,982		July 21	46,515	
Jan. 27	42,849	171,357	July 28	46,283	185,564
Feb. 3	42,882		Aug. 4	46,489	
Feb. 10	43,381		Aug. 11	46,579	
Feb. 17	43,321		Aug. 18	46,634	
Feb. 24	43,204	172,788	Aug. 25	48,267	187,969
March 3	43,554		Sept. 1	47,049	
March 10	43,500		Sept. 8	46,936	
March 17	43,183		Sept. 15	50,564	
March 24	43,025		Sept. 22	49,144	
March 31	43,266	216,528	Sept. 29	48,815	242,508
April 7	43,504		Oct. 6	48,198	
April 14	44,017		Oct. 13	51,152	
April 21	45,498		Oct. 20	51,102	
April 28	44,150	177,169	Oct. 27	48,327	198,779
May 5	51,371		Nov. 3	49,105	
May 12	44,115		Nov. 10	50,305	
May 19	44,957		Nov. 17	51,962	
May 26	45,120	185,563	Nov. 24	48,978	200,750
June 2	45,811		Dec. 1	51,763	
June 9	45,474		Dec. 8	49,227	
June 16	46,179		Dec. 15	49,032	
June 23	46,179		Dec. 22	49,136	
June 30	46,325	229,961	Dec. 29	48,783	247,941
Grand Total		2,416,877	Weekly Average		46,479

The total number of copies issued during 1906 was 2,416,877; the total number of copies issued during 1905 was 1,976,316, indicating an increase of 440,561, or, approximately, 22¼ per cent., as compared with an increase of 1905 over 1904 of 257,914, or about 15 per cent.

The following is an approximate count of the mailing list of members and subscribers by states on Jan. 1, 1907. It also indicates the loss or gain in each state during 1906. Copies to the United States Army, United States Navy, Marine-Hospital Service, etc., omitted:

State.	Members.	Subscribers.	Totals.	Gain for Year.	Loss for Year.
Alabama	337	257	594	167	...
Arkansas	347	244	591	105	...
Arizona	60	42	102	12	...
Alaska	1	4	5	1	...
California	991	488	1479	16	...
Colorado	396	231	627	11	...
Connecticut	390	199	589	56	...
Delaware	59	21	80	29	...
Dist. of Columbia	246	176	422	5	...
Florida	131	85	216	...	48
Georgia	314	270	584	117	...
Idaho	88	41	129	4	...
Illinois	2,168	2,109	4,277	466	...
Indiana	878	671	,1,549	32	...
Indian Territory	84	183	267	101	...
Iowa	839	815	1,654	267	...
Kansas	506	612	1,118	402	...
Kentucky	591	469	1,060	166	...
Louisiana	386	316	702	99	...
Maine	250	103	353	66	...
Maryland	442	352	794	53	...
Massachusetts	1,720	616	2,336	671	...
Michigan	842	779	1,621	173	...
Minnesota	668	352	1,020	116	...
Missouri	858	1,528	2,386	929	...
Mississippi	273	240	513	55	...
Montana	110	66	176	5	...
Nebraska	402	352	754	142	...
Nevada	38	22	60	11	...
New Hampshire	232	49	281	61	...
New Jersey	575	310	885	111	...
New Mexico	68	58	126	22	...
New York	2,141	1,761	3,902	1,089	...
North Carolina	199	286	485	228	...
North Dakota	149	163	312	63	...
Ohio	1,669	1,104	2,773	422	...
Oklahoma	158	118	276	69	...
Oregon	234	106	340	...	18
Pennsylvania	2,341	1,119	3,460	304	...
Rhode Island	216	55	271	86	...
South Carolina	196	212	408	145	...
South Dakota	160	135	295	37	...
Tennessee	458	358	816	206	...
Texas	893	518	1,411	241	...
Utah	89	62	151	10	...
Vermont	176	41	217	28	...
Virginia	379	271	650	163	...
Washington	315	199	514	...	18
West Virginia	287	211	498	80	...
Wisconsin	740	489	1,229	27	...
Wyoming	39	33	72	10	...
Canada	9	214	223	62	...
Cuba	20	9	29	20	...
Mexico	18	45	63	17	...
Porto Rico	3	17	20	2	...
Panama	6	11	17	5	...
Hawaii	14	13	27	...	1
Shanghai	2	5	7	7	...
Philippine Islands	21	22	43	...	1

The following figures indicate the count of the mailing list Jan. 1, 1907, compared with that of Jan. 1, 1905, and 1906:

	Jan. 1, 1905.	Jan. 1, 1906.	Jan. 1. 1907.
Copies to members	17,570	20,826	26,255
Copies to subscribers	15,698	17,669	20,166
Copies to exchanges	178	216	293
Copies to advertisers	248	310	214
Complimentary (medical colleges, libraries, agents, etc.)	188	240	242
	33,882	39,261	47,170

This shows an increase at Jan. 1, 1907, over Jan. 1, 1906, of 7,909 names.

PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL.

This table gives the number of physicians (based on the American Medical Directory, first edition) in the United States, and the number receiving The Journal, and the percentage in each state. Copies to physicians in the United States Army, United States Navy, Marine-Hospital Service, etc., omitted:

State.	Physicians in State.	Number receiving Journal.	Approximate per cent.
Alabama	2,117	594	28.0
Arizona	203	102	50.2
Arkansas	2,322	591	25.4
Alaska	57	5	8.7
California	3,990	1,479	37.0
Colorado	1,550	627	40.4
Connecticut	1.332	589	44.2
Delaware	222	80	36.0
Dist. of Columbia	1,100	422	38.0
Florida	619	216	34.8
Georgia	2,778	584	21.0
Idaho	259	129	49.7
Illinois	9,419	4,277	45.4
Indian Territory	964	267	27.6
Indiana	4,908	1,549	31.5
Iowa	3,517	1,654	47.0
Kansas	2,321	1,118	48.1
Kentucky	3,761	1,060	28.1
Louisiana	1,551	702	45.9
Maine	1,116	353	31.6
Maryland	1.810	794	43.8
Massachusetts	5,372	2,336	43.2
Michigan	4,066	1,621	39.8
Minnesota	1,946	1,020	52.4
Mississippi	1,760	513	29.1
Missouri	5,956	2,386	40.0
Montana	335	176	52.5
Nebraska	1,668	754	45.2
New Hampshire	646	281	43.4
New Jersey	2,332	885	37.9
New Mexico	221	126	57.0
New York	11,982	3,902	32.5
Nevada	138	60	43.4
North Carolina	1,453	485	33.3
North Dakota	451	312	69.1
Ohio	7,710	2,773	35.9
Oklahoma	905	276	30.4
Oregon	696	340	48.8
Pennsylvania	9,957	3,460	34.7
Rhode Island	727	271	37.2
South Carolina	1,023	408	39.8
South Dakota	545	295	54.1
Tennessee	2,980	816	27.3
Texas	4,825	1,411	29.2
Utah	304	151	49.6
Vermont	646	217	33.5
Virginia	1,945	650	33.4
Washington	1,023	514	50.2
West Virginia	1,409	498	35.3
Wisconsin	2,430	1,229	50.5
Wyoming	174	72	41.3

The following table shows the number of members and of subscribers for each year, commencing with 1899:

	Members.	Subscribers.
Jan. 1, 1899	7,997	2,453
Jan. 1, 1900	8,445	4,633
Jan. 1, 1901	9,841	8,339
Jan. 1, 1902	11.107	10,795
Jan. 1, 1903	12,553	12,378
Jan. 1, 1904	13,899	14,674
Jan. 1, 1905	17.570	15,698
Jan. 1, 1906	20,826	17,669
Jan. 1, 1907	26,255	**20,166**

It will be noticed from the above that the membership increased 5,429, but most of these were in the "subscribers" column last year and were transferred to membership during 1906.

A glance at the table, "Percentage of Physicians Receiving The Journal," reveals that in most of the states there has been an increase in this percentage. Alabama goes from 20.1 to 28 per cent.; Arkansas from 20.4 to 25.4 per cent.; District of Columbia from 40.4 to 58 per cent.; Georgia from 16.8 to 21 per cent.; Louisiana from 41.2 to 45.9 per cent.; North Carolina from 15.9 to 33.5 per cent.; Texas from 23.5 to 29.2; and Tennessee from 17.7 to 27.5 per cent. But few of the states show a percentage of decrease, and in no case is this large. Canada shows a gain of 62 subscribers; Cuba, 20; Mexico, 17; Philippine Islands, a loss of 1; and Shanghai, China, is entered on the list with 7.

The greatest loss in any state is shown by Florida, where the net loss is 48. New York leads with a net gain of 1,089, and yet only 32.5 per cent. of her physicians take The Journal.

Missouri comes next with a gain of 929 who receive The Journal. One reading the table can compare further if desired.

The following exhibit is simply a grouping together of income from various sources so that you may be able to compare the two years, 1906 and 1905:

	1906.	1905.	Gain.
Advertising	$ 98,458.85	$95,600.36	$ 2,858.49
Membership dues	103,076.10	83,409.15	19,666.95
Subscription	87,694.97	64,242.46	23,452.51
Jobbing	18,707.22	9,608.40	9,098.82
Reprints	5,417.75	5,916.91	Loss 499.16
Rents	3,240.00	3,447.04	Loss 207.04
Interest on bonds	1,560.00	1,560.00	000.00
Interest on daily balances.	977.25	524.63	452.62
Inventory	14,336.59	7,167.57	7,169.02

Had there been no increase in expenses, the above table would be extremely pleasant reading, but of course with the growth of The Journal, expenses increase also. The increase in receipts from members is nearly double that shown in 1905, and in subscriptions the increase is more than six times that of 1905 over 1904.

The inventory of stock on hand (See Exhibit "E," Auditor's Report), is almost exactly double that of 1905.

Further comment might be made in this part of the report, but the progress of the work will be shown more plainly under the different subdivisions.

ADVERTISING DEPARTMENT.

The amount received from advertising during the year was $98,458.85. In 1905 the amount received from this source was $95,600.36, showing a net gain for 1906 of $2,858.49—being about 3 per cent. over the preceding year. It must be remembered, however, that each year much advertising matter is refused because of non-compliance with the requirements of the Council on Pharmacy and Chemistry—at least $25,000 worth of such advertising having been refused during 1906. As the circulation of The Journal increases, the rate charged for space in its pages is proportionately increased.

A careful inspection of the advertising pages of The Journal, and a comparison with the same pages of five years ago, will give a much clearer idea of the changes that have been made along these lines.

During the past year all proprietary medicines offered for advertising, which had not been officially acted on by the full Council on Pharmacy and Chemistry, were passed on by a subcommittee of the Council on advertising. Hereafter, however, all proprietary medicines will have to be approved by the full Council before they can be considered acceptable for advertising in The Journal. This rule has been adopted because the ground, as it relates to proprietary medicines advertised to the profession, has been thoroughly covered by the Council, and consequently there is no excuse for any article now offered for advertising which has not been submitted to the Council.

SUBSCRIPTIONS.

The amount collected for subscriptions during 1906 was $87,694.97; for 1905, subscription collections amounted to $64,242.46, showing an increase of $23,452.51, or about 36½ per cent. In the foregoing pages it is indicated that the circulation of The Journal was augmented by 7,909 names. During that period at least 10,000 names were actually placed on the mailing list. The difference between these two figures is represented in the discontinuance of The Journal for various reasons, such as members dropped because ineligible, members and subscribers dropped for non-payment, resignations, deaths, and for other causes. It will therefore be noted that it almost necessitates the securing of two names before we show an actual increase of one name.

Your Board can see no reason why the number of members should not still materially increase, with a corresponding reduction in the number of subscribers. If the matter were fully explained in the county medical societies, there would be but few members of those societies who would take The Journal without becoming *members* of the Association. All that is necessary is to fill out, when remitting the $5, an application blank, certified to by the president and secretary of his county medical society, showing that he is a member in good standing, and that his fee paid is for membership from January 1 of the year in which it is forwarded to December 31 of that same year.

Receipts and disbursements for house betterments have been as follows:

REAL ESTATE, BUILDING, ETC.

	Receipts.	Disbursements
241 Indiana Street	$1,560.00	$115.81
95 Dearborn Avenue	720.00	74.18
97 and 99 Dearborn Avenue	960.00	243.44
One-half taxes, lots 7 and 8	......	250.92
One-half taxes, lot 6	......	74.98
Totals	$3,240.00	$759.33
	759.33	
Net gain	$2,480.67	

The above property occupies three-fifths of the ground purchased by the Association for building purposes. Figuring on the proportionate basis, this property cost $34,558.26; the net gain is $2,480.67, or about 7.2 per cent. To these buildings are charged one-half of the real estate taxes of the entire Association property. In addition to this, the Association uses for storage purposes the basement of the building located at No. 99 Dearborn Avenue.

During the past year the houses have been looked after by the office force, thus saving agents' expenses and commissions. Little repair expense has been necessary, the only item of importance being a new furnace in the house known as No. 99 Dearborn Ave.

The same tenants are occupying the various houses. One rents two houses, viz., 97 and 99 Dearborn Ave., and another rents the double house on Indiana Street; consequently we have only three tenants for the five houses.

Owing to the crowded condition of the building used for The Journal office, resulting from the Directory work, some changes which were to have been made in the arrangement of rooms for the chemical laboratory work and for other purposes had to be delayed till the Directory was out, but they have now been made.

PAPER STOCK.

During the past year there has been a considerable increase in the price of pulp and everything else that goes into the making of paper, and, naturally, paper has increased in price also. We succeeded, however, in getting a renewal of our contract at what we think are very advantageous terms, being only a slight advance on the price paid last year.

The following table gives the amount of paper stock used in reams and tons, and is merely carrying on the statement made to you in previous reports:

	Reams.	Tons.
1898	3,395	157
1899	4,832	230
1900	6,747	303.5
1901	9,052	407
1902	10,230	469 1/3
1903	12,368	586 11/20
1904	14,399	648
1905	17,783	788
1906	21,729	930.07

The above figures do not include the paper used for wrappers in mailing The Journal, which of itself amounted to nearly fifteen tons for 1906.

You will note that we are now using nearly six times as much paper as was used in 1898.

INCREASED EXPENSES.

We submit below the various tables illustrating the gradual increase in expenses. This is merely a continuation of the tables of previous years:

PAY ROLL AND SALARY.

1899	$31,448.69
1900	37,359.49
1901	40,416.01
1902	46,316.65
1903	57,067.34
1904	64,471.26
1905	78,874.79
1906	96,578.71

PAPER STOCK.

1900	$25,598.00
1901	29,835.00
1902	35,675.06
1903	43,966.57
1904	51,190.05
1905	57,526.69
1906	65,381.17

POSTAGE ON JOURNAL.

1899	$ 3,905.65
1900	5,616.06
1901	7,591.37
1902	8,595.63
1903	9,828.41
1904	11,773.44
1905	14,360.28
1906	17,066.62

DIRECTORY.

In order that you may fully understand the matter of the Directory, we submit to you *verbatim* the report made by the Editor and General Manager to the Board of Trustees at their annual meeting in Chicago on Feb. 1, 1906. To eliminate any part of it would not do you or the Editor and General Manager justice, because few of you have any adequate idea of the vast amount of work connected with the getting out of the first edition of this work, and because the leaving out of any part of it would leave the report to that extent incomplete.

"As previously reported in detail, the work on the Directory was begun in the first week of September, 1905. The first work undertaken was: (1) that of obtaining, from the 70 state licensing boards, lists of names of physicians licensed by them; (2) organization of the staff of correspondents, which consisted of one in each of the 2,830 counties, and one in each town having ten or more physicians, making a staff of approximately 5,000 correspondents; (3) preparation of lists of physicians to be sent to each correspondent for revision and correction; these lists were based on matter in the Standard Directory, to which other information was added; (4) the correction and return of these lists and the compilation of the index of the legally qualified physicians.

"An important feature of the work was the obtaining of a list of graduates from the various colleges. A more or less complete list of medical college graduates up to 1902 was obtained from the Standard Directory matter. This list was supplemented and brought up to date by obtaining from practically every college in the country a list of the graduates for 1902, 1903, 1904, 1905 and 1906.

"During the period from September, 1905, to April, 1906, the work was carried on of obtaining information from physicians direct by means of personal letters. Approximately 90,000 letters, each containing personal biographical blanks, were sent out. Besides these blanks that were sent out directly to physicians, similar blanks were inserted in the advertising pages of THE JOURNAL on several occasions. From these two sources about 65,000 personal biographical reports have been received.

"The copy for the Directory was written from the reports sent in by the correspondents. This copy was then checked with the personal information blanks, then with the list of graduates from medical colleges, then with the reports from the secretaries of the state societies, then with the list of members of the American Medical Association. Finally, and most important of all, this completed copy was compared, name by name, with the list of legally qualified physicians obtained from the various state licensing boards, and the date of license inserted as an evidence of qualification. All names not found on the state board list were referred to the Secretary of the State Board and, unless O K'd by him, were stricken off of the proof. As this was the first time that information from all of these sources had ever been carefully and systematically compared, a large number of discrepancies were found. Names intended for the same individual were spelled differently on different records; christian names and initials were reported differently for the same individual; the same physician would be reported on two different lists as a graduate of two different colleges, or as having graduated in two different years; many physicians, among them members of county and state societies, and even of the American Medical Association, were not reported as licensed.

"To correct these errors as far as possible, letters were sent (1) to all physicians reported as practicing but not reported as licensed; (2) to all physicians reported as licensed but not reported as graduates of any medical college; (3) to all physicians whose names appeared as members of the American Medical Association, but who were not reported as members of either their county or state society, and (4) a special blank to physicians who were reported as practicing, but concerning whom we had no adequate information.

"Composition on the Directory was begun on March 1, 1906, and as fast as a state was completed, revised and corrected a complete proof of the state by counties was taken and sent to each correspondent according to the territory he covered. A proof of the entire state was sent to the secretary of the state society and also to the secretary of the licensing board. The work of compilation, writing copy, composition and correction was carried on simultaneously, taking the states in alphabetical order. As soon as the list of physicians by states was in pages the alphabetical portion of the Directory was compiled.

"It is a pleasure to testify to the universal spirit of cooperation and helpfulness which has characterized the profession in this important work. The secretaries of all the state licensing boards have cheerfully and willingly complied with all requests for assistance, etc. The secretaries of the state societies, with one exception, have shown an equally cheerful spirit of cooperation.

"With the first edition of the Directory now completed, the work before us is as follows:

"1. To keep up to date the records regarding the licensed physicians in every state. This will be comparatively easy, since we are obtaining from all the licensing boards, on blanks furnished by us, a list of those who are licensed at each examination, which names are added to the list of licensed physicians in the state. Thus we shall have an official up-to-date list of the physicians who are licensed in every state alphabetically arranged.

"2. We secure each year from every medical college a list of those graduated from them. Thus we shall have, dating from 1902, a complete list of the graduates from every medical college in the United States, and a fairly complete list of the graduates of the majority of the medical colleges previous to 1902. Steps will be taken to verify graduations previous to that date, so far as possible.

"3. The completion of the biographical card index of the physicians of the United States. As has been repeatedly emphasized, this index is not only the basis of the Directory, but is of much greater importance, since it contains complete biographical data regarding each individual, much of which can not appear in the Directory on account of lack of space. As stated above, we have now on file in the Directory Department about 65,000 personal information blanks. Efforts will be made to obtain personal information from those physicians who have not already furnished it.

"As shown by the Auditor's report, the total expenditure for the Directory up to Jan. 1, 1907, was $47,441.83. Of this amount, $6,035.50 was paid for the Standard Directory. The amount expended on the Directory for other purposes since July 1, 1905, is, therefore, $41,406.33. This entire amount should not be charged to the present edition, since a portion of this expenditure was for fundamental information and material which will be used for all succeeding editions, and should consequently be regarded as an investment. For instance, the cost of obtaining the list of legally qualified practitioners for the various states, the expense incurred in securing the 65,000 personal information blanks now on file, as well as the expense of obtaining the necessary college information, are all expenses which should be borne by succeeding editions, as well as by the first. But as it is impossible to estimate exactly what proportion of corrections, revisions and additions subsequent editions will require, the amounts expended have been charged as though used entirely for the first edition.

"To offset the charge of $41,406.33, there are at present the following assets: (1) 7,300 advance orders for the Directory, which at $5.00 each gives a total of $36,500; (2) as 8,500 copies of the Directory were printed, there are on hand 1,200 extra copies; (3) advertising contracts for the first edition to the amount of $7,400, giving a total of cash assets of $43,900. In this connection it should be remembered that unusual care has been exercised in admitting advertisements to the Directory. Consequently the receipts from this source will be infinitesimal compared with what would have been the case had we accepted the class of advertisements inserted in other directories. It should also be borne in mind that our advertising pages are entirely separate from the reading pages, no head lines, advertising foot notes nor marginal advertisements having been allowed on the Directory pages. (4) As the entire 1,500 pages of the Directory were stereotyped, the type was not used for printing, but has been properly labeled and put away in pages for use in subsequent editions. The value of the metal in the 1,500 pages is about $1,600. Other Directory property will be inventoried and credited to the Directory as soon as the work on the first edition is completed.

"The enormous amount of work in the way of verification of names, college and year of graduation, state licenses, society membership, etc., will not have to be repeated. In this connection, it is worthy of emphasis that one of the greatest expenses has been in preparing copy for the printer, since every item connected with each name had to be written into the copy. This expense will not have to be incurred in future editions.

"A considerable amount of expense remains to be added to the sum total as given above, so that we may estimate that there will be a probable apparent loss on the first edition of between $10,000 and $15,000."

PROFITS.

As stated in previous reports, the expenses of the Association vary from year to year, and consequently it is only a good business proposition at least to estimate each year what The Journal *makes*, as well as what is received from other sources. The Auditor's report shows that the net gain to the Association was $31,915.10, but the Association expenses for the past year were $29,157.80. Now, if the Association expenses were eliminated, the net gain would be $61,072.90. The Association, however, should have credit for $2,537.25 for interest and $2,806.57 for rents, making a total of $5,343.82, which amount deducted from $61,072.90 leaves $55,729.08 as the profits from The Journal. Or, estimated as follows:

Association net profits	$31,915.10	
Association expenses	29,157.80	
		$61,072.90
Interest	$2,537.25	
Rents	2,806.57	
		5,343.82
Journal profit		$55,729.08

MACHINERY.

The new printing press, for which an appropriation of $20,000 was made, has not yet been installed—owing to some trouble with the folding attachment—but the appropriation is still available and you will note that in Exhibit A, the auditor's report, it is charged as one of the liabilities due on machinery contracts.

A new paper cutter has been put in the office, costing, in exchange for the old one, a net excess of $525.00 cash.

The gathering machine—ordered at the October meeting of the Board—is now at work and is proving satisfactory. The failure to get the press on time has not delayed very much the work on the Directory. All of this work has been done in The Journal office, but it has necessitated work both day and night. This extra work was only accomplished by the hearty cooperation of all the employés in the various departments. All appeared to do the work as rapidly and in the best style possible. The copies received by many of you show how well this has been done.

APPROPRIATIONS.

The following appropriations were made June, 1906, for the (fiscal) year beginning then and ending June, 1907:

Council on Pharmacy and Chemistry	$ 3,500.00
Council on Medical Education	4,000.00
Committee on Medical Legislation	1,000.00
Organizer, Dr. McCormack, employed by the Association, salary (expenses extra)	5,000.00
Secretaries of Sections	600.00
Scientific Exhibit	500.00
Scientific Research	500.00
San Francisco Fund	5,000.00
Chemical Laboratory	2,000.00
Exhibit of Hygiene	200.00
Secretary of Board of Trustees	100.00
Salary of Treasurer	200.00
Hygiene and Sanitary Science—Display of methods of filtrations, etc. (special)	200.00
Total	$22,800.00

In addition to these appropriations, about $1,000 was added to each of the three first enumerated above, making in all nearly $26,000. This does not include anything used for the purchase of machinery. The same amount at least, if not more, will be needed for the incoming year. Up to this writing only $3,000 of the appropriation to the San Francisco sufferers has been called for.

As the Association grows, the demands on the treasurer become greater. More grants are asked for each year, and your Board has made an effort to meet them with as much liberality as possible.

It must not be forgotten that the increasing circulation of The Journal demands more expenditure of money for everything connected with it. During the past year you will note, by referring to your Treasurer's report, that in November and December $10,000 was drawn each month for use in The Journal office, thus reducing your total bond and cash assets from $58,408.86 last year, Jan. 1, 1906, to $50,697.38 Jan. 1, 1907.

The Association, with this statement before it, must see that all appropriations this year must be carefully guarded. Your Trustees wish to impress on you the need of a sinking fund to meet emergencies. Had it not been for the fact of having accumulated a small surplus, the balance sheet would not have been near so favorable. Less than $150,000 reserve fund will not be enough to keep your business on a safe foundation.

You must have enough money to be able at all times to discount your bills. A further inspection of your Treasurer's report shows that you received last year $2,288.52 interest from bonds and money on deposit. Your houses yielded you a net rental of $2,480.67. If you add these two items of interest and rent together, you will see that you are getting annually nearly $5,000 from those two sources, and in addition are paying no rent for your Journal office, as you did prior to the purchase of your present property.

The Journal has had a number of years of prosperity, but this can not always continue, and the only safe refuge will be a strong reserve fund. Any talk about reducing the price of The Journal before you have placed it on a sound business footing is worse than folly. Its business interests should always be carefully guarded. You must never lose sight of the fact that while your receipts from advertisements still show an increase, this is due to no growth in the space occupied, but to the higher price charged for this space. As The Journal reaches yearly a larger number of persons, proportionately, space in its advertising pages increases in value.

We would emphasize the fact that, though $25,000 worth of advertisements were refused, yet the receipts from that source exceed those of the year before by nearly $3,000.

Your bonds draw interest at the rate of 4 per cent., and your deposits of the Treasurer, when they exceed $5,000, draw 2 per cent., so you see you have no idle money.

BOOKKEEPING, ETC.

A personal inspection of books of the business of the office shows that they are well kept. Any item called for can be shown at once. We would call special attention to the following statement of your Audit Company: "We found the bookkeeping and office work to be well and accurately done, and the condition of the same to reflect considerable credit on the office force, especially in view of the large increase in the total business done during the year."

All of your officers are bonded in reliable bonding and trust companies. It is needless to say that your property is kept insured and taxes paid when due.

PLACE OF SESSION AND EXHIBITS.

The meeting having been fixed at Atlantic City, the Chairman of your Board of Trustees appointed, as a Committee of Arrangements, Drs. Marvel, Montgomery and Welch. These gentlemen entered on their duties promptly, and at the February, 1907, meeting of the Board were able to present a preliminary report of the arrangements made for the June meeting. As this report and others that have followed have been printed in The Journal, it is not deemed necessary to reproduce them here.

For the first time in the history of the Association, you are, through your Board of Trustees, undertaking not to tax the resources of the local medical profession to provide for the meeting. The only expense which the local committee will be expected to meet will be the entertainment of the ladies visiting the session. A reception to the president of the Association will be furnished out of our own funds, but all other dinners, entertainments, etc., if desired by the Sections, will be provided by them.

The Board has felt that, as this was its first attempt to control the exhibits and to care for the meeting, everything should be on a conservative basis. The medical exhibits received will be only such as would be admitted to the advertising pages of The Journal. We hope to make the meeting a success along these lines. A more detailed report regarding this matter will be presented to the General Meeting of the Association on the first day of the session.

THE DEATH OF DR. ALONZO GARCELON.

At its annual meeting in February, the Board took note of the death of Dr. Alonzo Garcelon, who was elected one of your Trustees when The Journal was founded and was continued in that relation up to 1902. He was then chosen first vice-president of the Association.

COUNCIL ON PHARMACY AND CHEMISTRY.

The great work being done by this Council is attracting the attention of the whole medical profession. When the work of the committee was inaugurated, many appeared to believe the object of this committee to be to build up some special manufacturers of pharmaceuticals at the expense of others, but we feel sure that such an idea has entirely disappeared. The open dealing of this committee with every preparation put on the market, the bold stand against frauds and deception of all kinds, has forced the respect of all interested in honest methods.

Nothing that is intended to reach the respectable portion of the medical profession attempts to avoid the inspection and examination of that Council. The work done has been presented from time to time in the pages of The Journal. We feel that it should have the hearty support not only of this House of Delegates, but also of every member of the Association and of every honest practitioner of medicine, and that things condemned by this committee should form no part of the armamentarium medicum of any respectable physician or surgeon. Some of the chemical work of the Council will soon be undertaken in our own laboratory in the Association Building. This matter has been delayed by the congested condition of the building resulting from the preparation and printing of the Directory.

COMMITTEE ON MEDICAL LEGISLATION.

Our Committee on Medical Legislation has reported several times to your Board of Trustees, so that we have kept fully in touch with its work. The headquarters of this committee, the point from which most of its work will be done in the future, will be The Journal office. The supervision of this work will remain in the hands of the chairman of the committee, but the work will be carried on largely by one of the assistant secretaries in the office.

A full report of their work will be presented by the chairman of the committee, Dr. Charles A. L. Reed.

COMMITTEE ON MEDICAL EDUCATION.

The Committee on Medical Education will present its own report, which ought to be of great interest to the whole medical profession. The work now being done by them in visiting and inspecting in person the medical colleges of the United States and ascertaining their facilities for teaching and their methods of working can not fail to result in much good and has justified the wisdom of the sum appropriated for their use, $4,500.

CONCLUSIONS.

We have endeavored to set before you in plain terms the business affairs of your Association, and have made our financial tables as full and explicit as they should be given to the general public.

We have with us further sheets showing every officer and employé connected with the business affairs of the Association. Those paid by the month are classed under salaries; those by the week under payroll. We feel that this sheet does not belong in this report, but it is ready to be placed in the hands of the committee which passes on reports. We are ready to give you verbally any information you may desire therefrom.

The present condition of all appropriations can be also furnished you. In fact, we feel sure that every reasonable inquiry which is in any way connected with your business matters can be *answered* in full, but it would be poor policy to publish to the world the salaries paid your officials, giving names, etc., and the wages of your various employés from your linotype workers down to the girls employed by the hour wrapping The Journal for mailing.

Your Board has been encouraged through the year in its efforts to forward your interests by the fact that there has been less of carping, captious criticism on the part of persons who, knowing but little of the work being done, have waited to see results.

Your Board of Trustees, at the annual meeting, extended a vote of thanks to the Editor and General Manager, Dr. George H. Simmons, to whose untiring labors and unbounded zeal so much of the results of the past year's work has been due. He is never content with what has been achieved, but is ever on the outlook for further avenues of improvement.

Trusting that we have succeeded in presenting you a plain and distinct statement of the work of the fiscal year ending Dec. 31, 1906, we close this report.

W. H. Welch,
W. W. Grant,
Miles F. Porter,
H. L. E. Johnson,
A. L. Wright,

Philip Marvel,
M. L. Harris, Secretary.
E. E. Montgomery, Vice-Chairman.
T. J. Happel, Chairman.

Report of Committee on Senn Medal.

In the absence of Dr. A. F. Jonas, Omaha, Chairman of the committee, the report was read by the Secretary, as follows:

Your committee begs leave to report on the award of the Senn Medal for the best original essay pertaining to some surgical subject. Your committee was instructed to award this medal. Your committee would suggest that a permanent new method in the treatment of a surgical disease or showing new facts along the lines of original research.

Your committee begs leave to report that only two essays were submitted for examination during the past year. Neither one of them contained original matter that in any way advanced our knowledge in any department of surgery. Therefore, your committee has unanimously voted not to award the medal. Your commitee would sugest that a permanent advertisement be placed in the advertising pages of The Journal of the American Medical Association setting forth the conditions under which this medal is to be awarded.

Respectfully submitted,

A. F. Jonas, Chairman,
H. M. Sherman,
J. F. Binnie.

This report was referred to the Reference Committee on Sections and Section Work.

Report of Council on Medical Education.

READ AND REFERRED TO COMMITTEE.

Dr. Arthur D. Bevan, Illinois, Chairman, read the report of the Council on Medical Education. This report was printed in The Journal, May 18, 1907, page 1701.

On motion, the report was referred to the Reference Committee on Medical Education.

Report of Committee on Medical Legislation.

READ AND REFERRED TO COMMITTEE.

Dr. Charles A. L. Reed, Ohio, presented the report of the Committee on Medical Legislation.

To the House of Delegates of the American Medical Association:

Your Committee on Medical Legislation begs leave herewith to submit its report for the year ending June 1, 1907. In doing so it offers as a part of that report the "Record of the Conference of the Committee on Medical Legislation with the National Legislative Council, held at Washington, D. C., Dec. 13, 14, 15, 1906," published by the Association in January, 1907.

MEDICAL LEGISLATION BEFORE THE FIFTY-NINTH CONGRESS.

It is opportune in this connection to give a brief résumé of the legislation that has been pending before the Fifty-ninth Congress that expired in March, 1907, and with which legislation your committee has been more or less identified.

THE PURE FOOD AND DRUG BILL.

This measure (known as Senate Bill No. 88) had a long and difficult career before two Congresses. It was antagonized by the proprietary medicine trust, by the manufacturers of spurious whisky, by the makers of adulterated foods and by all of the purveyors of these commodities that could be whipped into line by the manufacturing interests affected by the then proposed legislation. The opposition was not confined to open antagonism, but manifested itself on the floor of both houses by insidious efforts to change definitions and thereby weaken, if not entirely destroy, the object aimed at. More than one such effort was successfully made by men who came soon to be known as the direct representatives of antagonistic interests, men who, indeed, were openly spoken of in the galleries and lobbies by the representatives of blended whiskies, quack nostrums and spurious foods as "our men." In more than one instance of this kind the antagonist of the bill having emasculated it to the extent of his ability in committee, took pains to cover his tracks by voting for the mutilated measure when it was finally placed on its passage.

It will be recalled that this bill, which had passed the Senate Feb. 21, 1906, by a vote of 63 to 4, was still pending in the House when the American Medical Association met last year in Boston. Strong representations were then telegraphed to the speaker, by whose arbitrary action it was at that time being kept from consideration, and to the chairman of the committee on rules. Within twenty-four hours after those representations were telegraphed a rule was issued and a vote was reached June 23, 1906, when the bill in amended form passed the House on a vote of 241 yeas to 17 nays; 9 answering present and 112 making no answer at roll call. After some disagreements in conference the two houses finally, on June 29, adopted a conference report and the President approved the bill June 30, 1906. Thus ended one of the longest and most difficult struggles for reformatory legislation in recent years, and one the success of which, according to the public declaration of Senator Heyburn, the author of the measure, could not have been achieved without the powerful and beneficent influence of the American Medical Association.

A BILL FOR THE RELIEF OF DR. JAMES CARROLL.

The attention of the Congress was called to the case of Dr. James Carroll by the legislative conference for 1906. A bill was thereafter introduced by request by Senator Dick of Ohio, providing a certain measure of relief. The bill went to the committee on military affairs, where its author permitted it to slumber until the first session had expired. In December, ofter the opening of the second session of Congress, your Legislative Conference, ascertaining that the bill was still in committee, adopted the following expression of views:

"The ultimate completion of the Panama Canal, the present salubrity of Cuba, the safety of our southern seaboard against periodic invasion by epidemics, the maintenance of life and health of our citizens in that great section, and the stability of our national commerce against disturbance from the same cause, all are made possible by the discovery that the mosquito is the carrier of the contagion of yellow fever. That fact was established by the labors of three men, two of whom in the interests of humanity and science subjected themselves to inoculation by infected mosquitoes. As a result of that experiment, one of them, Mr. Jesse W. Lazear, within the next few days, died a martyr's death, the other, Dr. James Carroll, survived to live a martyr's life. The only reward that he has thus far received is a disease of the heart that occurred as a result of the yellow fever, that he voluntarily contracted for the welfare of his race. This man, this hero, after risking his life to give this priceless boon to the world, after incurring a permanent invalidism in that cause, after having spent 34 years in the faithful service of his country, is permitted to remain only an assistant surgeon with the rank of first lieutenant in the United States Army, with the paltry salary of an officer of this grade. And with broken health this man, far past the meridian of life, is supposed to meet the obligations resting on a husband, the father of seven children, and to provide against the requirements of old age. A bill for his relief, endorsed by this Council at its last conference, was introduced in the Senate but has never been reported out of committee. This is a shame. Surely if Congress understood the facts of the case the bill would pass within an hour by the concurrent action of both houses. To permit it longer to slumber will be to bring the blush of humiliation to the cheek of every intelligent and grateful citizen of the republic."

Your committee, acting with the National Legislative Council, thereupon presented the foregoing to Senator Warren, chairman of the Senate committee on military affairs. The response from Senator Warren was instant and enthusiastic, and, as a result, the bill authorizing the President to appoint James Carroll a surgeon, with the rank of major, in the Medical Corps, U. S. Army, and providing that "the number of officers in the Medical Corps be increased by one with the rank of major, for this purpose," passed the Senate February 19, and the House, Feb. 27, 1907. In reviewing the history of this measure the first regret experienced is that the author of the bill, who introduced it by request, permitted it to go by default for so long a time, thereby placing the United States Senate in the mistaken attitude of seeming to be ungrateful for the most heroic service that had been rendered to science and to mankind in the last quarter of a century, and the next and final regret was that the increased rank accorded to Lieutenant (now Major) Carroll was less than a full recognition of his services and of the martyrdom that he has, in consequence, sustained. The generous spirit, the tone of genuine appreciation manifested by Congress when once it had the facts presented, must be taken, however, as an evidence of intelligent gratitude on the part of our great national legislative assembly.

THE ARMY GENERAL HOSPITAL.

The effort to secure a suitable general hospital for the Army, begun several years ago by Surgeon-General O'Reilly, and supported by your committee, took definite shape in the form of an item in the sundry civil bill for 1906, introduced by Senator Proctor, authorizing the expenditure of $100,000 with which to purchase a site and $300,000 with which to construct the building. This was finally reduced to $200,000 for the building. The site was purchased, but the money for the building not being immediately available under the previous legislation, an item was inserted in the urgent deficiency bill for the first session of the Fifty-ninth Congress, making the sum of $200,000 immediately available for the purpose. This was passed and duly approved, thus making certain that we are to have at least the beginning of a general hospital for the Army that shall conform to the requirements not only of the Army, but of science and humanity.

IMPROVEMENTS IN THE SURGEON-GENERAL'S OFFICE.

An item in the Sundry Civil Bill for the fiscal year of 1906 provided for an appropriation of $8,000 for book stacks in the library hall, including iron supports, stairs, perforated gallery floors and necessary hard-wood shelves for the Library of the Surgeon-General's Office. This is less than half the amount that ought to be expended for this purpose, as thousands of volumes are now inaccessible for want of shelving on which to mount them, but it was all that could be procured at the time. An early opportunity will be taken to ask Congress for an additional appropriation.

THE ARMY MEDICAL REORGANIZATION BILL.

This thoroughly meritorious measure was first introduced in the Fifty-eighth Congress and passed the Senate and was reported out of committee in the House. At this point, however, it encountered the opposition of Speaker Cannon, who arbitrarily excluded it from consideration on the floor. The Fifty-ninth Congress has furnished an exact repetition of that experience. Your committee, in company with the National Legislative Council, called in a body on the Speaker. The interview was far from satisfactory, revealing as it did, on the part of the Speaker, an offensive lack of appreciation not only of the Medical Corps of the Army in particular, but of the medical profession in general. The bill will be introduced in the Sixtieth Congress, which assembles in December of this year. There is little if any doubt but that its reasonable provisions will again commend themselves to the favor of both branches, but there is little prospect of securing its passage if Mr. Cannon shall again be Speaker—which seems to be a foregone conclusion—and so long as he shall be vested with the power that now pertains to that office, and particularly so long as he shall see fit to exercise that power for the gratification of personal prejudice and to the detriment of a public service whose importance is strictly fundamental in character.

AMERICAN MEDICAL PRACTITIONERS IN HONG KONG.

In the autumn of 1906 information was forwarded to your committee that under the terms of the Anglo-Japanese treaty the graduates of the Japanese medical schools were permitted to practice in Hong Kong, but that the same privilege was denied to the graduates of American medical schools. An inquiry as to the facts was at once forwarded to the State Department at Washington and by that department to the American embassy at London. From this point the inquiry is making its gradual but necessarily long course through official channels. In the meantime supplementary information from the same source, but based on semi-official statements by the authorities of Hong Kong, has reached your committee to the effect that the practice of medicine in Hong Kong is regulated by the Imperial Medical Practice Act of Great Britain, under the terms of which a five-years course of medical instruction prior to graduation is made a prerequisite for licensure; that under the terms of this act no discrimination whatever has been or is being exercised as between the graduates of various nationalities; and, finally, that the practice of medicine in Hong Kong is not in the least modified by the Anglo-Japanese treaty. The incident is recited in this connection as showing the importance of sifting information to the bottom, and as showing furthermore the relative position among the nations imposed on the American medical profession in consequence of the relatively short curriculum now in vogue in this country.

THE STATUS OF THE MEDICAL SERVICE IN THE ISTHMIAN CANAL ZONE.

When the Panama Canal Commission was first organized the American Medical Association made strong representations to the effect that, considering the fact that the sanitary problem had to be solved before the work of actually digging the canal could be carried on, it ought to be represented in the personnel of the commission. Dr. Gorgas was accordingly urged for appointment as a member of that body. The President did not, however, find himself at liberty to make such an appointment at the time. As a result, it presently developed that not only Dr. Gorgas, but the whole sanitary service was subordinated in the seventh degree below the appointive power, with a corresponding restriction in the right of initiative in the practical problems that had to be solved. The agitation, notwithstanding some unpleasant incidents, was continued during the ensuing two years, with the result that within the last few months the President, under the advice of the Secretary of War, has appointed Colonel Gorgas a full member of the commission in special charge of sanitation. This change of status can not but be exceedingly gratifying to every physician in the country, as it is to your committee, indicating as it does that the just claims of the medical profession to recognition in administrative capacities is appreciated by the present administration. The hope is entertained that the Congress will take an equally advanced and just position in any future legislation, especially when dealing with problems that appeal in a peculiar way to the special intelligence of the medical profession.

MEDICAL REPRESENTATION ON THE GENERAL STAFF OF THE ARMY.

It is a satisfaction to report that the advanced and improving status of the medical profession in the public services is still emphasized by representation of the Medical Corps of the Army on the General Staff. It will be remembered that, as originally constituted, the Medical Corps was excluded from this most important governing body of the Army. The line officers, of which it was composed, representing every other branch of the military service, while relying constantly on the Medical Corps for advice, strenuously opposed anything like medical representation in the personnel of the General Staff itself. This condition was promptly corrected by executive order issued by the present Secretary of War.

THE OSTEOPATHIC BILL FOR THE DISTRICT OF COLUMBIA.

A bill to regulate the practice of osteopathy, to license osteopathic physicians and to punish persons violating the provisions of the act, was introduced in the first session of the Fifty-ninth Congress. It was, of course, referred to the Committee on the District of Columbia, with which arrangements had been made by representatives of the medical profession for a hearing. Suddenly, however, without notice to the opponents of the measure, and in the absence of a quorum, Senator Foraker reported the bill from committee and asked for unanimous consent for its consideration. It was accordingly passed by the Senate June 29, 1906, the point of no quorum not having been raised out of deference to the request of Senator Foraker. The measure had reached this stage when your committee took it under advisement at the legislative conference in December, when it was found that the object of the bill was to legalize a medical cult on an educational basis of twenty-seven months' study of only a partial medical curriculum. On this ground your committee was directed by the conference to make the bill the subject of a general referendum, and at the request of Dr. A. J. Barchfeld, member of Congress from Pennsylvania, it was referred to the medical delegation in the House of Representatives as a special committee, with power to act. The referendum was made, and protests, numerously signed by the general public, came in from every part of the country. These were sent to Dr. Barchfeld, by whom they were brought to the attention of the House. By these representations and by their personal influence the three medical members of Congress were able to defeat this distinctly pernicious measure in committee.

THE CANTEEN BILL.

This measure, which contemplates the restoration of the canteen in the Army, failed of passage by the last Congress. Sentiment on this subject seems to be so acute and so evenly divided that Congress seems reluctant to act, notwithstanding the increasing demoralization among the soldiers, which has followed as a consequence of the abolition of the canteen—a fact of which your committee is abundantly assured by representatives of the rank who are interested in everything calculated to promote the moral and physical welfare of the men under them. This bill is being looked after by Dr. H. L. E. Johnson, as a special committee.

THE HAMMOND BILL.

This is a bill for the relief of the widow of the late Dr. William A. Hammond, some-time Surgeon-General of the United States Army, and like the preceding bill, has been very kindly taken charge of by Dr. Johnson, who reports as follows:

"The Hammond Bill, slightly modified, has passed the Senate and is now in the hands of the Claims Committee of the House. Instead of sending it to the Military Committee, it was arranged that that would go to the Claims Committee. The Claims Committee has been acting on it, but has been in doubt as to whether the general government intended the withdrawal of pay from Dr. Hammond as punishment, or, in other words, whether or not the vindication was a complete one.

"The committee gave me two hearings on that subject, and at the close of the session they had practically made up an unfavorable report based on that supposition. However, after having another hearing with the committee, they agreed that if I could demonstrate to the committee the fact that Congress had not stricken out the clause covering the matter of pay, and that that was done at the request of Dr. Hammond because he was at that time a very rich man and did not want any financial aid from the government, they would reopen the matter and give me another hearing. That is not the only question in point. I think I have secured all the data covering that point from the records in Congress and elsewhere, but I should ask that this conference urge again on Congress the propriety of the passage of the bill, which is now Senate Bill No. 290, and I also recommend the continuance of the committee."

A BILL TO CREATE A NATIONAL DEPARTMENT OF PUBLIC HEALTH WITH REPRESENTATION IN THE CABINET OF THE PRESIDENT.

A measure of this purport was drawn up in the form of a preliminary draft by Dr. Barchfeld, member of Congress from Pennsylvania, and was placed by him in the hands of your committee to be perfected before being presented by him to the House. This draft was in the hands of your committee on the occasion of its last annual report, when a request was made that the House of Delegates appropriate $1,000, or so much of the same as might be needed, to have the bill carefully drawn by competent legal authority. The bill itself was approved and the appropriation was directed by your honorable body. The Board of Trustees, however, declined to recognize the action of the House of Delegates as binding in this matter, and refused to ratify it by formal authorization of the expenditure. Your committee, feeling that it was not justified in presenting to Congress a measure that it was not assured would stand the most critical scrutiny, particularly when involving so momentous a question as the creation of a department of our National Government, was forced simply to accept the decree of the Board of Trustees.

In the meantime, however, the American Association for the Advancement of Science authorized the creation of a popular "Committee of One Hundred" to consider methods of establishing a national department of health. This committee was organized under the presidency of Prof. Irving Fisher of Yale University. The chairman of your committee, recognizing the announced object of this new organization to be identical with the repeatedly expressed objects of the American Medical Association in this regard, accepted membership on the Committee of One Hundred. The Legislative Conference, finding that it was without funds with which to perfect its own measure, turned the same over to the Committee of One Hundred on the very kind suggestion of Professor Fisher that some legal members of that committee could be induced to do the work. The hope is entertained that this step will result in the preparation of a bill which will meet the views of the entire medical profession.

A BILL TO PROVIDE TRAINED NURSES FOR THE NAVY.

Your committee has learned with extreme satisfaction that Surgeon-General Rixey is preparing to make a strong appeal to Congress at its next session to correct a lamentable deficiency in the medical branch of the naval service. The Surgeon General points out that the American Navy is without a single trained nurse. No matter how severe the illness of the officers and sailors, nor how grave the injury or wound received in the line of duty, the American bluejacket must rely for his care in time of trouble on a hospital steward and an apprentice. In ordinary times the ships' surgeons are often taxed to care properly for the normal number of sick and injured aboard ship. When there is an epidemic of fever or measles (the latter often a serious malady among male adults), such as occurred not long ago on the battleship *Connecticut*, it has been found impossible to give the invalids the necessary scientific and careful nursing required by their illness.

Surgeon-General Rixey has therefore worked out the details of a plan for the organization of a corps of trained nurses, such as the Army has.

Afloat these nurses will necessarily be men, but in the Navy hospitals ashore, where the more difficult, lingering and dangerous cases are treated, women nurses will be employed. For $45,000 Admiral Rixey feels that he can make a respectable beginning in the organization of such a corps, and he is seeking support from the Secretary of the Navy and the President in securing the necessary appropriations by Congress. This measure, it is needless to say, should and doubtless will receive the cordial support of the entire medical profession.

Your committee begs leave to state that it has conferred with representatives of the Committee of One Hundred; that as a result of such conference it has become apparent that said Committee of One Hundred has begun a broad, comprehensive and vigorous campaign in the interest of increased federal activity in the control of national public health interests and that the distinguished personnel of that committee, together with the plane of high efficiency on which it is organized, entitle it to the fullest confidence not only of the medical profession, but of the entire public. It has become apparent, however, that while the announced purpose of said Committee of One Hundred was to consider methods of establishing a national department as distinguished from a national bureau of public health, it has been made apparent by the work already accomplished that to accomplish the purpose for which it was created, the Committee of One Hundred must be left with the fullest possible discretion as to details of the proposed legislation. It is suggested, therefore, that this Association at its present session, adopt a formal expression to the effect that, while not receding from its previously expressed preference for a department of public health established on a footing of equality with other executive departments of the government, it leaves all questions of detail as to the organization, powers and status of the proposed national public health agency to the said Committee of One Hundred, to which it pledges its loyal and persistent support.

THE QUESTION OF UNIFORM STATE LAWS.

As will be seen from the record of the Legislative Conference, your committee has urged the necessity of taking an important step looking to the promulgation of standard bills to be passed by state legislatures relating more particularly to the practice of medicine and to pure food and drugs. The conference took up both of these questions and now has them under advisement in committee. In the meantime, it is interesting and important to know that there is a "Uniform Laws Commission," consisting of a commissioner appointed by each of the different states, that meets coincidently with and really under the auspices of the American Bar Association, and that now has under advisement a standard pure food and drug bill. It is a matter of some interest and of possible instruction to add that this commission, which is composed of able lawyers, and which has already formulated and secured the adoption of several standard acts, notably one on negotiable instruments, feels itself incompetent to make the final drafts of its measures and employs the best experts it can find to do the work.

THE MEDICAL DELEGATION IN CONGRESS.

The extreme importance of actual representation of the medical profession on the floor of Congress was illustrated by the defeat of the Osteopathic Bill in committee of the House.

This is the first time since your committee, as now constructed, has had the advantage of medical membership in the House of Representatives. In the Fifty-ninth Congress there were, in the House, three physicians. Dr. Andrew Jackson Barchfeld, representative from the Thirty-second Pennsylvania District, graduated in medicine in 1884, and is a surgeon of prominence in Pittsburg, where he resides, being a member of the staff of the South Side Hospital of that city. He is a member of professional organizations from his county society to the American Medical Association. Dr. Hiram Rodney Burton, representative-at-large from the State of Delaware, has been for thirty-five years a practitioner of medicine in his native town of Lewes, and in every way identified with the activity and welfare of his county and state. Dr. Edmund William Samuels, the representative from the Sixteenth Pennsylvania District, is another active practitioner of medicine who has served his community in various public capacities before coming to Congress. In the Senate, from New Hampshire, is Dr. Jacob H. Gallinger, who as a practicing physician in Concord, for many years enjoyed a reputation that extended over the larger part of New England. He began his political career as a representative in his state legislature in 1872. He has since served as a member of a constitutional convention, surgeon general of his state, representative in Congress, and finally United States Senator.

The importance already emphasized of having physicians in Congress is made still further apparent by the various measures that will shortly be presented for action. The hope is entertained that a larger number of physicians than heretofore will offer themselves for both branches of Congress.

AN ENLARGED LEGISLATIVE POLICY.

The policy of your committee acting with the National Legislative Council and limited by the resources at its command, has restricted its activities chiefly to questions of strictly national concern. It is evident, however, that with the increasing necessity for the formulation of certain standard laws must come an increasing necessity for securing their uniform adoption by the different states, and that this, in turn, must call for a more or less uniform and harmonious organization with which to carry the plan into effect. The chain of influences points directly to the American Medical Association as the only agency available for the purpose. It would seem, therefore, that we may as well arrange, first as last, for precisely this direction of our labors.

THE BUREAU OF MEDICAL LEGISLATION.

This branch of the legislative work of the Association, pursuant to your action last year, has been begun. In consequence of the crowded condition of the Association building at Chicago, it was late in the year before the necessary steps could be taken. The present arrangement now relieves your committee of much detail work, and has materially increased the efficiency of the organization. To meet the growing demands of the movement, however, particularly if the work of active participation in state legislation is undertaken, a larger clerical force must be employed.

Very respectfully submitted.

Charles A. L. Reed,
William H. Welch,
William L. Rodman,
Committee on Medical Legislation.

This report was referred to the Reference Committee on Legislation and Political Action.

Dr. Frank Billings, Illinois, offered the following resolutions:

Whereas: There exists among the indigent many deformed and ruptured children, who could be much improved by modern scientific treatment, if the condition of this class of people were known and

Whereas: Statistics of this class of people could be taken without much additional expense to the government, and by this means the facts concerning the number of deformed and ruptured children would be definitely known: therefore be it

Resolved: That the House of Delegates of the American Medical Association requests the Director of the United States Census to include in the next census an enumeration of the deformed and ruptured children in the United States.

Resolved: That the Secretary of this Association be instructed to forward this resolution to the director of the United States Census.

This resolution was referred to the Reference Committee on Hygiene and Public Health.

Proposed Amendments to By-Laws.

The Secretary read the following amendments to the By-laws, which were offered by Dr. J. W. Grosvenor, New York:

All reports to the House of Delegates shall be acted on seriatim, except such reports as contain only one proposition.

In balloting for all elective officers, and for the place of meeting of the Association, each member of the House of Delegates shall cast his own ballot.

These amendments were referred to the Reference Committee on Amendments to the Constitution and By-laws.

On motion, the House of Delegates then adjourned until 2 p. m.

NEW MEMBERS.

List of new members of the American Medical Association for the month of May, 1907:

ALABAMA.

Brooks, O. J., Huntsville.
Bruce, H. S., Opelika.
Douglass, A. G., Birmingham.
Long, W. W., Birmingham.
Rau, G. R., Tuscaloosa.
Sanders, W. S., Troy.
Wilkerson, C. A., Marion.
Zimmerman, A., Florence.

ARKANSAS.

Bailey, J. E., Huttig.
Bright, D. W., Lewisville.
Duncan, M. W., Bentonville.
Hoover, A. S., Stamps.
Miller, S. E., Dardenelle.
Morris, J. W., Denton.
Reed, C. C., Hensley.
Thompson, H. M., Marvell.
Tyner, H. V., Walcott.

CALIFORNIA.

Austin, R. E., San Diego.
Avery, R. W., South Pasadena.
Curtis, E. D., Woodland.
Dannenbaum, S. R., San Francisco.
Edwards, W. R. J., Los Angeles.
McCarty, I. A., Los Angeles.
Reiche, Cecelia, Los Angeles.
Turner, J. S., Los Angeles.

COLORADO.

Arnold, W. W., Colorado Springs.
French, Samuel, Denver.
Grant, A. E., Denver.
Hurd, L. C., Durango.
Long, Margaret, Denver.
Moore, A. M., Brighton.
Purcell, J. M., Denver.
Rosebrough, Thos., Hooper.
Timmons, E.L., Colorado Springs.

CONNECTICUT.

Ashley, E. F., Waterbury.
Cheney, B. A., New Haven.
Fisher, W. E., Middletown.
Haskell, C. N., Bridgeport.
Sunderland, P. A., Danbury.
Welch, T. F., Hartford.

DELAWARE.

Carlisle, P. T., Milford.
Haines, W. F., Seaford.
Tomlinson, P. W., Wilmington.

DISTRICT OF COLUMBIA.

O'Donoghue, J. A., Washington.
Vale, F. P., Washington.
Watkins, Edgar W., Washington.

FLORIDA.

Saxton, D. E., Tampa.
Turner, J. W., Otter Creek.

GEORGIA.

Boatright, Homer, Carrollton.
Battey, W. M., Augusta.
Kemp, A. J., Leslie.
Monroe, D. H., Emerson.
Moore, J. L., Griffin.
McCurdy, E. C., Shellman.
Orman, Daniel, Tifton.
Train, J. K., Savannah.
Williams, C. L., Columbus.
Wilson, W. S., Savannah.
Warthen, W. B., Bartow.

IDAHO.

Patterson, J. C., Milner.

ILLINOIS.

Allison, Frances M., So. Wilmington.
Anderson, W. J., Chicago.
Beals, F. M., Mattoon.
Brennemann, Joseph, Chicago.
Bryan, T. A., Lerna.
Burrell, P. J., Winslow.
Carpenter, J. H., Chicago.
Cooley, W. M., Peoria.
Dittman, G. C., Chicago.
Frazer, M. D., Bridgeport.
Gill, J. J., Chicago.
Hamilton, L. O., Roodhouse.
Kionka, P. B., Melrose Park.
Knapp, D. M., Mendon.
Little, E. H., E. St. Louis.
Lynch, F. W., Chicago.
Martin, G. H., Chicago.
McCormack, J. L., Bone Gap.
Mercer, Ray, Loraine.
Metcoff, Samuel, Chicago.
Miller, L. C., Rantoul.
Moore, D. G., Chicago.
Murphy, J. H., Geneseo.
Orndorf, B. H., Chicago.
Osborne, J. W., Champaign.
Parker, G. W., Peoria.
Poindexter, R. E., Benton.
Prescott, Eva, Chicago.
Rust, J. W., Willow Springs.
Schultze, L. C., Chicago.
Smith, H. Le Roy, Ivesdale.
Solsem, F. N. S., Creston.
Steffen, R. C., Chicago.
Tufts, F. S., Chicago.
Walker, R. J., Chicago.
Wayland, Shipley, Chicago.
Williams, W. C., Peoria.
Wilson, J. M., Marissa.
Wiseman, W. A., Camargo.

INDIANA.

Allen, Wesley, West Newton.
Andrews, Leila E., N. Manchester.
Atkinson, J. M., Eaton.
Caylor, C. E., Pennville.
Clippinger, R. D., Bellefontaine.
Fink, O. E., Terre Haute.
Hamer, H. G. Indianapolis.
Jay, M. F., Portland.
Northrup, A. H., Markle.

INDIAN TERRITORY.

Amerson, C. W., Cheek.
Barton, V. H., So. McAlester.
Brannon, T. C., Pauls Valley.
Briggs, T. H., Atoka.
Bryant, C. E., Muskogee.
Brymer, W. G., Comanchee.
Craig, J. W., Vinita.
Culp, A. H., Biggs.
Davis, A. B., Sneed.
Fulton, J. S., Atoka.
Henry, R. H., Ardmore.
Herron, A. W., Adair.
High, W. C., Maysville.
Hoss, Sessler, Muskogee.
Hume, W. McG., Coalgate.
Owens, B. B., Mineo.
Patterson, Price, Maysville.
Rappolee, H. E., Caddo.
Sackett, L. M., Wilburton.
Shippey, E. E., Wister.
Terrell, J. C., Durant.
Willard, R. S., Brock.

IOWA.

Allen, R. W., St. Anthony.
Anthony, Enoch, Ottumwa.
Banning, G. W., Davenport.
Barnhart, T. C., Germania.
Bruner, J. E., Thompson.

Charlton, M. R., Clear Lake.
Coulter, J. H., Summitville.
Doolittle, J. C., Des Moines.
French, C. H., Cedar Rapids.
Gaard, R. R., Radcliffe.
Gray, H. A., Keokuk.
Hamilton, H. B., Ainsworth.
Oden, R. J. E., Ottumwa.
Spencer, H. D., Oakland.
Pennington, B. S., Mediapolis.
Warnock, F. B., Sioux City.
Whitemore, C. B., Cedar Rapids.
Woodcock, G. A., Armstrong.

KANSAS.

Anderson, S. M., Wichita.
Boardman, E. W., Parsons.
Clary, L. A., Winfield.
Evans, J. L., Wichita.
Gooch, W. S., Mapleton.
Hampshire, S. J., Overbrook.
Hobson, J. H., Whitecloud.
McNaught, J. F., Girard.
Montgomery, J. R., Smith Center.
McNally, M., Michigan Valley.
Reynolds, C. W., Holton.
Turner, A. J., Centerville.

KENTUCKY.

Adamson, H. K., Maysville.
Alvey, N. R., De Koven.
Broaddus, B. S., Crystal.
Dorris, S. M., Bandana.
Dorroh, Lee, Fredonia.
Dorsey, J. T., Frankfort.
MacElliott, Wm., Bryantsville.
Graves, W. H., Murray.
Jones, J. F., Mt. Sterling.
Lovan, G. W., Nortonville.
Lutz, J. S., Highland Park.
Martin, S. J., Bowling Green.
Nichols, W. F., Munfordville.
Norfleet, Carl, Strunk.
Porter, R. H., Glasgow.
Sarlles, G. L., Sanders.
Slater, C. R., Erlanger.

LOUISIANA.

Ford, T. G., Shreveport.
Griffin, L. M., Oakley.
Montegut, Sidney, Laplace.
Poret, E. A., Hessmer.
Soniat, J. Moore, New Orleans.
Woodall, J. L., Montgomery.

MARYLAND.

Elrley, Clara S., Hagerstown.
Ellis, A. Lee, Baltimore.
Flechenstein, H. K., Baltimore.
Gambrill, W. B., Alberton.
Green, J. S., Gittings.
Hazen, H. H., Baltimore.
Lennan, A. B., Baltimore.
Smith, H. L., Baltimore.
Williams, Dudley, Baltimore.

MASSACHUSETTS.

Blaine, W. E., Mattapoissett.
Blake, Gerald, Boston.
Boom, A. K., Adams.
Burnham, Parker, Gloucester.
Douglas, A. J., Westfield.
Fleming, A., Lawrence.
Goodell, Wm., Springfield.
Graves, B. A., Dorchester.
Halpin, A. J., Lowell.
Harrington, M. W., Indian Orchard.
Hartwell, W. W., Malden.
Kelly, W. P., Pittsfield.
Merrick, R. M., Boston.
Shanahan, E. J., Taunton.
Sullivan, W. J., Lawrence.
Toohey, T. V., Boston.
Wells, D. W., Boston.

MICHIGAN.

Kelsey, L. E., Lakeview.
Koon, T. M., Grand Rapids.
Lea, Juanita I., Detroit.
McClure, F. E., Detroit.
Poppen, H. J., Forestgrove.
Smith, F. J., Ithaca.
Van Slyke, W. H., Hancock.
Weed, J. W., Brown City.

MINNESOTA.

Balcome, F. E., St. Paul.
Barck, G. W., Albert Lea.
Benson, I. S., Jackson.
Bessesen, W. A., Albert Lea.
Bigelow, E. E., Owatonna.
Bole, R. S., St. Paul.
Brown, E. I., St. Paul.
Brynildsen, H. L., Vasa.
Cannon, C. M., St. Paul.
Corry, W. M., Waterville.
Dinwoodie, Wm., St. Paul.
Dohm, C. L., St. Paul.
Doran, G. M., St. Paul.
Ericson, J. G., Minneapolis.
Fifield, Emily W., Minneapolis.
Grimes, H. B., Lake Crystal.
Hammond, W. D., Isanti.
Hilger, A. W., St. Paul.
Johnson, A. M., St. Paul.
Linde, Herman, Cyrus.
Moynihan, A. F., Sauk Center.
Nickerson, W. S., Minneapolis.
Nye, W. F., Minneapolis.
Plondke, F. J., St. Paul.
Robinson, L. S., St. Paul.
Schlick, A. T., Duluth.
Smith, C. E., St. Paul.
Smith, S. W., Ponsford.
Sogge, L., Windom.
Sweney, C. F., St. Paul.
Wright, C. B., Minneapolis.

MISSISSIPPI.

Byrd, George Wm., Isola.
Bynum, I. M., Boonville.
Donaldson, R. P., Pontotoc.
Goodman, H. S., Cary.
Lilly, J. G., Natchez.
Laird, J. S., Decatur.
Molloy, R. C., Columbus.
Price, D. T., Booneville.
Robinson, S. W., Pisgah.
Rosamond, J. S., West.
Seward, Doyle, Eden.
Walley, Willis, Richton.
Womack, N. C., Jackson.

MISSOURI.

Barrington, R. M., St. Louis.
Belden, W. E., Columbia.
Bewig, H. W., St. Louis.
Bigham, D. F., Easton.
Blakesley, T. S., Kansas City.
Blattner, F. O., St. Louis.
Boggs, J. D., St. Louis.
Bowen, J. K. P., St. Joseph.
Brown, A. C. F., St. Louis.
Brown, C. H., Fairplay.
Brogles, F. H., Bethany.
Cannon, G. S., Fornfelt.
Clarke, B. W., St. Louis.
Curl, A. C., Cross Timbers.
Dandurant, L. J., St. Joseph.
Dillon, Marion, Fairfield.
Dunkison, E. B., Hatfield.
Edwards, G. W., Brunswick.
Faires, O. P., Kansas City.
Finney, W. B., Kennett.
Giffitt, C. E., Winsor.
Hardin, T. L., Defiance.
Huyford, W. B., Pickering.
Hofmann, Ottokar, Jr., Kansas City.
Hoshor, J. C., Rosendale.
Hull, W. S., Faucett.
Hyde, Frank, Greenfield.
Jackson, C. A., Kansas City.
Jarrett, S. S., Pattonsburg.
Jarvis, W. M., Slater.
Jennett, H. N., Kansas City.
Jones, K. P., Kansas City.
Koltenbach, Ernst, Craig.
Kerr, Wm. M., Savanna.
Korn, A. L., Carthage.
Krebs, G. A., St. Louis.
Krug, F. H., St. Louis.
Lewis, A. L., Sumner.
Loafman, J. E., Bolivar.
Loveland, W. S., Verona.
Lyon, G. E., St. Louis.
Mangus, C. W., Moberly.
McArthur, A. W., Kansas City.
McBride, W. L., Kansas City.
Miles, Horine, Webster Groves.
Miller, D. E., Monett.
Miller, E. E., Mound City.
Morrell, M. P., St. Louis.
Norberg, G. B., Kansas City.
O'Flaherty, A. E., Kansas City.
Norris, E. J., St. Louis.
Ogle, O. L., St. Louis.
Orr, C. J., St. Louis.
Parman, D. R., St. Louis.
Patrick, P. S., Bucklin.
Pearson, D. M., Louisiana.
Peppers, A. W., Rocheport.
Pollard, M. M., Barnard.
Pope, Sherman, St. Louis.
Randle, H. T., Clayton.
Rohlfing, A. H., St. Louis.
Ruddell, G. W., St. Louis.
Sands, M. L., Cole Camp.
Seelig, M. G., St. Louis.
Senn, George, St. Joseph.
Sheahan, E. T., St. Louis.
Shoemaker, J. F., St. Louis.
Short, M. J., Rolla.
Simcoe, C. B., St. Joseph.
Simon, F. C., St. Louis.
Smith, D. G., Arkoe.
Swaney, A. G., Lee's Summit.
Todd, J. H., Maryville.
Veegelin, Samuel, Kansas City.
Wade, S. J., Benton.
Wilson, A. M., St. Louis.
Wilson, C. E., Kansas City.
Wobus, R. E., St. Louis.
Wooden, I. M., Dawn.
Woodson, C. R., St. Joseph.
Woolsey, R. A., St. Louis.

MONTANA.

Jump, C. W., Bozeman.
Lanstrum, M., Helena.
MacKenzie, T. A., Miles City.
Russell, J. H., Fort Benton.
Shere, W. B., Gardiner.

NEBRASKA.

Brown, G. M., Central City.
Byers, G. A., Snyder.
Gritzka, C. T., Talmage.
Henry, Charles, Hebron.
Lyman, R. A., Lincoln.
Sixta, L. H., Schuyler.
Whitmyre, J. P., Aurora.

NEVADA.

Huffaker, Anthony, Carson City.

NEW JERSEY.

Adams, J. K., Orange.
Alexander, A. F., Paterson.
Allen, Edgar, Pattenburg.
Beling, C. C., Morris Plains.
Bingham, A. W., East Orange.
Blenckstone, F. O., Oradell.
Buckingham, F. S., Lakewood.
Bushey, S. G., Camden.
Buvinger, C. W., East Orange.
Clark, Emma C., Dover.
Coe, Richard, Newark.
Cohen, N. A., Wildwood.
Condict, I. W., Dover.
Davis, W. C., Jr., Atlantic City.
Decker, C. L., Boonton.
Dodd, S. W., Montclair.
Edwards, J. G., Williamstown.
Fithian, G. W., Perth Amboy.
Garside, C. Z., Newark.
Gilchristy, C. A., Hoboken.
Gilman, R. B., Jersey City.
Gross, Herman, Metuchen.
Henriques, H. A., Morristown.
Hughes, M. D., Branchville.
Jones, R. R., Toms River.
Le Fevre, A. L., Blackwood.
Meyer, William, West Hoboken.
Morrison, Ephraim, Newton.
O'Reilly, E. R., Elizabeth.
Palm, H. F., Camden.
Pollard, J. E., Chatham.
Shepherd, I. M., Trenton.
Smith, L. H., East Orange.
Smith, T. J., Bridgeton.
Summerill, J. M., Penns Grove.
Swiney, M. A., Bayonne.
Twinch, S. A., Newark.
Walters, John, Wharton.
Welch, G. T., Passaic.

NEW MEXICO.

Clapp, F. R., E. Las Vegas.
Duncan, C. G., Socorro.
Northwood, A. E., Wagon Mound.
Osuna, Eligis, Albuquerque.

NEW YORK.

Allaben, C. S., Margaretville.
Ayres, Benj., Brooklyn.
Bacon, Gorham, New York.
Bardes, Albert, New York.
Baldwin, E. C., Rosebank.
Bartley, E. H., Brooklyn.
Bennett, E. C., Brooklyn.
Beaman, A. H., Long Island.
Bickerton, T. W., New York.
Bingham, Anne T., Hudson.
Bischop, L. F., New York.
Bogart, A. H., Brooklyn.
Bonnar, J. D., Buffalo.
Booth, J. W., West Colesville.
Born, R. O., New York.
Bowman, L. D., Jamestown.
Bozeman, N. G., New York.
Brandow, C. T., Moravia.
Brennglass, Joachim, New York.
Brittain, Robert, Downsville.
Brooks, G. F., New York.
Brown, R. H., Mt. Vernon.
Bruce, Hortense V., Hudson.
Bryant, F. A., New York.
Caille, Augustus, New York.
Carr, L. L., New York.
Carter, H. S., New York.
Cassola, Filippo, New York.
Cauldwell, C. M., New York.
Chambers, P. F., New York.
Chase, W. E., New York.
Clark, H. S., New York.
Cole, C. S., New York.
Cole, L. G., New York.
Collier, P. B., Kingston.
Costello, P. V., Brooklyn.
Cotton, Mary H., New York.
Craig, T. C., Brooklyn.
Crispell, C. W., Kingston.
Curtis, F. C., Albany.
Dadirrian, M. G., New York.
Dailey, L. J., Gloversville.
Danziger, Ernest, New York.
Davies, J. G. A., Oakland.
Davies, E. W., New York.
De Groat, H. K., Buffalo.
Dexter, T. H., Brooklyn.
Dodge, S. W., Massena.
Dorman, F. A., New York.
Dorning, John, New York.
Dudley, W. F., Brooklyn.
Duffield, W. L., Brooklyn.
Duryea, C. F., New York.
Edsall, I. S., Middleville.
Ellison, C. W., New York.
Ely, L. W., New York.
Emerson, J. B., New York.
Emery, Z. T., New York.
Fairbanks, J. R., Amsterdam.
Fanoni, Antonio, New York.
Ferris, Cleveland, New York.
Fitch, H. A., Utica.
Ford, C. M., New York.
Fosbury, L. D., Endicott.
Fox, G. H., New York.
Frissell, L. F., New York.
Fulton, Cynt., Lyons.
Furness, W. J., New York.
Galbraith, Anna M., New York.
Gannett, L. L. E., Adams.
Goodyear, M. D., Groton.
Grant, W. S., Brooklyn.
Grant, Gabriel, New York.
Green, T. J., Mexico.
Gregory, M. S., New York.
Gregor, G. D., Watertown.
Hague, E. M., Rochester.
Hand, Edward, New York.
Hanley, L. G., Buffalo.
Hammond, G. M., New York.
Harris, B. A., Morris.
Hart, A. J., New York.
Hendee, Lawrence, Buffalo.
Henderson, J. M., New York.
Hendrickson, Samuel, Jamaica.
Herzig, A. J., New York.
Herzog, A. W., New York.
Hettesheimer, C. J., Brooklyn.
Hickok, E. P., Brooklyn.
Hill, E. Y., New York.
Hills, A. T., New York.
Hodges, Edward, Brooklyn.
Holder, O. H., New York.
Huggins, W. L., Schenectady.
Hurd, A. W., Buffalo.
Jacoby, G. W., New York.
Jewett, H. F., Brooklyn.
Jewett, J. H., Canandaigua.
Johnson, W. H., New York.
Jones, C. N. D., New York.
Jones, I. C., New York.
Katzenbach, W. H., New York.
Keator, T. O., Accord.
Keely, John, New York.
Keil, P. A., Brooklyn.
Keune, Theodore, New York.
Killen, Jack, Binghamton.
Knapp, W. H., Binghamton.
Koller, Carl, New York.
Kramer, David, New York.
Kremer, Carl, New York.
Kroos, E. C., Brooklyn.
Lattin, F. H., Gaines.
Lauderdale, W. E., Geneseo.
Lawrence, R. G., Hammondsport.
L'Hommedieu, J. B., New York.
Lichtschein, Louis, New York.
Littell, E. G., Poughkeepsie.
Loewenthal, Philip, New York.
Lucus, T. D'Arcy, New York.
Ludlum, C. H., Hempstead.
Luhan, J. C., New York.
Maddren, Wm., Brooklyn.
Maisch, C. O., New York.
Mallit, Ovila, Troy.
Mann, H. J., Brockport.
McKenna, E. D., Albany.
McMaster, N. G., New York.
Mathews, F. S., New York.
McDowell, A. B., New York.
McMahon, J. J., New York.
Meding, C. B., New York.
Meyer, Adolf, New York.
Mial, L. L., New York.
Michaelis, L. M., New York.
Milbank, Samuel, New York.
Millington, W. F., Brooklyn.
Minar, E. G., Mannsville.
Moore, W. A., Binghamton.
Mundorff, G. T., New York.
Myers, C. L., Albany.
Newman, G. W., Brooklyn.
Olendorf, C. L., Cobleskill.
Owens, G. C., Brooklyn.
Patterson, H. S., New York.
Pomeroy, G. P. K., Stuyvesant.
Pool, E. H., New York.
Pooley, T. R., New York.
Powers, E. W., Ashville.
Port, C. D., Syracuse.
Prellwitz, O. E., New York.
Preston, J. C., Avon.
Purdy, W. H., Mt. Vernon.
Rankin, W. H., Brooklyn.
Rapp, Samuel, New York.
Raymond, Joseph, Schenectady.
Reshower, I. C., New York City.

Reynolds, W. G., Brooklyn.
Rice, J. F., Buffalo.
Richter, Wm., New York.
Robson, J. A., Halls Corners.
Rooth, H. C., Buffalo.
Rosenberg, Leopold, Bedford Sta.
Rosenheim, P. J., New York.
Rosenthal, Max, New York.
Rossman, G. W., Ancram.
Rostenberg, Adolph, New York.
Rundquist, E. A., New York.
Sands, B. J., Port Chester.
Satterlee, F. Le Roy, New York.
Schauf, Adam, Brooklyn.
Schley, W. S., New York.
Schnepel, G. A., New York.
Schroeder, Fredk., Jr., Brooklyn.
Schulmann, Henry, Brooklyn.
Sedgwick, W. N., New York.
Seimel, W. A., Brooklyn.
Severance, C. J., Mannsville.
Shanks, S. G., Albany.
Shattuck, W. S., Brooklyn.
Shaw, F. E. E., New York.
Shearer, L. H., New York.
Sherman, W. H., Yonkers.
Shipley, A. E., Brooklyn.
Shoemaker, Edwin, Newfane.
Simpson, W. K., New York.
Smith, C. P., Chester.
Smith, J. Gardner, New York.
Sturmdorff, Arnold, New York.
Stevens, Wm., New York.
Sweeny, T. T., New York.
Sweet, W. H., Petersburg.
Thomas, T. S., Cuba.
Thompson, J. E., Brooklyn.
Towne, G. Scott, Saratoga Spgs.
Tracy, E. Clark, New York.
Vanderzee, D. L., Industry.
Van Gaasbeek, G. H., Kingston.
Vietor, E. W., Brooklyn.
Vose, R. M., Ithaca.
Vrooman, A. S., Kingston.
Walker, D. E., New York.
Walker, Emma E., New York.
Walker, H. F., New York.
Wallace, W. F., Rochester.
Wallian, S. S., New York.
Ward, R. F., New York.
Watson, H. D., Cincinnatus.
Weisbrod, Fredk., Brooklyn.
Wetmore, W. E., Utica.
White, J. B., New York.
Whitmore, J. E., Buffalo.
Wightman, O. S., New York.
Williams, H. T., New Rochelle.
Wittson, Albert J., New York.
Wilzin, I. M., New York.
Winship, F. A., Eagle Mills.
Wright, E. W., Brooklyn.
Writer, Theodore, Otisville.
Zemansky, A. P., New York.

NORTH CAROLINA.

Anderson, P. V., Morgantown.
Billings, A. E., No. Wilkesboro.
Coggeshall, G. A., Oxford.
Croom, A. B., Maxton.
Ferebee, E. B., Raleigh.
Flippin, J. M., Salisbury.
Freeman, W. G., Murfreesboro.
Harper, J. H., Snow Hill.
Hoggard, J. T., Burgaw.
King, P. M., Charlotte.
Koonce, S. E., Wilmington.
Lee, S. P. J., Dunn.
Lewis, R. H., Raleigh.
Monroe, W. A., Sanford.
Spruill, J. L., Columbia.
Whiteside, B. F., Hickory.
Williams, J. M., Warsaw.
Witherbee, W. D., Charlotte.
Wohlfarth, Justin, Asheville.

NORTH DAKOTA.

Davis, H. A., Dickinson.
McLean, R. M., Gilby.
Van de Erve, H., Pingree.
Widemeyer, J. P., Rolla.

OHIO.

Babione, A. A., Luckey.
Belt, J. H., Cleveland.
Brown, H. R., Chillicothe.
Burns, J. M., Mansfield.
Chapman, G. L., Toledo.
Cox, S. S., Lorain.
Coons, J. J., Columbus.
Coy, W. D., Canfield.
Cross, F. B., Cincinnati.
Duvall, G. W., Lynchburg.
Entrikin, F. B., Findley.
Finley, J. Early, Ironton.
Gorrell, C. V., Payne.
Grills, A. T., Loraine.
Harrod, C. L., Columbus.
Hathaway, Albert, Edon.
Hays, S. B., Newcomerstown.
Heavenrich, A. T., Cincinnati.
Hiller, Carl, Cincinnati.
Hoge, W. D., Rayland.
Hogue, W. L., Montpelier.
Housman, Z. T., Fostoria.
Klaus, Emanuel, Cleveland.
Knowlton, L. Y., Berea.
Lee, J. L., Akron.
Leet, W. H., Conneaut.
Lenker, J. N., Cleveland.
Letherman, O. J., Thornville.
Lyon, S. M., Ashtabula.
Mizer, T. J., Cleveland.
Mac Iver, Angus, Marysville.
Manley, R. M., Ravenna.
Marshall, G. M., Portsmouth.
Mignin, C. F., Stryker.
Murbach, E. A., Archbald.
Newberger, John, Cleveland.
Pontius, C. R., Fremont.
Roessly, G. R., Cincinnati.
Reid, C. B., Van Wert.
Rouse, J. D., St. Louisville.
Scott, W. S., Chillicothe.
Singleton, J. B., Cincinnati.
Syler, A. H., Sugar Creek.
Todd, George M., Toledo.
Watkins, C. D., Etna.
Weber, J. H., Akron.
Wiltshire, J. S., Gillespieville.

OKLAHOMA.

Ashley, Jerry, Chickasaw.
Bennett, D. W., Sentinel.
Cash, J. H., Glencoe.
Fowler, J. E., Altus.
Johnson, G. O., Fort Cobb.
Lehew, J. L., Pawnee.
Lynde, L. W., Okarche.
Newman, O. C., Grand.
Rhodes, T. A., Goltry.
Rose, W. L., Woodward.
Slover, G. W., Sulphur.
Smithe, P. A., Enid.
Tanner, W. E., Maysville.
Taylor, A. H., Wellston.
Thomas, C. E., Weatherford.
Thompson, C. E., Kremlin.
Young, A. D., Oklahoma City.

OREGON.

Beauchamp, H. A., Stayton.
Botkin, O. F., Portland.
Hubbard, W. F., Portland.
Jefferds, H. C., Portland.
Raffety, Dav., Portland.
Rogge, W. J., Portland.
Sellwood, J. J., Portland.
Whiting, Sanford, Portland.
Woodruff, W. G., Portland.

PENNSYLVANIA.

Anderson, W. Grant, Carbondale.
Appleman, L. F., Philadelphia.
Armstrong, W. N., Lock Haven.
Attix, J. C., Philadelphia.
Babcock, L. C., Bethlehem.
Bailey, T. W., Philadelphia.
Barkley, J. W., Ligonier.
Beil, E. H., Philadelphia.
Benson, J. P., Punxsutawney.
Bird, A. J., Overton.
Bieiler, P. O., Allentown.
Booher, J. C., Falls Creek.
Bower, C. L., Philadelphia.
Bradford, T. H., Philadelphia.
Branson, T. F., Rosemont.
Brown, J. D., Oaks.
Burns, L. J., Philadelphia.
Bush, C. B., Orbisonia.
Cadbury, W. W., Philadelphia.
Cameron, W. H., Pittsburg.
Cathcart, W. B., Mt. Pleasant.
Chandlee, W. H., Philadelphia.
Cleveland, F. M., Philadelphia.
Cloud, M. H., Masontown.
Clover, C. L., Knox.
Coe, B. F., Dixonville.
Cogill, Lida S., Philadelphia.
Conant, Mary C., Warren.
Costello, M. J., Philadelphia.
Craney, J. P., Philadelphia.
Curry, G. E., Pittsburg.
Daggette, A. S., Pittsburg.
Dandors, G. F., Altoona.
Deal, J. C., Philadelphia.
Devitt, Wm., Philadelphia.
Dickinson, B. M., Pittsburg.
Dodd, W. L., Amity.
Drake, E. L., Philadelphia.
Dunn, Rose M., Franklin.
Eichman, E. A., Philadelphia.
Evans, D. E., New Castle.
Evans F. J., Chester.
Eves, C. C., George School.
Ewing, J. B., Uniontown.
Fager, J. H., Jr., Harrisburg.
Fetterman, W. B., Philadelphia.
Fry, H. M., Rush.
Fraser, H. D., Philadelphia.
Gile, B. C., Philadelphia.
Gittings, J. C., Philadelphia.
Gleason, E. B., Philadelphia.
Gormly, J. A., Meadows Lands.
Grim, G. M., Ottsville.
Groff, H. C., Philadelphia.
Grove, A. M., York.
Guthrie, D. C., Philadelphia.
Harris, F. D., Philadelphia.
Hatfield, G. W., Mt. Morris.
Hazlett, E. M., Washington.
Head, Joseph, Philadelphia.
Heard, J. C. F., North East.
Hearn, W. P., Philadelphia.
Herchelroth, J. G., Philadelphia.
Herrman, M. F., Philadelphia.
Hershey, G. B., Gap.
Hoffman, H. C., Connellsville.
Holloway, T. B., Philadelphia.
Hosmer, H. M., Philadelphia.
Hughes, W. E., Philadelphia.
Hurlock, F. L., Philadelphia.
Isenberg, J. L., Williamsburg.
Jackson, J. M., Stauffer.
Jarvis, C. C., Pittsburg.
Jefferson, James, Johnstown.
Jessop, C. J., Kittanning.
Kane, J. A. B., Philadelphia.
Keeler, J. C., Philadelphia.
Kelley, E. J., Chandlers Valley.
Kennedy, J. P., Columbia.
Kennedy, J. W., Philadelphia.
King, R. C., Hellertown.
King, W. H., Philadelphia.
Kirk, L. H., Oxford.
Knipe, J. C., Philadelphia.
Knotts, I. D., Davistown.
Krebs, A. B., Bolivar.
Langdon, H. Maxwell, Philadelphia.
Lavenson, R. S., Philadelphia.
Lewis, W. H., Donora.
Lloyd, J. H., Leonard.
Lopez, J. H., Philadelphia.
Lutz, H. L., Philadelphia.
MacCracken, G. Y., Philadelphia.
Maxwell, H. S., Clairton.
McAniff, H. P., Philadelphia.
McCormick, A. F., Fallscreek.
McDowell, N. S., Philadelphia.
McNaul C. G., Glen Richey.
McNeil, A. R., Corsica.
Meyers, M. K., Philadelphia.
Michener, E. W., Philadelphia.
Miller, A. G., Philadelphia.
Miller, L. O., Allegheny.
Millken, D. B., Landisburg.
Monie, Thomas, Archbald.
Moore, J. A., Philadelphia.
Morrow, H. W., Swissvale.
Nevling, F. S., Clearfield.
NeuBerger, G. M., Wilkes Barre.
Nicholson, W. R., Philadelphia.
Osmond, Anna R., Philadelphia.
Peck, W. A., Scranton.
Pemberton, Ralph, Philadelphia.
Pennock, W. S., Philadelphia.
Pflueger, H. F., Philadelphia.
Phillips, Horace, Philadelphia.
Porch, E. H., Philadelphia.
Potter, Ellen C., Philadelphia.
Purman, John, Homestead.
Reese, F. G., Coudersport.
Rhoads, Samuel, Philadelphia.
Rickert, C. M., Harrisburg.
Roose, A. E., East Pittsburg.
Rugh, J. T., Philadelphia.
Runion, A. L., Canonsburg.
Santter, A. C., Philadelphia.
Sargent, A. A., Philadelphia.
Sayers, C. E., Hawthorn.
Schisler, Belle A., Philadelphia.
Schneideman, T. B., Philadelphia.
Sheldon, C. W., Kuneyville.
Shifferstein, E. E., Tamaqua.
Silvey, J. H., Sharpsburg.
Singer, J. J., Greensburg.
Smith, A. B., Wyoming.
Smith, H. H., Johnsonburg.
Smith, C. B., Newtown.
Smith, J. I., Philadelphia.
Speer, R. H., Vandergrift.
Stafford, A. M., Philadelphia.
Steinwandel, J. A., Philadelphia.
Stellwagen, T. C., Jr., Philadelphia.
Stiles, C. M., Philadelphia.
Stone, E. R., Philadelphia.
Swenk, C. H., Sunbury.
Sutliff, Dana, Shippensburg.
Taylor, A. J., Hopbottom.
Thomas, C. H., Philadelphia.
Thomas, T. T., Philadelphia.
Tobey, E. A., New Bedford.
Todd, F. L., Allegheny.
Tomlinson, W. H., Philadelphia.
Ulrich, Katherine W., Chester.
Voorhees, C. D., Sonestown.
Wasley, H. M., Shenandoah.
Watt, Robert, Philadelphia.
Welty, E. M., Philadelphia.
White, F. W., Philadelphia.
Wiggins, E. H., Philadelphia.
Williams, W. L., Ridgeway.
Williams, T. V., New Castle.
Wilson, B. S., Clarion.
Wilson, J. D., Philadelphia.
Winsor, Henry, Ardmore.
Wood, Harold B., Philadelphia.
Wrigley, Arthur, Philadelphia.

RHODE ISLAND.

O'Connell, J. C., Providence.

SOUTH CAROLINA.

Bull, L. E., Cheraw.
Dulin, T. N., Clover.
Folk, J. L., Brunson.
Golden, J. Paul, Georgetown.
Hunter, B. W., Charleston.
Jones, W. T., Jones.
Kibler, J. M., Newberry.
Love, W. M., McConnellsville.
Marsh, R. A., Edgefield.
Moore, W. H., Kathwood.
Ransom, R. P., Williamstown.
Thompson, G. E., Inman.

SOUTH DAKOTA.

Dunham, W. O., Sioux Falls.
Freyberg, F. W., Mitchell.
Hess, F. W., Estelline.
Richards, G. H., Wessington Springs.

TENNESSEE.

Copeland, H. S., Palmerville.
Fyke, R. F., Springfield.
Goddard, W. L., Saulsbury.
Goodwin, J. L., Spring City.
Hale, G. W., Nashville.
Huffaker, R. O., Chuckey.
Jones, S. L., Knoxville.
Lancaster, A J., Pulaski.
Luttrell, Walter, Knoxville.
Reagor, F. B., Shelbyville.
Ristine, C. E., Knoxville.
Stephens, J. B., Nashille.
Tate, R. W., Bolivar.
Toy, S. H., Hendersonville.
Tullos, A. M., Gadsden.
White, W. H. L., Knoxville.
Woodard, F. M., Springfield.
Wilson, J. C., Rockwood.
Wynne, J. W., Newbern.

TEXAS.

Barnes, C. V., Bedias.
Barnett, W. C., Big Springs.
Beverly, H. H., Smiley.
Brener, C. H., Yoakum.
Campbell, M. E., Stanton.
Carpenter, J. C., Kyle.
Clark, W. M., Floresville.
Connally, W. S., McGreger.
Collom, C. C., Mart.
Coston, G. M., Cranfills Gap.
Coston, T. C., Cranfills Gap.
Day, W. S., Caddo Mills.
Evans, J. M., Corpus Christi.
Foote, G. A., Eagle Lake.
Gatlin, E. N., Redwater.
Goddard, C. W., Holland.
Gooch, J. M., Temple.
Hargus, J. W., Cotulla.
Hughes, W. H., Del Rio.
Hunt, R. S., Rodger.
Irwin, A. W., Fair View.
Kincaid, Ada, Denta.
King, J. M. C., Merkel.
Krouse, Albert, Houston.
Leach, S. N., Sweetwater.
Marsh, B. C., Livingston.
McCardell, W. K., Livingston.
McCuistion, W. G., Paris.
McGee, J. R., New Boston.
Mickle, John W., Memphis.
McNeill, W. L., Arlington.
Newland, W. B., Gatesville.
Olive, N. A., Waco.
Pickett, W. S., Karnes City.
Reed, A. T., Honey Grove.
Schaefer, Marie C., Galveston.
Sims, G. W., Falls City.
Stinson, J. B., Sherman.
Sypert, J. R., Holland.
Thomas, W. S., Houston.
Thompson, T., Naples.
Vinsant, W. J., Pecas.
Wagner, S. V., Houston.
Watson, D. A., Schertz.
Webster, J. K., Athens.
Williams, M. L., Stanton.
Wilson, R. A., Douglas.
Wilson, H. C., Gilmer.
Wilson, J. W., Glory.
Wilson, R. A., Odessa.
Worsham, B. M., Austin.

UTAH.

Affleck, J. T., St. George.
Eghian, S. G., Ogden.

VERMONT.

Doane, C. B., Springfield.
Hopkins, H. D., Jericho Center.
Horner, J. S., West Pawlet.
Lindsay, Wm., Montpelier.
Marshall, G. G., Wallingford.
Rice, Thomas, Brattleboro.
Washburn, E. L., East Berkshire.

VIRGINIA.

Carr, R. P., Norton.
Cobb, E. C., Penola.
Cowardin, L. M., Richmond.
Doughtie, C. W., Norfolk.

Drewry, H. R., Norfolk.
Forline, H. H., Fredericksburg.
Gee, E. W., Richmond.
Graves, S. H., Norfolk.
Grizzard, J. A., Baykins.
Hopkins, E. G., Glen Allen.
Jacob, T. N., Dalby's P. O.
Mallet, J. W., Charlottesville.
Massie, C. W., Richmond.
Nottingham, C. L., Cape Charles.
Osterhous, Karl, Norfolk.
Payne, R. L., Sr., Norfolk.
Trent, J. P., Clinchport.
Pollard, J. B., Dorchester.
Rinker, C. F., Upperville.
Stephenson, H. W., Toano.
Sutton, S. A., Norfolk.
Walton, J. C, Chase City.

WASHINGTON.

Kunz, G. G. R., Tacoma.
McDonald, E. A., Seattle.
Parker, Maude, Seattle.
Reynolds, Annie E., Tacoma.

WEST VIRGINIA.

Boyd, J. R., Oakvale.
Campbell, H. M., Parkersburg.
Cox, T. B., Sherrard.
Davisson, Ithamar, Flemington.
Sparks, E. P., McKendree.
Hunter, J. R., Marting.
James, H. S., Putney.
Musgrave, D. E., Standard.
Offner, J. E., Corinth.
Price, S. W., Scarbro.
Robins, J. E., Charleston.
Vickers, R. E., Huntington.
Willis, E. Y., Montgomery.
Young, W. H., Bens Run.

WISCONSIN.

Andre, F. E., Kenosha.
Bothwell, D. F., Kingston.
Corr, John, Franksville.
Curtis, G. E., Eau Claire.
Gauvreau, E. T., Superior.
Jackson, F. A., Eldorado.
Jones, R. W., Sussex.
Law, W. G., Glidden.
Madison, J. D., Milwaukee.
Merritt, W. D., Janesville.
Reynolds, Bertha E., Lone Rock.
Riddle, M. Adeline, Oshkosh.
Riley, P. E., Elk Mound.
Wolf, H. E., La Crosse.

MISCELLANEOUS.

McConkey, W. F., Paia, T. of H.

Miscellany

The Ideal Medical Journal.—That veteran of the profession, Dr. Leartus Connor, states in the *Bulletin of the American Academy of Medicine*, what, from the reader's standpoint, a medical journal should contain. The subscriber who has in mind his own medical needs and the credit and welfare of his profession, demands first that the medical journal shall have something to say and say it without ambiguity or superfluity. Needless repetitions, rehashing of old facts, except so far as is necessary to show their relations to new ones, and crude and ill-digested contributions are not what are wanted. Next it should cover the ground and keep him in touch, not only with matters of local interest, but with the progress of medicine throughout the world, and it should be a stimulus to his medical perceptions, ideation and action. It should be free from any trace of malevolence or unfairness, from any taint of commercialism, and should everywhere and always work for the highest ideals and interests of the profession. The ideal medical journal should meet all these requirements and more. It should be an active educative influence at all times and in all ways, raising the medical standards and ideals of its readers. Medicine, to be a progressive science, not only in its accumulations of facts and theories, but also in its modes of thought, must keep pace with the advance of scientific thought in other lines. Inasmuch as it is nearer to the great secrets of mind and matter than any other department of science, it should be in the van of progress, not presumptuously, but recognizing its limitations, proving all things and holding fast only to that which is good. In all this the medical journal should be its faithful exponent. Always and everywhere the medical journal should cultivate the professional spirit, the "bushido" of the medical profession, which puts work before wage and safeguards against commercialism. Dr. Connor directly refers to this requisite when he designates as "unspeakable" those "whose sole object is immediate returns in money or reputation, irrespective of quality or quantity of service, and who care nothing for the honor of the profession." Lastly, the medical journal should be on the right side of all the great moral questions of the day in so far as they touch on its field, not fanatically or unreasonably, always respecting differences of opinion as to practical methods when such are worthy of respect, but never condoning nor supporting evil. Medical journals, while primarily not teachers of morals, incidentally must be. When questions of medical ethics or medical economics come up, then the ideal medical journal becomes a moral teacher in the broadest sense of the word. No medical journal can afford to be positively immoral, or what is nearly as bad, negatively unmoral, either in its editorial opinions or in its accepted contributions. There have been medical journals that have sinned in this respect; not only have unworthy causes been advocated, but the moral tone itself has been low. The shortcomings of medical journalism have been many, as Dr. Connor says, but we believe that the worst stage of its evolution in this country has been passed. With the higher standards of medical education and the consequent more rigid censorship and criticism, we may reasonably expect to see a better grade of literature than ever before. Some defects will always be unavoidable—perfection is never attainable in human affairs—but we may reasonably expect, to quote again from Dr. Connor, "that in the not distant future, medical journals will satisfy the wants of those more exacting than our subscriber."

The Organization of the Internes at Paris.—The internes of the Paris hospitals organized a few months ago for cooperation to obtain better scientific instruction and reform in other matters and for social purposes. They have accomplished wonders in their first two aims, and on May 4, they gave an evening entertainment to which all past and present internes and their families were invited. The prime minister, Clemenceau who was an interne once, himself, offered them the use of his spacious residence and ball rooms, and the evening was one of rare enjoyment among "old cronies" who had not met in some cases for years, but who came from long distances, many of them with "wife and daughter." Artists from the leading theaters contributed their services, but a poem by Dr. J. L. Faure, a dialogue between the young physician and the muse, seems to have been the gem of the evening. It is given in full in the *Presse Médicale* for May 11, about 100 lines. The muse asks who is this young man who seems so grave and careworn when he has youth and life and pleasure, sunshine, hope and love, and lives in France. The young physician replies telling of his daily round amid suffering, disease and death, the days of his youth fading sadly away like flowers on a grave. To this the muse replies with a beautiful idealization of the physician's career, passing through the sordid, money-getting crowd with the hands empty but the heart open, the pilot steering the ship through the breakers, the noblest rôle of all that are played on earth, correcting the work of nature, arresting the course of destiny, and triumphing over death. Dancing and cards rounded out the *Soirée de l'internat*. The program was ornamented with a modernized illustration of the story of the young Hippocrates refusing the gifts of Artaxerxes—a young physician, with his microscope, his books and his bistoury under his arm, fleeing from a seductive dancer, balanced on the wheel of fortune, who is scattering gold as she rolls along. The design was the work of one of the younger internes.

Pellagra.—Consul Clare at Bridgetown, Barbados, W. I., quotes a local practitioner as saying that this disease is very prevalent among the native negroes. Only whites of the poorer class are ever attacked. The first symptom is that described by the victim as an "inward burning." Pigmentation then occurs commencing at the elbows, knees and back of the hands, the parts soon appearing black and scaly. The alimentary canal then becomes ulcerated anywhere between the mouth and the anus, causing diarrhea and general emaciation. Pigmentation, ulceration and diarrhea are, it is stated, pathognomonic of pellagra. The prognosis is bad, the disease being fatal unless promptly treated. The physician quoted is of the opinion that the nervous system is always involved and that the disease is communicable.

Historical Medical Exhibition.—A fine collection of articles with historical interest in the line of medicine and pharmacology has recently been gathered in the *Kaiserin Friedrich-Haus* at Berlin and the exhibition was opened with much ceremony in April. E. Holländer was mainly instrumental in making the collection; he has already won a name for his works on medicine in art and the history of medicine. Some of the most interesting features of the exhibition are reproductions of an apothecary shop of two hundred years ago, a chemical laboratory, insane asylum, etc. There is also a representation in bas-relief of an operation for bladder stone performed on the Emperor Henry II of Germany, about 1,000 A. D. While the operation is being done by a Benedictine monk, who places in the reclining monarch's hand the large stone he has extracted, the king's body physician sits in mute resignation with his back to the scene. The original cystoscope, the iron hand of Götz von Berlichingen, the clappers carried by lepers to warn people of their approach, and surgical instruments and orthopedic appliances of all ages are also on exhibition. It is proposed to make lantern slides of the various articles in the collection, to be loaned with a lantern wherever desired. Holländer appeals to physicians and their families to donate to the exhibition articles of all kinds bearing on the history of medicine in any way. They will be marked with the name of the donor.

Operative Treatment of Gangrene of the Lungs.—Lotheissen of Vienna demonstrated at a meeting of the local medical society, May 3, 2 patients with extensive gangrenous foci in the lungs on whom he had operated with success. He has operated for gangrene of the lungs in 19 cases during the last 4 years, the focus being as large as a fist or over in every instance. Lenhartz has operated in 60 cases during the last 7 years, but the foci were some of them much smaller than in any of Lotheissen's patients. In one of the latter's latest cases the patient was a woman of 33 who had recently passed through typhoid fever, abortion at the fourth month, and pneumonia. A gangrenous focus the size of one's fist was evacuated and tamponed after resection of ribs. Tubercle bacilli were found in the contents. A second focus required evacuation also a little later, but streptococci only were found in the pus. In the second patient the entire right lower lobe was gangrenous, and parts of the seventh to the tenth ribs were resected. The defect in the lungs healed over, although it proved impossible to fill out the cavity, but the patient's condition does not interfere with his work as a cabinet maker. He protects the parts with a zinc salve dressing. Lotheissen's mortality has been 40 per cent.; Lenhartz reported 37 per cent. In the Berlin hospitals, from 1897 to 1900, only 7 per cent. of the patients with gangrene of the lungs recovered. None of Lotheissen's mortality can be ascribed to the operation. It is always done under local anesthesia, and not until the focus has been certainly diagnosed and located.

Oxygen in Treatment of Suppurations.—A. Magi has been giving Thiriar's method of injecting oxygen a trial in septic affections and has become convinced of its great value. The surgeon has already adopted hydrogen dioxid, but the pure oxygen is free from the disadvantages of the water used in the solution of the latter, while it has all and more than its advantages. Magi describes his experiences in the *Policlinico*, xiv, 532, 1907. He used the oxygen first in a chronic suppurating fistula resulting from gaping of the wound after herniotomy. Oxygen was allowed to flow in and out of the fistula for four hours the first day, up to a maximum of fourteen hours by the fourth day. In less than two weeks the fistula had completely healed. The oxygen was also instrumental in rapidly healing a chronic suppuration in a suprapubic cystotomy wound, and also in the healing of the wound left from extirpation of a rectal cancer. Thiriar's announcement of the value of oxygen in septic affections, especially in gynecology, and his technic were summarized in the last volume of THE JOURNAL, page 1059, xlvii, 1906.

Crying as Sign of Syphilis in Infants.—Sisto and Gaing of Buenos Ayres relate a number of instances in which very young infants cried vigorously, constantly and persistently, and this was accepted by them as a sign of latent syphilis. This symptom appeared soon after birth, and they attribute it to pains in the bones and periosteum from irritation, similar to the pains in the bones of adults. As soon as systematic mercurial treatment was applied, the children ceased crying. In some cases it was the first and only sign of syphilis, but in others there were other signs or a suspicious family history. Filatow used to say that he had only to listen to an infant's cry to be able to exclude meningitis, pleuro-pneumonia and peritonitis, as with these the child's cry is rather a moan as it shrinks from the pain caused by deep inspirations, venous congestion and contraction of the abdominal walls. In colic and malarial neuralgia the child does not cry continuously. Their clinical experiences are related in the *Semana Med.*, xiv, 85, 1907.

Otitis Media in Infancy.—J. L. Morse, in the *Providence Medical Journal*, states that since there is so little characteristic about the symptomatology of otitis media in infancy, and since the symptoms are so misleading, this condition should be considered in every acute illness at this age and the ears examined. The only way to examine the ears satisfactorily, and to determine whether or not inflammation exists, is with a speculum. All other methods, he states, are incomplete and necessarily misleading.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

OHIO State Board of Medical Registration and Examination, Cleveland, Columbus and Cincinnati, June 10-12. Secretary, Dr. George H. Matson, Columbus.

SOUTH CAROLINA State Board of Medical Examiners, Columbia, June 11. Secretary, Dr. W. M. Lester, Columbia.

OKLAHOMA Board of Medical Examiners, Guthrie, June 11-12. Secretary, Dr. J. W. Baker, Enid.

KANSAS State Board of Medical Registration and Examination, Kansas City, Kansas, June 11-13. Secretary, Dr. F. P. Hatfield, Grenola.

IOWA State Board of Medical Examiners, Des Moines, June 11-13. Secretary, Dr. Louis A. Thomas, Des Moines.

MICHIGAN State Board of Registration in Medicine, Ann Arbor, June 11-13. Secretary, Dr. B. D. Harison, 205 Whitney Building, Detroit.

FLORIDA Homeopathic Board of Medical Examiners, Jacksonville, June 18. Secretary, Dr. C. W. Johnson, Jacksonville.

DELAWARE Board of Medical Examiners, Dover, June 18. Secretary of the Medical Council, Dr. P. W. Tomlinson, Wilmington.

DELAWARE Homeopathic Board of Medical Examiners, Wilmington, June 18. Secretary, Dr. C. M. Allmond, Wilmington.

NEW JERSEY State Board of Medical Examiners, State House, Trenton, June 18-19. Secretary, Dr. J. W. Bennett, Long Branch.

VIRGINIA State Medical Examining Board, Lynchburg, June 18-21 Secretary, Dr. R. S. Martin, Stuart.

WYOMING Board of Medical Examiners, State Capitol, Cheyenne, June 19. Secretary, Dr. S. B. Miller, Laramie.

MARYLAND Board of Medical Examiners, Baltimore, June 19-22. Secretary, Dr. J. McPherson Scott, Hagerstown.

PENNSYLVANIA State Board of Medical Examiners, 708 Locust Street, Philadelphia, and in Pittsburg Academy, Ross and Diamond Streets, Pittsburg, June 25-28. Secretary, Dr. Winters D. Hamaker, Meadville.

PENNSYLVANIA Homeopathic Board of Medical Examiners, N. W. Corner 15th and Cherry Streets, Philadelphia, June 25-28. Secretary, Dr. C. S. Middleton, 1523 Girard avenue, Philadelphia.

PENNSYLVANIA Eclectic Board of Medical Examiners, Harrisburg, June 25-28. Secretary, Dr. W. H. Blake, 2116 N. Marvine Street, Philadelphia.

TEXAS State Board of Medical Examiners, Austin, June 25-27. Secretary, Dr. T. T. Jackson, San Antonio.

Arkansas January Report.—Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, Jan. 8, 1907. The number of subjects examined in was 7; total number number of questions asked, 62; percentage required to pass, 75. The total number of candidates examined was 50, of whom 17 passed including 9 non-graduates, and 33 failed including 32 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Northwestern University	(1897)	75.
Illinois Med. Coll.	(1905)	75.1
Louisville Med. Coll.	(1904)	96.2
Missouri Med. Coll.	(1890)	75.
Meharry Med. Coll.	(1906)	75, 75.
University of the South	(1906)	75.
Beaumont Hosp. Med. Coll.	(1901)	85.4

LICENSED WITHOUT EXAMINATION.

There were also licensed at this examination six old practitioners who were granted license by reason of having been registered under old law. The following colleges were represented:

College.	Year of Grad.
Medical University of Ohio†	(1891)
Louisville Med. Coll.	(1883)
Memphis Hosp. Med. Coll.	(1894)
University of Nashville	(1861)
Gate City Med. Coll.	(1903)

FAILED.

College of P. and S., Dallas	*62.7

†A fraudulent institution.
*Year of graduation not given.

Illinois January Report.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, Jan. 16-18, 1907. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 36, of whom 31 passed, 4 failed and 1 did not complete the examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Howard University, Washington	(1906)	80
Illinois Med. Coll.	(1907)	78, 84
National Med. University, Chicago	(1907)	79
Northwestern University	(1889) 79; (1904)	78
College of P. & S., Chicago	(1899) 79; (1905)	84, 86
Rush Med. Coll.	(1896) 81; (1903) 85; (1904) 85; (1906) 79, 83, 85, 86, 88,	90
Keokuk Med. Coll.	(1894)	83
Tufts Coll. Med. School	(1900)	79
Washington University, St. Louis	(1904)	80
College of P. & S., St. Louis	(1895) 81; (1906)	75
Cornell University	(1904)	82
College of P. & S., New York	(1905)	86
Jefferson Med. Coll.	(1900) 79; (1906)	76
Laval University, Quebec, Can.	(1896)	76
Imperial University, Kieff, Russia	(1896)	78
Royal University, Naples, Italy	(1905)	84
Royal University, Siena, Italy	(1898)	81

FAILED.

College.	Year Grad.	Per Cent.
Hahnemann Med. Coll., Chicago	(2, 1906)	..
Illinois Med. Coll.	(1906)	..
College of P. & S., Chicago	(1906)	..

Wisconsin January Report.—Dr. J. V. Stevens, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Milwaukee, Jan. 8-10, 1907. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 18, of whom 13 passed, including 2 osteopaths, and 5 were conditioned, including 1 osteopath. Twenty-nine reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per cent.
University of California	(1897)	80.
College of P. & S., Chicago	(1906)	87.
Rush Med. Coll.	(1904) 84; (1905)	82.
American Med. Miss. Coll	(1900)	85.
Northwestern University	(1895)	79.
University of Minnesota	(1904)	87.
University of Pennsylvania	(1904) 87; (1905)	89.
Jefferson Med. Coll.	(1906)	87.
Milwaukee Med. Coll.	(1906)	79.
CONDITIONED.*		
College of P. & S., Chicago	(1906)	78.
Illinois Med. Coll.	(1906) 75.5; (1907)	77.7
Wisconsin College of P. & S.	(1906)	79.

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Am. Coll. of Med. & Surg., Chicago.	(1905) (2, 1906)	Illinois.
Northwestern Univ..	(1900) (1903) (2, 1905) (1906)	Illinois.
Northwestern Univ. Woman's Med. School..	(1899)	Illinois.
College of P. & S., Chicago	(2, 1905)	Illinois.
Hahnemann Med. Coll., Chicago	(1905)	Illinois.
Rush Med. Coll. (1888) So. Dakota;	(1894) (1902)	Minnesota.
Keokuk Med. Coll.	(1894)	Iowa.
University of Michigan	(1892) (1905)	Michigan.
Michigan Coll. of Med. & Surg	(1882)	Iowa.
University of Minnesota	(1895) (1904)	Minnesota.
Barnes Med. Coll.	(1906)	Illinois.
Homeopathic Med. Coll. of Missouri	(1904)	Illinois.
St. Louis University	(1906)	Illinois.
Cincinnati Coll. of Med. & Surg.	(1901)	Ohio.
Royal University of Turin, Italy	(1895)	Michigan.
Trinity Med. Coll., Ontario	(1883)	Michigan.
Toronto School of Medicine, Ontario	(1899)	Illinois.
Frederick-Alexanders University, Erlangen, Germany	(1869)	Kansas.

*Fell below 60 per cent. in one or more subjects.

Kentucky April Report.—Dr. J. N. McCormack, secretary of the State Board of Health of Kentucky, reports the written examination held at Louisville, April 23-24, 1907. The number of subjects examined in was 11; percentage required to pass, 70 and not less than 60 in any branch. The total number of candidates examined was 9, of whom 5 passed and 4 failed, including 2 osteopaths. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Hospital Coll. of Medicine, Louisville	(1902)	75.7
Johns Hopkins Med. School	(1905) 82; (1906)	78.4
University of Michigan	(1904)	89.1
Miami Med. Coll.	(1906)	86.5

FAILED.

College.	Year Grad.	Per Cent.
University of Nashville	(1903)	40.6
Meharry Med. Coll.	(1907)	63.4

Montana April Report.—Dr. W. C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written examination held at Helena, April 2-4, 1907. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 25, of whom 20 passed and 5 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent
Chicago Homeo. Med. Coll.	(1904)	84.4
College of P. and S., Chicago	(1903)	87.7
American Med. Miss. Coll.	(1903) 82.9; (1905)	76.5
Rush Med. Coll.	(1898)	81.3
Northwestern University	(1906)	75.5
University of Maryland	(1901)	76.2
College of P. and S., Baltimore	(1891)	75.
Detroit College of Med.	(1904)	76.7
University of Minnesota	(1904) 75, 81; (1905)	82.3
Minneapolis Coll. of P. and S.	(1897)	75.
Missouri Med. Coll.	(1884) 75.7; (1898)	79.6
Beaumont Hosp. Med Coll.	(1905)	75.
Creighton Med. Coll.	(1906)	75.6
Jefferson Med. Coll.	(1905) 82, 89.1; (1906)	77.6
FAILED.		
Hahnemann Med. Coll., Chicago	(1905)	65.3
Louisville Med. Coll.	(1904)	65.8
Marion Sims Coll. of Med., St. Louis	(1895)	62.4
Albany Med. Coll.	(1899)	72.2
Laval University, Quebec	(1902)	52.8

Rhode Island April Report.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 4-5, 1907. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. Total number of candidates examined was 9, of whom 3 passed and 6 failed, including 2 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
College of P. and S., Boston	(1906)	75.1
Boston University	(1907)	84.2
Queen's College, Ireland	(1892)	76.3
FAILED.		
Baltimore University	(1904) 61.9; (1906)	64.4
Laval University, Quebec	(1905)	62.6, 65.

West Virginia April Report.—Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written and oral examination held at Wheeling, April 9-11, 1907. The number of subjects examined in was 9; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 9, of whom 6 passed and 3 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Kentucky School of Med.	(1906)	82, 88.
Hospital College of Medicine, Louisville	(1906)	93.
Western Pennsylvania Med. Coll.	(1906)	95.
Jefferson Med. Coll.	(1906)	90.
Chattanooga Med. Coll.	(1906)	87.

FAILED.

College.	Year Grad.
Kentucky School of Med	(1905)*
Baltimore University	(1900)*
Medical Coll. of Virginia	(1906)*

*Percentage not given.

Utah April Report.—Dr. R. W. Fisher, secretary of the State Board of Medical Examiners, reports the written examination held at Salt Lake City, April 1, 1907. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 7, all of whom passed. The following colleges were represented:

PASSED.

College.	Year of Graduation.	Anatomy.	Surgery.	Histology, Med. Jurisprudence & Bacteriology.	Chemistry.	Materia Medica.	Obstetrics and Gynecology.	Pathology, Practice and Pediatrics.	Physiology and Hygiene.	Average.
Colo. Sch. of Med...	(1904)	86	77	77	85	90	87	92	90	85.5
Geo. Washn. Univ..	(1906)	92	85	87	100	85	88	86	90	89.
Coll. of P.&S.,Chi..	(1906)	87	78	66	85	75	80	90	75	79.5
Univ. of Mich.....	(1906)	90	88	76	85	85	85	88	100	87.1
Hahn. M. C., K. C.	(1901)	70	75	81	75	84	65	95	75	77.5
K. C. Homeo. M. C.	(1896)	88	80	81	75	95	85	91	85	85.
Dartmouth M. Coll.	(1880)	85	76	74	60	90	85	85	75	78.7

Book Notices

Tropical Medicine, with Special Reference to the West Indies, Central America, Hawaii and the Philippines, Including a General Consideration of Tropical Hygiene. By T. W. Jackson, M.D., Lecturer on Tropical Medicine, Jefferson Medical College, Philadelphia. Cloth. Pp. 536. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co., 1907.

Especial attention is given in this book, which we believe is the first American book on the subject, to the diseases peculiar to the tropical lands under the flag of the United States. Credit is given to American physicians for the large amount of work which they have done in studying them. The subject of tropical medicine is of interest to all physicians who wish to keep abreast of the progress of medicine, for it is in this field that many of the most recent and most interesting discoveries have been made. Moreover, it is of interest, for certain of these diseases are likely at any time to be brought to our own shores and those living in the large seaports must be on the watch for such importations. Even in the center of our continent we have seen several of these, to us, rare diseases, among sailors, soldiers and the families of missionaries. The first chapter is devoted to personal hygiene and measures for preventing infection. The first of the diseases considered is cholera. This, though not confined to the tropics, finds its most permanent home in tropical Asia and the islands of the Pacific. The subject is considered in detail, but is made more interesting by contributions from the author's own experience. He tells how the disease was first brought to his station thirty miles from Manila by natives constituting the crew of a boat which brought forage for the government animals. Two deaths occurred in this boat while at anchor in the bay; however, by destroying the bodies of the dead and by careful supervision of those exposed to the disease, it was kept from spreading. The author, when discussing immunization against cholera, relates his experience while on the transport Sherman at Nagasaki, Japan. The ship was bringing to this country Americans, mostly soldiers, who were invalids, many of them suffering severely from chronic illness. Among them cholera appeared when about forty-eight hours from Nagasaki. Ten cases developed, all of the patients contracting the disease on shipboard. Eighty-five persons received immunizing inoculations and none of them contracted the disease. At the end of this chapter, as at the end of most of the others devoted to the consideration of a disease, several pages are given to a description of laboratory methods of detecting and identifying the causative organism.

It is impossible to consider in this review each chapter, or even the most important. Thirty-five pages are filled with an interesting description of plague. Tropical dysentery is one of the diseases to a knowledge of which American physicians have contributed much, and full credit is given them, though our indebtedness to Lamble and Lösch and other Europeans is fully acknowledged. Emphasis is laid on the existence of afebrile malaria. That it does exist is overlooked or forgotten by most practitioners. As a matter of fact the disease often pursues an afebrile course or is latent. This must be remembered if we are to check its spread. Yellow fever interests practitioners in the United States almost as much as does malaria. The book brings together the dissociated knowledge regarding this disease which has appeared in current medical literature during the last two decades. The second part is devoted to animal parasites such as ankylostoma, filariasis, trypanosomes, bilharzia and intestinal and liver worms. Part three is something of a hodge-podge and includes what the author calls undetermined diseases or those of uncertain origin. A few of the diseases included in this part might better appear in an earlier one, as for instance febrile tropic splenomegaly or dumdum fever, the cause of which is sufficiently established. A classification, which makes a scrap basket into which are dropped various essentially unrelated diseases, is not satisfactory.

The book contains numerous illustrations, almost all of which are new and fairly satisfactory. Many are reproductions of photographs and while interesting are lacking in that technical perfection which a better photographer might have given them. The book is clearly and simply written and is interesting, and its teaching is practical.

A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M.D., LL.D., Clinical Professor of Otology in the Medico-Chirurgical College, etc. Illustrated. Leather. Pp. 556. Price, $2.50 net. Philadelphia and London: W. B. Saunders Co., 1907.

This is a desirable handbook of diseases of the nose, throat and ear, for the use of students and practitioners. In order that the student may have the necessary information at hand the essentials of anatomy are included. The various methods of examination are described and particular attention is given to the descriptions of the manipulations needed in local treatment including the minor operations. Special attention is given to treatment, the directions for which are explicit and detailed, the methods being simplified as much as possible only those being advised which have proved, in the author's experience, essential to the accomplishment of the desired result. The book is illustrated by 262 engravings, a considerable proportion being original or drawn from dissections made by the author.

It is to be regretted that one meets in the text and especially in the collection of formulas at the end, reference to a considerable number of proprietary remedies, some of which are of the typical nostrum order. An ingenious excuse is given for the use of such proprietaries in place of such official preparations as Dobell's solution: "Both Dobell's solution and the wash should be compounded at least three or four days before being used. For this reason it is sometimes convenient to prescribe one of the following proprietary preparations." A poor excuse—any competent pharmacist can make Dobell's solution, and keep it in stock, or he can obtain it from any wholesale drug house.

We are prepared to overlook the occasional reference to proprietary remedies by a clinical teacher, if he knows of nothing beter, for in impromptu speaking, they have no time to consult standard works, but for a college professor and the writer of a text-book deliberately to introduce into his book recommendations of remedies of whose composition he has no accurate knowledge seems to amount to a confession of incompetency to deal with the subject undertaken. The recommendation of such nostrums as listerine, glycothymoline, thymozone, euzone lignol, balsamol, respirol, etc., in what is intended to be a standard text-book is certainly deplorable.

Text-Book of Psychiatry. A Psychologic Study of Insanity for Practitioners and Students. By Dr. E. Mendel, A. O. Professor in the University of Berlin. Authorized Translation Edited and Enlarged by William C. Krauss, M.D., Buffalo, N. Y., Neurologist to Buffalo General Hospital. Cloth. Pp. 311. Price, $2.00 net. Philadelphia: F. A. Davis Company, 1907.

This translation of Professor Mendel's work on insanity is a welcome addition to our rapidly growing literature on the subject. The author has long held a high rank and his views carry weight. The plan of the work fits it to be a student's handbook for the clinics, to enable him to interpret what he can observe in actual experience in his studies of insanity. Professor Mendel does not follow in all respects the views of the predominant German school of the day, but his conservatism is based on experience, and we do not think it altogether a drawback to the usefulness of the work. His classification of the psychoses may not be wholly free from objection, but it will enable the physician to diagnose most cases and to obtain a somewhat better understanding of the clinical significance of isolated cases. He thinks that the rather too comprehensive groupings of the present day tend to a slovenly method of study and diagnosis.

As might be expected, the larger portion of Professor Mendel's text-book is devoted to the general subject of insanity and somewhat less than half to the special forms, their characteristics, treatment, etc. In this first portion the symptomatology, both the psychic and physical, is very thoroughly handled, especially the former. Some of the matter here has been added by the translator, on the whole to the enhancement of the value of the work. The subjects are concisely treated throughout. The special part of the work contains brief but good descriptions of the various forms of mental disease, much having been already given in the general section on symptomatology, treatment, etc. A few points may be specially noted. Professor Mendel credits at least 1 per cent. of all cases of insanity directly to alcohol—a considerably higher figure than is usually accepted in this country, though the importance of alcohol as an accessory factor is generally recognized. His recommendation of a dose of 3, 4 or 5 grams of chloral seems to us a little large, even in acute alcoholism.

Dr. Krauss, the translator, has given us a very good English rendering of the German text, and added to its value by his numerous well-chosen additions, which are indicated by brackets. We should be inclined to look for a considerable popularity of the translation as a text-book on insanity in this country.

Surgical Diagnosis, by Daniel N. Eisendrath, A.B., M.D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois, College of Physicians and Surgeons. Illustrated, partly in colors. Cloth. Pp. 776. Price, $6.50 net. Philadelphia and London: W. B. Saunders Co., 1907.

On examination of this work one is immediately impressed with the abundance of illustrations; there are pictures to illustrate almost every possible method and phase of surgical diagnosis and condition. The fact that some of the pictures are introduced simply to show the position of the patient and physician in certain examinations indicates a characteristic feature of the book, viz., the minute attention to detail. For such a book this is commendable. Not only is the student told what to do, but an attempt is made to show him just how to do it. The arrangement of the various affections is a clinical one, the injuries of the various regions being taken in order, beginning with the head and ending with the extremities, after which diseases and injuries of the spine are considered. A chapter on postoperative complications is added and the book closes with a chapter on methods of examination which includes examination of the blood and some of the newer methods of testing the renal functions. These subjects have been separately treated by others; that on the blood by Dr. D. L. Schram, and the section on cryoscopy, etc., by Dr. Gustav Kolischer. Throughout, the arrangement of the topics is systematic and the variation of type and the introduction of numerous tables serve to bring the distinguishing marks of the various conditions clearly before the reader. The book will be found of great practical value even to those who are not doing surgical work. In fact, these will find it of as much, if not more, value than will the specialist in surgery. Much of value in a book is often lost because it is hidden away. Such loss is avoided by a complete index. In this book the index is very complete, occupying twenty-six pages. The work is to be commended in that it presents in a complete and practical way a subject that is too much neglected in the general text-book on surgery.

Immediate Care of the Injured. By A. S. Morrow, A.B., M.D., Attending Surgeon to the Workhouse Hospital, and to the New York City Home for the Aged and Infirm. Fully illustrated. Cloth. Pp. 340. Price, $2.50 net. Philadelphia: W. B. Saunders Company, 1906.

According to the preface an endeavor has been made "to prepare a book that would be useful alike to physicians, nurses and laymen, and at the same time serve as a text-book for the use of first-aid classes." Part I gives an outline of human anatomy and physiology well adapted to the educational needs of nurses and the laity. Part II, devoted to bandages, dressings and disinfection discusses these subjects in a style quite too technical for the layman, but useful as a reminder to the interne or general practitioner. Part III, the practical section of the volume, is clearly written and covers well the subject of the immediate care of cases of accident, injury or poisoning. The methods of lifting and transporting sick or injured persons are well set forth in the concluding chapter. Although a large amount of useful information is to be found in this book we think it hardly comes up to the ideal set forth in the preface, inasmuch as the author has failed to make clear what may be done by the intelligent layman in cases of accident or injury, and what in such cases should be undertaken only by the physician.

Essays in Pastoral Medicine. By A. O'Malley, M.D., Ph.D., LL.D., Pathologist and Ophthalmologist to Saint Agnes' Hospital, Philadelphia, and J. J. Walsh, M.D., Pb.D., LL.D., Adjunct Professor of Medicine at the New York Polyclinic School for Graduates in Medicine, etc. Cloth. Pp. 363. Price, $2.50, net. New York: Longmans, Green & Co. 1906.

The field of this work comprises the moral relations of various medical conditions that may arise in the practice of the physician, such as sudden death, infectious diseases, premature labor, ectopic gestation and mental disease. Many of the points discussed are of special interest to Catholic physicians and those who deal with Catholic patients, for example, baptism of the fetus in operating for extrauterine pregnancy. On some of these points there is not a great deal written, and whether or not the reader agrees with the authors in all points, he will appreciate this çompilation of essays and be glad of the full discussion here presented.

Practitioner's Handbook of Materia Medica and Therapeutics. Based on Physiologic Actions and the Indications in Small Doses, to Which Is Added Some Pharmaceutical Data. By Thos. S. Blair, M.D., Member Visiting Staff of Harrisburg City Hospital, etc. Cloth. Pp. 253. Price, $2.00 net. Philadelphia: The Medical Council.

The practical physician may wish to know what valuable facts are hidden in the mass of observations of so-called sectarian medicine and may wonder whether or not—by confining himself to his "regular" reading—he is missing something which he ought to know for the good of himself and his patrons. To such a one the reading of this book must be a satisfaction. The author has explored the sectarian fields with no unfriendly spirit and has made of his findings a sort of composite therapeutics by taking what he considers good from each school.

A Manual of Midwifery. By Thomas Watts Eden, M.D., C.M., Edin., F.R.C.P., Assistant Obstetric Physician and Lecturer on Practical Midwifery, Charing Cross Hospital, etc. With 26 Plates and 233 Illustrations in the Text. Cloth. Pp. 518. Price, $4.20. Philadelphia: P. Blakiston's Son & Co., 1906.

The author has given due consideration to those subjects which are of practical value to the obstetrician and omitted non-essential and collateral subjects. The manual is not intended for specialists, but for students and general practitioners. The work has been well done, recent advances in the study of ovum development, the pathology of pregnancy and the management of labor being incorporated.

This Labyrinthine Life. A Tale of the Arizona Desert. By George Alexander Fischer, author of Beethoven: A Character Study. Cloth. Pp. 382. Price, $1.20. New York: B. W. Dodge & Co.; Chicago: A. C. McClurg & Co., 1907.

Any work intended to help in the prevention or cure of a disease which so ravages the world as does tuberculosis should be welcome, but this book has little literary merit to commend it. It is an alleged novel, the scene of which is in Arizona, in the colony of consumptives, and the questions of the fresh air and desert treatment are sandwiched in between the ordinary stories of western life, made familiar to the world by Bret Harte and others.

Medical Diagnosis. A Manual of Clinical Methods for Practitioners and Students. Fifth Edition. Enlarged and Revised., by J. J. Graham Brown, M.D., F.R.C.P.E., F.R.S.E., Assistant Physician, Royal Infirmary of Edinburgh, and W. T. Ritchie, M.D., F.R.C.P.E., F.R.S.E., Clinical Assistant Pathologist, Royal Infirmary of Edinburgh, with 200 Illustrations Cloth. Pp. 508. Price, $3.00. New York: Imperial Publishing Company, Edinburgh and London: Willian Green & Sons, 1907.

This handy volume contains a succinct, accurate and reasonably complete account of the methods of clinical diagnosis. The present edition has been revised and considerable additions made. The work is well illustrated.

A Text-Book of Obstetrics. By B. C. Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania, etc. Fifth edition, revised and enlarged. Cloth. Pp. 915. Price, $5.00 net. Philadelphia: W. B. Saunders Company, 1906.

The fifth edition of Professor Hirst's popular text-book has been revised in accordance with the latest advances in obstetric science. It still retains the clear and concise style and practical character which make it so valuable to the medical student and practitioner.

Minor and Operative Surgery, Including Bandaging. By H. R. Wharton, M.D. Sixth Edition, with 532 Illustrations. Cloth. Pp. 650. Price, $3.00 net. Philadelphia: Lea Bros. & Co., 1905.

For this sixth edition the text has been reviewed in accord with the advance of surgery, and the book includes all except distinctively capital surgery. The descriptions are concise, the illustrations clear.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

The Physician and the Association, as Seen by the Country Doctor.

Under the above heading, Dr. J. B. Norman, California, Mo., discussed several interesting questions before the Moniteau County Medical Society. Dr. Norman said in part:

> Each member should strive to raise the standard of ethics to such a plane that it may be apparent to every intelligent layman. I have not advertised my cures in the lay press, but what have I said to that man or this woman that has led him or her to believe in my superior ability and to discount the professional skill of my competitors? Was it strictly true? Was it ethical? Was it manly? Was the last case as bad as I represented it to be? Was the last recovery as marvelous as I led the patient to believe? Have I fostered ignorant superstitions and traditions to conceal my own ignorance or to enhance the greatness of my cures? Have I pretended to do more with my instruments and appliances than I know can be done? Have I given my money or my influence to push the sale of any nostrum? Have I taken a patient from a colleague? Have I, by word or deed, discredited the diagnosis, treatment or professional skill of any reputable physician? Have I bid for the business of my associates by making lower charges or by offering to make lower charges than they?

THE MEDICAL JOURNAL.

After asking these pertinent questions, Dr. Norman takes up the matter of journals. He says:

> It seems strange that physicians will continue to be gulled by a certain journal published in this state whose chief object of existence is to promote the sale of the various proprietary preparations and nostrums in which the editor of the journal has a material interest. So palpably does this appear in its pages that we can only wonder at the gullibility of man. What is true of this particular journal is true in a lesser degree of all trade journals. As a profession, we have it in our power to banish from all medical journals and from many lay journals and papers the obnoxious proprietary, "patent medicine" and fake cure advertisements.

THE CITY PHYSICIAN VS. THE COUNTRY PHYSICIAN.

On questions relating to the interior affairs of the organization, Dr. Norman has equally positive views and expresses them with the same forcefulness. Regarding the relative influence of the country and the city physician in the state association, he says:

> The city physician, who in almost all cases is a specialist [This is hardly true; perhaps Dr. Norman means that the city physician who habitually attends the state meetings is frequently a specialist] looks to the country doctor for a large percentage of his cases. He reads a learned paper on some abstruse and unheard-of subject, designed to impress his hearers with his deep erudition, vast experience and peerless skill. He patronizingly shakes the hand of the country doctors whom he meets, and when some general practitioner reads a paper on typhoid fever or some equally vulgar subject, he very kindly walks out into the hall and smokes a cigar or holds a conversation with some friend in the rear of the audience. To him, the annual meeting is a seed time, and he does not fail to attend and read his paper. The country doctor, less polished but often more resourceful, who has successfully fought the battle alone, can teach us many things that the city physician with all his polish knows not of. If our association is to be a real state association there ought to be and there must be a larger percentage of country doctors on the program of our annual meeting. When we cease to worship the city physician as a human God, because he is from the city, and cease to regard the country physician as a fool, because he is from the country, we will be in a fair way to a more perfect organization.

Dr. McCormack's Work in Alabama.

In an editorial in the February number of the *Mobile Medical and Surgical Journal* is the following endorsement of Dr. McCormack and his work in Alabama:

"The recent visit of Dr. J. N. McCormack to Alabama and his conferences with the profession are likely to result in great benefit to organized medicine in reviving the *esprit du corps* and in creating correct conceptions as to the value of effective organization. His addresses to the laity were felicitous and made a pronounced impression on all who were fortunate enough to hear him. His exceptionally enthusiastic feeling made a deep impression and opened the eyes of many who had previously given the subject but passing thought. The work to which he has devoted himself is a great and admirable one and should receive the endorsement and active cooperation of every member of the profession. His advocacy of the establishment by each county society of a postgraduate course of study met with ready endorsement by the societies before which he spoke. If carried out in an intelligent manner there can be no doubt that such a plan will greatly increase the interest in society work. There has heretofore been too much adherence to the belief that the functions of the county medical societies in Alabama are entirely legal, hence scientific work has been subordinated. Now, however, in accordance with Dr. McCormack's recommendations, they can be made a power for good in advancing professional and scientific attainments for their members."

Insurance.

MASSACHUSETTS.

The Essex North District Medical Society at its meeting, held in Lawrence, May 1, adopted the Kentucky resolutions, each of its members agreeing not to make insurance examinations for less than $5.

WEST VIRGINIA.

The Barbour-Randolph-Tucker County Medical Society has requested all physicians within the district to refuse to make examinations for old-line companies for less than $5. The action of the society is advisory and not mandatory, but the society strongly recommends that members adhere to this agreement.

MARYLAND.

At the January meeting of the Baltimore County Medical Society a resolution was adopted rejecting the proposed reduction of life insurance examination fees and asking for an expression of opinion from the physicians of the county on this point. At the May meeting of the society a committee, appointed to consider the matter, made the following report: A letter and postal card setting forth the decision of the society was sent to 105 members of the medical profession in Baltimore County. Replies have been received from 82 physicians, all of whom heartily endorse the action of the society. The committee recommends that its report, together with a copy of the circular letter, be sent to each of the medical societies of the state, also to the medical directors of each of the insurance companies which have reduced their examination fees.

MISSOURI.

At the last regular meeting of the Moberly County Medical Society this organization, which is composed of all the practicing physicians in the city, adopted resolutions providing that in the future 50 cents will be charged for an inspection of candidates seeking insurance in the Prudential and Metropolitan insurance companies. Heretofore the maximum rate has been 25 cents. The Moberly physicians can certainly not be accused of extortion in making this demand.

IOWA.

Dr. C. A. Boice, councilor of the first district of the State Medical Society, reports that six of the seven counties in his district, namely, Lee, Henry, Jefferson, Washington, Des Moines and Van Buren, have adopted the Kentucky resolutions regarding life insurance fees and have also requested the Iowa State Medical Society to take action in the matter.

RHODE ISLAND.

Some time ago attention was called to the action of the Westerly Physicians' Association and the adoption of resolutions regarding lodge and contract practice. A letter recently received from Dr. W. A. Hillard, the secretary, says: "At the time these resolutions were adopted there were 14 physicians located in Westerly. Each one of them signed the resolutions. This action went into effect April 1, 1907. Since that time no lodge or contract work has been done in Westerly. No physician has broken his agreement."

The Parents' League.

Hoeflmayr writes to the *Deutsche med. Wochschr.* describing the organization of a new society at Munich. Its object is to promote the cooperation of the parents and physicians with the school authorities for the solving of many problems of hygiene and psychology of importance to school children. One of the aims of the society is to have one or more representatives of the parents on the board of education; another is to enlighten parents on questions involving the welfare of their children. Hoeflmayr remarks that the theoretical ideals of the medical societies can in time be realized in practice by cooperation such as is offered by this organization. The successful realization of these ideals in daily life will earn for the profession the gratitude of ever widening circles. He adds in conclusion: "The time has passed for physicians to work in silence and in modest retirement. It has become now an imperative necessity for the physician to take part in sociopolitical affairs, maintaining always his peculiar position among the other professions and callings on account of his scientific training. If the physician, besides all this, takes an active part in the improvement of the methods of educating and training the young, and makes his influence felt in this most important of all domains, he will have made notable progress toward becoming what he should be, the leader and guide of the people." The Parents' League was founded by a prominent physician and was warmly welcomed by the better class of parents and endorsed by the press, both in Munich and elsewhere.

Preliminary Education of Nurses—and Physicians.

The North Carolina legislature has passed an act providing for the examination and registration of trained nurses. An examining board is established to examine all applicants of good moral character, who are more than twenty-one years of age, who have received the equivalent of a high-school education and who have graduated from a training school connected with a general hospital or sanitarium where three years training in nursing is given. Examinations are held on the elements of anatomy, physiology and materia medica and also on medical, surgical, obstetric and practical nursing, invalid cookery and hygiene. The board is empowered to issue a license without examination if it deems it advisable.

The *Charlotte Medical Journal*, commenting on this bill and on the refusal of the state legislature to pass the medical practice bill asked for by the profession of the state, says:

> As a sample of stupendous inconsistency, we have rarely seen anything that approaches the attitude of the legislature toward two professions so closely allied. The senate bill to raise the standard of preliminary qualifications of medical applicants required that those who desire to obtain a license to practice medicine in this state should have received the equivalent of a high school education, yet the rulers of our commonwealth oppose a law which will give them better doctors while they pass a bill requiring nurses to be more highly educated than physicians.

Quacks Organize.

The Independent Medical Association is the latest. It includes the advertising specialists whose medical advertisements have been eliminated from the New York newspapers through the efforts of the New York County Medical Society. The members of this association state that their object is the "protection and preservation of their inalienable right to the freedom of the press." It is further stated that "to defray expenses which would be incurred by fighting such legislation, membership dues are fixed at $10 per year." The last statement is noteworthy. If membership in such an association, organized for such purposes, is considered worth $10 a year to the members, how much ought membership to be worth in his county, state and national association, with all that it means and brings, to the honorable and ethical physician?

Marriages

Peter A. Jordan, M.D. to Miss Ida Beermaker, both of San José, Cal., May 20.

Henry Dwight Chapin, M.D., New York City, to Miss Alice Delafield of Chicago, June 1.

John D. Garrett, M.D. Indianapolis, Ind., to Miss Mary Pierson of Spencer, Ind., June 4.

A. Warner Shepard, M.D., to Miss Mary Sniffen Myers, both of Brooklyn, N. Y., May 29.

Fenton L. Adams, M.D., Vanceburg, Ky., to Miss Evelyn Crady of Nelsonville, Ky., May 22.

Edward T. Jaynes, M.D., New Hartford, Iowa, to Miss Mabel Ferguson, at New Hartford, May 19.

Robert Bennett Bean, M.D., Ann Arbor, Mich., to Miss Adelaide Leiper Martin, at Baltimore, May 22.

Andrew Young, M.D., Glasgow, Scotland, to Charlotte Murdoch, M.D., of Baltimore, at Shanghai, China, April 5.

Charles E. Sexton, M.D., Perkins, Okla., to Miss Cummins of Arkansas City, Kan., at Winfield, Kan., May 15.

Harry William Vickers, M.D., Little Falls, N. Y., to Miss Susan J. Sullender of Eagle Rock, Va., at Saratoga Springs, N. Y., May 17.

Deaths

Clarence Tripp Gardner, M.D. Harvard University Medical School, Boston, 1866; a member of the American Medical Association; consulting surgeon to St. Joseph's Hospital, Providence, R. I., and to the Providence Lying-in Hospital; first lieutenant of infantry and later assistant surgeon in the Twenty-fifth Army Corps during the Civil War; for 40 years a practitioner of Providence, R. I., died at his summer home in Seaconnet, R. I., May 23, from kidney disease, after an illness of several months, aged 62.

Edward R. O'Reilly, M.D. New York University Medical College, New York City, 1882; a member of the Medical Society of the State of New Jersey and Union County Medical Society; advisory surgeon of the Metropolitan Traction Company, New York City, and for 14 years a member of the New Jersey State Board of Health; formerly physician of the city of Elizabeth and Union County, died at his home in Elizabeth, May 28, after an operation for appendicitis, aged 45.

Guy Davenport Lombard, M.D. New York University Medical College, New York City, 1896; a member of the American Medical Association; for several years secretary of the New York State Medical Association; a member of the New York County Medical Association, Bellevue Hospital Alumni Association and Association of American Anatomists; instructor in histology, Cornell University Medical College, died at his home in New York City, May 22, aged 34.

Henry W. Carpenter, M.D. New York University Medical College, New York City, 1858; a member of the medical societies of the State of New York and Madison County; for three years surgeon during the Civil War; formerly president and trustee of the village of Oneida; a member of the Assembly and coroner of Madison County, visiting physician at the Oneida Hospital, died at his home in that place, May 19, after a long illness, aged 72.

James Ross, M.D., C.M. McGill University Medical Faculty, Montreal, 1881; member of the College of Physicians and Surgeons, Ontario, 1882; L.R.C.P. London, 1881; surgeon-lieutenant-colonel of the Seventy-seventh Canadian Regiment and a practitioner of Dundas, Ont., for 25 years, died at his home in that city, May 21, from pneumonia, after a short illness, aged 53.

William N. Moore, M.D. Louisville (Ky.) Medical College, 1885; for five years physician of the Round Valley Indian Reservation; medical superintendent of the Ukiah (Cal.) Hospital and Sanitarium; for eight years physician of Mendocino County, died at his home in Ukiah, from brain disease, after an illness of about two years, May 15, aged 49.

Peter Achille Anaclet Collet, M.D. Laval University, Medical Department, Quebec, 1871; a member of the board of health of Fall River, Mass., and at one time city physician; a member of the medical staff of the Emergency Hospital, Union Hospital and Seaside Home for Children, died at his home in Fall River, May 22, after a lingering illness, aged 60.

Amassa Mortimer Bucknum, M.D. Vermont Academy of Medicine, Castleton (Castleton Medical College), 1849; for 27 years a practitioner of Denver, and for eight years a member of the staff of St. Luke's Hospital, died at his home in that city, May 25, from pneumonia, consequent on an injury recently received in a tramway accident, April 30.

George E. Dennis, M.D. Hahnemann Medical College and Hospital of Chicago, 1883; a veteran of the Civil War; coroner of Chippewa County, Minn., in 1883, and of Hennepin County in 1896, and a practitioner of Minneapolis for 23 years, died at St. Barnabas Hospital, St. Paul, from malignant disease, May 22, after a long illness, aged 67.

Dana Warren Hartshorn, M.D. Harvard University Medical School, Boston, 1854; chief medical officer on the staff of General Sherman during the Civil War; dean and for 20 years professor of surgery in Pulte Medical College, Cincinnati, died at his home in Avondale, Cincinnati, May 23, from cerebral hemorhage, aged 80.

Y. H. Morgan, M.D. Atlanta (Ga.) Medical College, 1868; a member of the Medical Association of Georgia and Pulaski County Medical Society; a Confederate veteran; twice member of the legislature, and for several years mayor of Cochran, Ga., died at his home in that place, May 19, from cerebral hemorrhage.

Daniel E. McSweeney, M.D. College of Physicians and Surgeons in the City of New York, 1864; a member of the medical societies of the State and County of New York; commissioner of education of New York City for two terms; died at his home May 20, from disease of the stomach, aged 65.

Mary J. Crosby, M.D. Northwestern University Women's Medical School, Chicago, 1901; of Chicago; associate obstetrician at Mary Thompson Hospital, is reported to have committed suicide, while mentally deranged, by throwing herself into Lake Superior at Duluth, Minn., May 25, aged 40.

Frederick William Lewis, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1878; of Orangeville, Ont.; member of the legislative assembly from Dufferin County, died suddenly from heart disease, in Toronto, May 24, aged 52.

Charles Swope Barnitz, M.D. Pennsylvania Medical College, Gettysburg, 1853; one of the deputy state supervisors of elections of Ohio, and a well-known practitioner of Butler County, died at his home in Middletown, January 12, from angina pectoris, after an illness of two weeks, aged 76.

Charles Henry Andrew Stelling, M.D. University of Iowa, College of Medicine Iowa City, 1905; house physician at the University Hospital, 1905 and 1906; of Wheatland, Iowa, died at the University Hospital, Iowa City, May 20, two days after an operation for peritonitis, aged 23.

William H. Botts (Years of Practice, Ky.) 1893; for fifty-four years a practitioner of Kentucky; assistant surgeon of the Ninth Kentucky Volunteer Infantry during the Civil War, died at his home in Bagdad, Ky., May 15, a week after a fall in which he fractured his hip, aged 75.

Samuel S. Hoop, M.D. University of Tennessee, Medical Department, Nashville, 1901; of Andover, Pa.; a member of the Medical Society of the State of Pennsylvania and Fulton County Medical Society, is reported to have been shot and killed near Saluvia, Pa., May 25, aged 45.

Carlos Archie Allen, M.D. Barnes Medical College, St. Louis, 1896; a member of the American Medical Association; local surgeon of the Chicago & Alton Railway at Virden, Ill., died at his home in that city, May 23, from Hodgkin's disease, after an illness of six months, aged 40.

Stevenson W. Turpin, M.D. Medical Department of the University of Louisiana, New Orleans, 1861; surgeon throughout the Civil War in the Confederate service, and at its close staff surgeon for Gen. Stephen D. Lee, died at his home in Lettsworth, La., April 13, aged 69.

Charles Enrique Smith, M.D. Bellevue Hospital Medical College, New York City, 1887; for two terms city physician of Waco, Texas; a member of the State Medical Association of Texas and McLennan County Medical Society, died at his home in Waco, May 17, aged 44.

David P. Leclair, M.D. American Eclectic Medical College of Ohio, Cincinnati, 1885; the first French physician in Augusta, Maine, and common councilman of that city, died at the Maine Insane Hospital, Augusta, May 21, after an illness of several years, aged 45.

Sterling W. Holt (License, Missouri, 1902); a member of the Moberly (Mo.) and Randolph County medical societies, died at his home in Moberly, April 28, from arteriosclerosis, after an illness of about six months, aged 75.

Archibald E. Franklin, M.D. Medical Faculty of the Western University, London, Ont., 1894; formerly a practitioner of Aurora, Ill., and Chicago, died at his old home in Brockville, Ont., May 16, after a long illness, aged 35.

Robert Smith Greene, M.D. Medical College of Alabama, Mobile, 1860; for four years surgeon in the Confederate army, and once a member of the Alabama legislature, died at his home in Greens, Ala., May 20, aged 72.

David Glenn Thompson, M.D. Chattanooga (Tenn.) Medical College, Medical Department, Grant University, 1900; is reported to have committed suicide by cutting his throat at his home in Fort Mill, S. C., May 27, aged 29.

John M. Fry, M.D. University of Pennsylvania Department of Medicine, Philadelphia, 1866; died at his home in Cleveland, Ohio, from progressive muscular atrophy, May 21, after an illness of several months, aged 76.

Archibald B. McCandless, M.D. Chicago Medical College, 1869; for many years a practitioner of Columbus Junction, Iowa, died at the home of his son in Perry, Okla., May 22, aged 79.

James Fields Hasty, M.D. University of Iowa College of Medicine, Iowa City, 1889; died at his home in Murray, Iowa, May 21, from brain tumor, after an illness of 18 months, aged 44.

Thomas Choate Pratt (Act of 1894, Mass.), formerly a practitioner of North Adams, Mass.; died in the Northampton Insane Hospital, May 16, after an illness of a year, aged 81.

E. H. Green, M.D. Hospital College of Medicine, Louisville, 1890; a Confederate veteran; fell from a porch at his home in Altamont, Ky., May 21, and was instantly killed, aged 53.

Emil W. Jewell, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1867; of Lorain, Ohio, died at the Lorain Hospital, May 20, from uremia, aged 60.

Elijah James Milwain, M.D. University of Tennessee, Medical Department, Nashville, 1891; died at his home in that city, May 13, after a prolonged illness, aged 53.

John T. Carroll, L.R.C.S., L.R.C.P. Edinburgh, 1882; M.C.P. & S., Ontario, 1883; a pioneer physician of Vancouver, B. C., died at his home in that city, May 18.

Edmund R. Brown (Years of Practice, Ohio, 1896); for 20 years a practitioner of Sugar Grove, Ohio, died at the home of his sister in Crooksville, Ohio, May 12.

Lewis Burton Pierce, M.D. University Medical College of Kansas City, Mo., 1898, of Muskogee, I. T., died at his home in that city, May 22, aged 36.

George Rowe, M.D. Albany (N. Y.) Medical College, 1865; died at his home in Gloversvile, N. Y., May 8, after an illness of four weeks, aged 68.

Benjamin F. Little, M.D. Chicago Homeopathic Medical College, 1877; formerly of Columbus, Ind., died at Hazel Dell, Ill., May 17, aged 88.

Charles L. Eves, M.D. Medical Department, University of Nashville, Tenn., 1889; died at his home in Nashville, Tenn., May 19, aged 48.

Z. Ellis Kimble, M.D. College of Physicians and Surgeons, Baltimore, 1886; died at his home in Asheville, N. C., April 14, aged 46.

John W. Suggs, M.D. Reformed Medical College of Georgia, Macon, 1859; died at his home in Thomaston, Ga., May 16, aged 79.

Theodore E. Hansmann, M.D. Barnes Medical College, St. Louis, 1901; died at his home in St. Louis, May 25, aged 51.

George Walker (Years of Practice, Minn.), died at his home in St. Paul, Minn., April 17, aged 76.

Death Abroad.

Robert Barnes, M.D. London, 1848; F.R.C.P. London, 1859; F.R.C.S. Eng., 1883; formerly obstetric physician and lecturer on obstetrics at London, St. Thomas' and St. George's hospitals; once president of the Obstetrical and Hunterian societies; vice-president of the Royal Medico-Chirurgical Society and Royal Meteorological Society; honorary fellow of the Medical Society of the State of Pennsylvania and Fulton many other learned societies; eminent as an instructor and writer on obstetrics, whose name is known world wide among obstetricians and medical men, died at his residence in Eastbourne, Eng., May 12, aged 89.

Society Proceedings

COMING MEETINGS.

Maine Med. Assn., Lewiston, June 12-14 (changed from June 5-7).
Massachusetts Medical Society, Boston, June 11-12.
Medical Society of North Carolina, Morehead City, June 11-13.
Rhode Island Medical Society, Providence, June 13.
Medical Society of New Jersey, Long Branch, June 25-27.
Oregon State Medical Association, Seaside, July 12-13.

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-Seventh Annual Session, held at Rockford, May 21-23, 1907.

The President, DR. J. F. PERCY, Galesburg, in the Chair.

Officers for Ensuing Year.

President, Dr. William L. Baum, Chicago; vice-presidents, Dr. C. W. Lillie, East St. Louis; Dr. T. H. Culhane, Rockford; secretary, Dr. E. W. Weis, Ottawa, re-elected; treasurer, Dr. E. J. Brown, Decatur, re-elected; delegates to American Medical Association, Drs. Frank Billings, Chicago; J. R. Hollowbush, Rock Island, and C. S. Bacon, Chicago; alternates, Drs. G. D. Smith, Elizabeth; Charles B. Horrell, Galesburg; Robert T. Gillmore, Chicago; E. B. Montgomery, Quincy; C. M. Jack, Decatur; William L. Ballenger, Chicago, and S. C. Stremmel, Macomb.

Peoria was selected as the place for holding the next annual meeting.

The scientific work was divided into two sections, medicine and surgery, but all of the papers were read before the general body. One day was set aside for the reading of and discussion of papers on medicine, one for papers and discussions on surgery, while the third day was devoted to the discussion of borderline cases.

SYMPOSIUM ON TUBERCULOSIS.

Early Diagnosis of Tuberculosis.

DR. ROBERT H. BABCOCK, Chicago, submitted two propositions: (1) Pulmonary tuberculosis is curable. (2) Its curability stands in direct relation to the stage of the disease. He considered the methods of diagnosis and the data on which the physical diagnosis must rest. As aids to diagnosis, he mentioned tuberculin and the Roentgen ray. Tuberculin, when properly used, is safe, and in the majority of cases its reaction denotes tuberculosis. The Roentgen ray is not of as much value to the average general practitioner as to the expert; nevertheless, in the hands of the skilled, the fluoroscope or skiagraph will detect lesions which have not developed to such an extent as to cause the manisfestation of physical signs in the lungs.

Social Aspects of Tuberculosis.

DR. HENRY B. FAVILL, Chicago, said the technic of treatment of tuberculosis, is reasonably well established. Thus far, however, the procedure is complex and inaccessible to the majority of those who are and are likely to become tubercular. The move of first importance is to simplify the necessary régime. The whole question becomes a medical and hygienic one, and in a chief degree a sociologic problem. He offered some suggestions as to the methods to be pursued.

Tuberculosis of the Ocular Structures.

DR. CASEY A. WOOD, Chicago, divided ocular tuberculosis into extraocular and intraocular. Tubercle of the conjunctiva he said, is probably much more common than is generally believed. Although primary tubercle of the sclerotic is practically unknown, it is often, like the cornea, invaded by uveal tuberculosis. Tubercle of the iris generally appears in the miliary form as discrete, disseminated, yellowish nodules, 2 to 3 mm. in diameter. They are associated with keratitis punctata, some pain, and a mild degree of ciliary injection. Tuberculosis of the chorioid occurs, first, as discrete, miliary nodules scattered over the fundus, seen with the ophthalmoscope as gray patches; or, second, as a mass of caseating tissue, formed beneath the detached retina. Tuberculosis of the ciliary body begins most frequently in the ciliary processes on the inner surface of the ciliary muscle, where its ciliary plexus is finest. Tubercle of the retina is much rarer than chorioidal tuberculosis. Tuberculosis of the optic nerve, originating in its pial sheath as discrete nodules may become confluent and surround the nerve with a diseased ring.

Diagnosis and Treatment of Laryngeal Tuberculosis.

DR. WILLIAM E. CASSELBERRY, Chicago, said that while the diagnosis of tuberculosis of the larynx ordinarily is not difficult, in exceptional cases its substantiation or exclusion is beset with uncertainty. The first type described as fairly typical of a considerable group of cases, is not at all of an unusual sort. It is named the galloping type, in order further to emphasize the contrasts between it and the one next described, which is named from its salient characteristics, the chronic hyperplastic type.

Among the other unusual types which are apt to involve uncertainty in diagnosis are the unilateral type, the verrucous type, the so-called conjoined syphilitic and tuberculous type, and the condition of arrest of the disease. Well-authenticated convincing instances of the latter fortunate termination are discouragingly rare in literature, yet they certainly occur.

The treatment of the laryngeal complication, he said, is bound up in that of the pulmonary and general state.

Management of Tuberculosis.

DR. CLARENCE L. WHEATON, Chicago, pointed out the importance of early recognition of tuberculosis, and what clinically constitutes involvement. He referred to the value of the sanatorium in the management of tuberculosis at home. He submitted a form of ordinance, which may be used as a basis for legislation of municipalities regarding tuberculosis. Lastly, he emphasized the importance of reducing the opportunities for infection, promoting the individual powers of resistance, and utilizing all educational influences at our disposal in the management of tuberculosis.

Sanatorium Treatment for Tuberculosis.

DR. E. H. BUTTERFIELD, Ottawa, said that it is important, first, to consider the construction and location of sanatoria. Second, the necessity for early diagnosis and prompt treatment. Third, the principles of treatment are not easy of application, and it is necessary to individualize. Fourth, the public is dangerously educated as to the curability of consumption, and the popular misconception as to time limit. The word cure should be used with caution. Climate, he said, is not an essential in the treatment.

DR. J. W. PETTIT, Ottawa, said it should be repeatedly emphasized that tuberculosis is only curable in the incipient stages, although in exceptional instances we get some very remarkable results in far-advanced cases, but the ultimate results in the treatment of the far-advanced cases are not very promising.

Ulcerative Endocarditis.

DR. JAMES B. HERRICK, Chicago, said that a complicating nephritis may cause one to overlook primary infectious endocarditis. If one lives up to the rule of trying to find a cause in every case of acute nephritis, and of careful examination of the heart, he will seldom be in doubt as to the existence of endocarditis and an acute infection.

(*To be continued.*)

NEW MEXICO MEDICAL ASSOCIATION.

Twenty-Sixth Annual Meeting, held at Las Cruces, May 8-9, 1907.

DR. THOMAS B. HART of Raton, President.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. R. E. McBride, Las Cruces; vice-presidents, Drs. G. K. Angle, Silver City, and B. M. Steed, Deming; secretary, Dr. G. S. McLandress, Albuquerque; treasurer, Dr.

C. G. Duncan, Socorro; delegate, Dr. W. R. Tipton, Las Vegas. Next meeting place, Albuquerque, fall of 1908.

Scarlatinal Sore Throat.

Dr. T. C. Sexton, Las Cruces, called attention to the many apparently mild and simple anginas occurring during an epidemic of scarlatina. He deems it of great importance to look carefully into each case with a view to determining its nature. These cases (some never even seen by a physician) are of greater danger to the public health and spread disease more readily and more widely than do those cases where the diagnosis is clear, for the reason that the typical cases are quarantined and all necessary precautions are taken to prevent a spread of the disease, while in those cases not seen, and in the milder forms of sore throat no measures are taken to isolate and disinfect.

Tubercular Laryngitis.

Dr. E. S. Bullock, Silver City, described his method of treating tuberculosis of the larynx. He uses formaldehyd in solution, beginning with one drop of the regular 40 per cent. solution to one ounce of distilled water, and gradually increasing the strength until 10 or 12 drops to the ounce are borne without any discomfort. In simple infiltration of the larynx, without ulceration, he uses a spray with the tip introduced into the larynx and a pressure of 20 pounds to spray the solution. In the ulcerative cases he first cleanses the ulcers with either tar water or a solution of bicarbonate of soda and then applies the formalin solution directly to the ulcer by means of a laryngeal forcep and a pledget of cotton, rubbing the solution into the ulcer for as long as three minutes. By careful education the patient is able to bear this treatment easily and without discomfort, and the results are all that could be desired where persistence is pursued.

Surgical Treatment of Fibroid Tumors of the Uterus Complicated by Pregnancy.

An abstract of this paper by Dr. James Vance, El Paso, Texas, appeared in The Journal, June 1, page 1900.

Tumor of Thyroid.

Dr. George C. Bryan, Alamogordo, reported three interesting cases of tumor of the thyroid. Case 1 was in the person of an Albanian laborer, 40 years of age, who was brought to the hospital in a profoundly septic condition. Since boyhood he had had a swelling on the right side of the neck which had not increased in size nor given any discomfort. When brought to the hospital he was much emaciated and presented a puffed and pallid, yellow condition of the skin. The front of the neck was immensely swollen and fluctuated on percussion. Patient was comatose, temperature 105 F., pulse very rapid and irregular. A long free incision was made into the tumor, which discharged much pus and necrosed and gangrenous tissues. After thorough cleansing, drainage was inserted and a wet dressing applied and the patient returned to bed. Patient did not rally and died after ten days. Abscess of liver and multiple abscesses of the lung were found on postmortem.

Case 2 was a Mexican woman, about 40, who had had a thyroid swelling for a number of years. Following a cold, the tumor increased in size and became painful. The respirations were very difficult. Examination showed the right lobe of the thyroid much enlarged. Under anesthesia an incision was made and the right lobe removed. Recovery was rapid and uneventful.

Case 3 was a young man, 19 years of age, who gave a history of slowly growing thyroid for the past four years. Six months before he had been operated on for abscess of the liver. This was followed by an enlargement of the tumor and failing health. When seen he was emaciated, weak, with a pulse of 138, irregular, and respiration embarrassed. The right side of the neck was occupied by a fusiform tumor which appeared to be pulsating. With the diagnosis in doubt, an incision was made and the tumor shown to be of the right lobe of the thyroid, which was removed. Recovery was uneventful. These cases were reported to show that simple benign tumors of the thyroid are sometimes complicated by grave septic conditions.

Relation of Christian Science to the Practice of Medicine.

Dr. S. A. Milliken, Silver City, called attention to the many forms of pseudo-medical fads that are annually brought forward causing numerous unnecessary deaths. He holds that the profession is largely responsible for this condition of affairs. He discussed the Christian science fallacy, and concluded that the physician should study this as well as all other similar teachings, in order to be better able to educate the community and teach the dangers of following such doctrines.

The Wise General Practitioner as a Factor in the Prevention of Tuberculosis.

Dr. C. W. Taylor-Goodman, Albuquerque, discussed the various ways in which the general practitioner and the family physician may serve as teachers in spreading the gospel of sanitary and hygienic living with a careful attention to all of the factors that go to prevent a lowering of the individual resistance, on the one hand, and the spreading of disease germs, on the other.

Orthostatic and Physiologic Albuminuria and Their Relation to Tuberculosis.

Dr. F. T. B. Fest, Las Vegas, included in the paper under albuminuria all proteinurias. He gave a history of the most important contributions to the literature of this subject until the modern epoch initiated by Leube. He went exhaustively into the literature of the subject, and dealt with the condition from all sides, discussing fully each and every supposed cause, and concludes that, in regard to orthostatic albuminuria, we are unable to give any chemical test an exclusive significance; orthostatic albuminuria is apparently of obscure hematogenetic or functional origin. Each case has to be considered individually and treated accordingly. Orthostatic albuminuria merits our attention only as a manifestation and not as a disease. A bibliography of some 350 references accompanied this paper.

Necessity of Exercise in the Treatment of Tuberculosis.

Dr. S. A. Milliken, Silver City, believes that exercise is necessary to the best results in the treatment of tuberculosis. By exercise he does not mean exertion on the part of the patient. We must take into account the various processes of waste, repair and excretion, and inasmuch as in health perfect repair and perfect excretion are promoted by exercise, so also is this true in disease where the repair processes and the relative amount of waste to be carried off are increased. Good judgment must be exercised in determining what is necessary for each individual case.

Primary Tuberculosis of Cecum and Appendix.

Dr. B. F. Stevens, El Paso, Texas, reported the case of a young woman who had had repeated attacks of what was diagnosed as appendicitis. The first of these had appeared at the age of 14. These attacks occurred about twice a year until she was 17, and were all marked by the same symptoms, viz., pain, low down in right side, temperature and vomiting. During the last two years a tumor had been noticeable in right inguinal region larger during attacks, but always present. When seen patient weighed about 70 pounds and was thin and anemic, and had been acutely ill for two weeks. She was operated on, and a fixed hard tumor involving head of the cecum was removed. It was thought to be malignant and was excised *in toto*. End-to-end anastomosis was made with a Murphy button. Convalescence was slow, but seemed satisfactory, until at the end of three months, when a symmetrical enlargement of the abdomen was manifest, and she again developed temperature, anorexia and vomiting, and a second operation was done a d two ovarian cysts were extirpated. Two months later still another tumor developed in the inguinal region and a third operation was performed. At this time the intestines were found matted together, but there was no free fluid nor pus. All attempts to separate them were unavailing, and the wound was sewed up leaving drainage. Patient went from bad to worse, and complete stenosis occurred two months later, with death four hours after an operation for artificial anus.

NEBRASKA STATE MEDICAL ASSOCIATION.

Thirty-Ninth Annual Meeting, held in Omaha, May 7-9, 1907.

The President, Dr. F. A. Long, of Madison, in the Chair.

President's Address.

Dr. Long reviewed the progress that was made by the association during the year, and advocated sending an organizer over the state, who would personally interview the physicians in the interest of organization. He suggested amending the constitution of the society so that, under proper restrictions, counties having more than five eligible physicians, but whom it appeared impossible to organize, may affiliate with an adjoining county. He also discussed the desirability of establishing an official organ in which can be published the papers read at the annual meeting, the proceedings and other matters of interest to the doctors in the state. He commended very highly the work done by the Council on Pharmacy and Chemistry of the American Medical Association, and in this connection emphasized the necessity of more thorough teaching of prescription writing in medical colleges.

Dr. Long scored the practice of giving and accepting commissions, and stated that the fees paid by insurance companies for examining applicants are too low.

The secretary, Dr. H. Winnett Orr, Lincoln, stated that there are 54 county societies and 780 members in the state society.

A large number of very interesting papers were read and elicited spirited discussion.

Medical Defense Fund Created.

The association decided to create a medical defense fund, and the membership fee was raised to $3, $1 to go into the defense fund.

A resolution was also passed against the giving and acceptance of commissions for referred cases. The medical defense committee was authorized to secure the services of an attorney to assist in carrying on such work as may be referred to him.

A resolution was also adopted commending Gov. G. L. Sheldon for his action in appointing as medical superintendents of the various state institutions men who were well qualified by training and experience rather than those who might have better claims for political preferment.

Some Points in the Diagnosis of Ectopic Gestation.

Dr. A. P. Condon, Omaha, dealt particularly with the microscopic findings in the uterine decidua in those cases in which conception takes place outside the uterus. He insisted on the routine microscopic examination of all discharges from the uterus, whether obtained naturally or by means of the curette in suspected cases of extrauterine pregnancy.

Stomach Symptoms but Not Stomach Disease.

Dr. F. A. Littig, Iowa City, Iowa, discussed those cases of appendiceal, gall bladder and other intra-abdominal and intrathoracic as well as nervous and circulatory disturbances in which there are symptoms of gastric disease. Dr. Littig produced a large number of illustrative case histories to establish his various points.

Rupture of Uterus.

Dr. O. Grothan, Kearney, presented in connection with his paper extensive tables showing the results obtained in all other reported cases of rupture of the uterus and added his cases to those previously reported, showing three cases with two recoveries.

Anteflexion of the Uterus.

Dr. H. M. Hepperlen, Beatrice, presented a modified cervical stem made of glass which he designed for the treatment of these cases.

Anastomosis of the Hollow Viscera.

Dr. Van Buren Knott, Sioux City, Iowa, presented a special instrument which he devised for use in entero-anastomosis.

Diabetes and the Consumption of Sugar in the United States.

Dr. W. O. Bridges, Omaha, intimated that the large per capita increase of sugar in this country might be held responsible for a similar increase in the number of cases of diabetes. He presented extensive statistics both from the United States government reports and the health reports of various large cities to justify his conclusion and to show that there was something more than mere coincidence in the much larger number of diabetes cases and the enormous per capita increase of sugar in this country during the past 100 years.

The Treatment of Puerperal Sepsis.

Dr. Charles Rosewater, Omaha, showed that in spite of modern knowledge and methods puerperal sepsis does still occur, and advocated thorough treatment along the lines suggested by him when such cases are found.

Defective Diagnosis in Diseases of Children.

Dr. H. W. Orr, Lincoln, brought out the point that the health reports of all our large cities show that an unnecessary number of cases of death in children are reported with an inadequate diagnosis. Deaths reported due to convulsions, marasmus and inanition are probably more often contagious diseases, tuberculosis, milk poisoning, etc. Dr. Orr stated that if the same incomplete diagnoses were submitted in cases of death among adults a coroner's inquest would be invoked to satisfy the health authorities.

Some Problems Concerning Stomach Surgery.

Dr. B. B. Davis, Omaha, pointed out that while not too much stomach surgery has been done, some stomach surgery is being done which is not indicated by the conditions present. He advocated a more judicial selection of cases for gastrointestinal surgery, and said that many stomach cases now requiring surgical relief are not being treated in that way.

Retrobulbar Orbital Cyst Treated by Krönlein's Operation and Carbolic Acid.

Dr. H. Gifford, Omaha, presented a most interesting report of a case in which by attacking the tumor through the lateral wall of the orbit and the application of carbolic acid to destroy the cyst membrane, a cure had been accomplished and the eyeball preserved with nearly normal sight.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. H. Gifford, Omaha; vice-presidents, Drs. L. M. Shaw, Osceola, and Inez C. Philbrick, Lincoln; secretary, Dr. H. Winnett Orr, Lincoln; treasurer, Dr. A. S. von Mansfelde, Ashland; councilors, Dr. A. P. Overgaard, Fremont, fifth district; Dr. Quincy, sixth district; Dr. A. W. Fitzsimmons, Ohiowa, seventh district; Dr. M. B. McDowell, Merriman, eighth district; delegate to the American Medical Association, Dr. F. A. Long, Madison; alternate, Dr. C. C. Gafford, Wymore.

Lincoln was chosen as the place of meeting for the next annual session.

PHILADELPHIA ACADEMY OF SURGERY.

Special Meeting, held May 6, 1907.

Dr. Roberts, the President, in the Chair.

This society held a special meeting May 6 and entertained at dinner a number of friends from other cities. The banquet was a very pleasant occasion and was followed by the scientific session reported below. After the discussion of the papers the evening closed with a reception to the visiting guests in the Mütter Museum of the College of Physicians.

Address in Surgery.

Dr. Edward Martin reviewed briefly the recent remarkable advances made in surgery and expressed an optimistic hope for the future.

Ligation of the Ductus Arteriosus.

Dr. J. C. Munro, Boston, has conceived the idea of ligating the ductus in those cases where in new-born infants the failure of the duct to close leads to a fatal result. Dr. Munro's presentation of the operative possibilities made it apparent that the suggestion had not been made without due consideration of all the facts and possibilities, and led one to think that he who shall first risk carrying out the suggestion may obtain a result more than simply successful.

Arteriotomy for Embolism and Thrombosis.

Dr. **Francis D. Stewart**, Philadelphia, discussed two cases of embolism and thrombosis, in which he had resorted to arteriotomy. While the end results were not entirely satisfactory, Dr. Stewart demonstrated the possibility of diagnosing and accurately operating in such conditions with very good hope of success.

The Technic of Blood Vessel Suture.

Dr. **J. Edwin Sweet**, Philadelphia, discussed the most recent ideas on the technical questions involved, stating his belief that the exact end-to-end method, known as the Carrel, is probably the most perfect. The question of thrombosis after such operations is not clear, and there is room for work still along this line. The specimens demonstrated were from the Laboratory of Experimental Surgery of the University of Pennsylvania, most of them being the result of the work of Dr. G. M. Dorrance.

Operation for Aneurism.

Dr. **Charles H. Frazier**, Philadelphia, reported two cases of the operation for endo-aneurismorrhaphy proposed by Dr. Matas. These two cases had been most happily joined by chance, since they represented two most interesting phases of the operation, the one an almost diagramatic case, where Dr. Frazier expressed himself as surprised at the ease of carrying out the operation; the other, one of extreme difficulty, owing to the almost uncontrollable hemorrhage from the large collateral branches opening into the aneurismal sac.

Dr. **John H. Gibbon**, Philadelphia, reported two other cases and warmly recommended the operation as being the most logical procedure.

DISCUSSION.

Dr. **G. E. Brewer**, New York, told of his experience in the suture of blood vessels and of his attempts to solve the problem by means of a cohesive tissue wrapped around the vessel.

Dr. **J. B. Murphy**, Chicago, emphasized the value of experimental work as bearing on the future of surgery.

Dr. **J. F. Binnie**, Kansas City, called attention to the difference between a saccular and a fusiform aneurism, and noted the difference which each type would make in the operation itself and its prognosis.

Dr. **Hubbard**, Boston, described the results he had obtained in one or two cases of gangrene of the lower extremity by reversing the circulation.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at Washington, D. C., May 7-9, 1907.

(*Continued from page 1886.*)

The Treatment of the Posterior Capsule of the Gland in Thyroidectomy.

Dr. **Charles H. Mayo**, Rochester, Minn., said that the physiologist, in expanding our knowledge of the thyroid and associated ductless glands, has shown the necessity for greater care and changes in technic in the surgical treatment of goiter. By preserving the posterior capsule of the thyroid gland in operations for goiter we save the parathyroids and avoid much of the danger of injuring the recurrent laryngeal nerves.

Aneurismal Varix: A Case of Pulsating Exophthalmos.

Dr. **George Tully Vaughan**, Washington, D. C., reported a case of pulsating exophthalmos probably caused by communication between the internal carotid artery and cavernous sinus, in which he ligated the internal carotid artery near its origin. Death resulted from cerebral anemia. He also reported three cases of aneurismal varix, with dilatation of the vein on the proximal or cardiac side of the point of communication between the artery and vein, and discussed the causes of the dilatation, which occurred where it would least be expected to occur.

Guarded Vertical Traction in the Reduction of Congenital Dislocations.

Dr. **Oscar H. Allis**, Philadelphia, called attention to the method of horizontal traction on the extended femur, stating that its adoption is based on the principle that dislocations of the hip occur from violence exerted on the extended limb, and the teaching of the early surgeons that the chief obstacle to reduction lay in the resistance of the muscles. By means of a lever, traction is applied to the vertical femur, and to guard against over action from such advantageous force, a spring balance is placed betwen the knee and the short arm of the lever. In young children he applies about twenty pounds of traction for fifteen minutes, and then unhooks the apparatus and attempts reduction. This he does by raising the flexed limb vertically, and when it has reached the level of the socket he abducts and presses the head inward, by using the thumb of his unoccupied hand. If the reduction is easily accomplished a fixation dressing is applied. If not, a second series of traction exercises are resorted to. The apparatus used permits of every motion that will be likely to meet with resistance. The limb can be adducted, abducted, flexed or extended, and even circumducted, while gradually increasing traction is being made, and the operator proceeds with the utmost confidence, since he can read on the register of the spring balance the exact amount of force he is exerting. Experience with the lever proved that the long fulcrum of the lever did not give the operator the freedom that was desirable; hence, an instrument was devised with parallel fulcra, and instead of a lever a screw is employed.

Primary Sarcoma of the Prostate.

Dr. **Charles A. Powers**, Denver, reported the case of a man 60 years old, who had had no bladder trouble until two months before seen, at which time he began to notice a little pain and discomfort on urination, and he began to rise in the night to urinate. The symptoms rapidly increased in severity and the patient lost flesh and strength. On examination the man complained of constant severe pain in the hypogastric region with a constant pain, less severe, in the recto-perineal region. He was urinating about every one and a half hours, urination being difficult and painful. The urine was normal. Catheterization found no residual urine whatever. Rectal examination revealed a very large rounded, slightly nodular, balloon-like prostate. The finger did not reach the upper margin. The impression gained on digital examination was an unusual one. A tentative diagnosis of sarcoma was made. A perineal prostatectomy was done. The process of enucleation was attended by profuse, alarming hemorrhage. This was difficult to check. Frequent hemorrhages obliged one to stop and pack. Nowhere could a lead be gained between gland and capsule. Friable masses were reamed out from both sides of the gland; these had the appearance of sarcoma. It was not possible to entirely get beyond the growth. The patient succumbed to a double pneumonia on the fifth day. Histologic examination of the growth showed it to be a small round-celled sarcoma. A careful search of the literature revealed but 19 additional authentic cases of primary sarcoma of the prostate, microscopically proven. Twelve of these were in children under 15 years of age; seven of them were of the small round-celled type. Each of these patients succumbed to operation or to a recurrence of the growth.

Acquired Diverticulitis of the Large Intestine.

Dr. **William J. Mayo**, Rochester, Minn., stated that diverticulitis of the colon is essentially confined to the sigmoid and is due to the pressure of the hardened feces against the mucous membrane, which herniates through defects in the musculature. The weakness of the intestinal wall which permits this may be congenital or acquired. Enteroliths form in these little pockets and give rise to infection and suppuration, or to tumor formation, constituting the disease. As a rule, only a few inches of the bowel is involved, although an enormous number of diverticulæ may be exhibited in this space.

The patients are usually obese and over 45 years of age. The physical evidences of the disease will be found in the middle and lower left quadrant of the abdomen. A tumor frequently exists with attacks of obstruction of the bowels, or attacks of peritonitis. The disease is usually mistaken for: 1, Left-sided appendiceal abscess; 2, cancer, and a large number of the cases reported as cures of cancer by resection of the intestine are really cases of diverticulitis; 3, fecal impaction.

The surgical treatment of diverticulitis of the colon depends on the condition present. First, localized suppurative cases must be treated with free drainage. If acute obstruction of the bowels develops, a temporary artificial anus should be made, and, if necessary, after the infection has subsided, the involved colon may be resected. Second, if a considerable tumor is present and the symptoms do not show a tendency to disappear, it is better to make a primary resection of the affected part of the bowel before abscess and fistula supervene.

The Diverticulum Ilei as a Cause of Complete Intestinal Obstruction.

Dr. Frederic H. Gerrish, Portland, Maine,, gave the history of a case in which, after four days of absolute occlusion of the small intestine, surgical intervention was invoked. The seat of the difficulty was determined to be near the lower end of the ileum. The abdomen was opened in the right linea semilunaris, and the cause of the obstruction readily found. A diverticulum, starting from the ileum about 50 cm. from the cecum, had passed from right to left through an opening in the attached border of the mesentery, and was held there by a cord extending from its free extremity to the anterior abdominal wall. The intestine proximal to the obstruction was distended and congested; distal to this point it was shriveled and pale. The diverticulum was released and cut away; the pedicle was sutured, depressed into the lumen of the gut, and its site covered with peritoneum. The abdominal wound was closed without drainage. Recovery was rapid and perfect.

Etiology of Certain Cases of Left-Sided Intra-abdominal Suppuration (Acute Diverticulitis).

Dr. George Emerson Brewer, New York City, reported three cases of left-sided intra-abdominal abscess in which no definite cause for the infection could be ascertained at the time of operation. In a fourth case a very definite cause for the symptoms was found. A man, 48 years of age, was attacked in the night with a sudden right-sided abdominal pain associated with nausea and vomiting. On the following morning there was intense, well-marked tenderness in the lower left quadrant of the abdomen. At the end of twenty-four hours he had an elevation of temperature, increased pulse rate, and all the evidences of a mild infection. When seen by the author, two or three days later, there was well-marked rigidity of the left rectus muscle, tenderness on palpation throughout the left half of the abdomen, and a distinct mass in the neighborhood of the left anterior superior spine of the ileum. The abdominal wall was incised and a large abscess encountered, which lay to the outer side and behind the descending colon and sigmoid. This abscess contained several ounces of foul-smelling pus, and in the bottom of the abscess cavity was a definitely formed fecal concretion about the size of a date seed. Careful inspection of the abscess wall showed a small perforation into the sigmoid.

A fifth case was that of a man 58 years of age, who was admitted to the hospital with a diagnosis of acute appendicitis, with generalized peritonitis. On examination the abdomen was distended and tender; generalized muscular rigidity was present. On opening the abdomen the cavity was found to contain a large amount of foul-smelling pus, the intestines were everywhere injected, and in places covered with fibrin. The appendix showed no definite lesion, but on removing the intestines from the pelvic cavity a perforation of the sigmoid was found, and in the immediate neighborhood an oval fecal concretion about the size of an orange seed was detected. The rent in the sigmoid was closed, the abdomen washed out, but the patient died at the end of forty-eight hours. From these cases he concludes that a rupture of an acquired diverticulum of the descending colon or sigmoid not infrequently gives rise to symptoms of intra-abdominal infection, simulating appendicitis. In fact, in the first two of his cases the writer was inclined to regard them as cases of appendicitis with transposition of the viscera.

(*To be continued.*)

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Psoriasis.

The treatment of psoriasis should aim to restore the patient to a correct state of the general health, and with this in view a careful examination should be made to detect any deviation from the normal on the part of any of the organs. The diet should be supervised, and the food should be such as is easily digested, meat being excluded or much reduced in quantity. G. H. Fox, in the *Journal of Cutaneous Diseases*, says: "I have rarely seen a patient with chronic psoriasis who had not observed the fact himself or could demonstrate after the matter was suggested to him, the fact that during the free use of meat the psoriatic patches invariably became more congested. In the catabolism undergone by the proteid or albuminous element of food will doubtless be found, in time, the precise origin of the autotoxins which underlie many of our common skin diseases." In close connection with the use of meat are the indications that a gouty origin may be assigned to the disease in many cases. Saline cathartics such as Epsom or Rochelle salts or the artificial Carlsbad salt (*Sal Carolinum factitium effervescens* of the National Formulary) will be found useful. Alkalies are recommended. Stelwagon combines arsenic with alkalies as follows:

℞.	Liquoris potassii arsenitis	fʒii-iii	8-12	
	Liquoris potassii hydroxidi	fʒiv-f℥i	15-30	
	Aquæ menthæ pip. q. s. ad	f℥iii	90	

M. Sig.: A teaspoonful in half a tumblerful of water after each meal. [It is well to begin the administration of the liquor potassii arsenitis (Fowler's solution) in much smaller doses.—Ed.]

℞.	Liquoris potassii arsenitis	fʒii	8	
	Liquoris potassii citratis	f℥viii	240	

M. Sig.: Two teaspoonfuls after meals.

Tonics are frequently required, in which case the alkali may be given separately and arsenic combined with other tonics as recommended by Shoemaker:

℞.	Acidi arsenosi	gr. i		06
	Quininæ sulphatis	gr. xl	2	6

M. Ft. pil. No. xx. Sig.: Take one pill after meals. Or:

℞.	Sodii arsenatis	gr. i		06
	Extracti hyoscyami	gr. v		3
	Extracti gentianæ	gr. xx	1	3

M. Ft. pil. No. xx. Sig.: Take one pill after meals.

Sometimes the author finds that the value of the arsenic is much enhanced by giving both quinin and strychnin with it, as in the following combination:

℞.	Quininæ sulphatis	gr. xxx	2	
	Acidi arsenosi	gr. i		06
	Strychninæ sulphatis	gr. ss		03
	Aloini	gr. i		06
	Etxracti belladonnæ	gr. iii		19

M. Ft. pil. No. xl. Sig.: Take one pill after meals.

The local applications for psoriasis are very numerous. Shoemaker recommends Wilkinson's ointment, which is official in the National Formulary as Unguentum Sulphuris Compositum. Liquor Picis Alkalinus (N. F.) is also a useful preparation. Tinctura saponis viridis composita is recommended. Vleminck's solution, liquor calcis sulphuratæ and Rochard's ointment are effective especially in inveterate cases, although they produce considerable suffering. Rochard's ointment is made as follows:

℞.	Iodi	gr. xl	2	6
	Hydrargyri chloridi mitis	ʒss	2	
	Unguenti	ʒxiv	55	

M. Ft. unguentum.

These and other remedies must be applied after a thorough removal of the scales, which may be effected by an alkaline bath, using from 2 to 6 ounces (60 to 180 gm.) of sodium carbonate, borate or bicarbonate to the bath. Stelwagon recommends sal ammoniac in the same proportion as much more efficient.

Shoemaker recommends an ointment for the removal of scales made according to the following formula:

℞.	Ammonii carbonatis	ʒiiss	10	
	Adipis lanæ	ʒvi	25	
	Unguenti aquæ rosæ	ʒxii	50	

M. Ft. unguentum.

Stelwagon states that, on the whole, chrysarobin is the most powerful local remedy in the treatment of psoriasis, and that if properly used it frequently removes the eruption. He advises its employment as a powdery film or as a paint, the latter being less active. Its efficacy may be enhanced by the use of salicylic acid.

When used as a powdery film the drug is mixed with chloroform, from 1 to 2 drams (4 to 8 gm.) to the ounce (30 gm.); or it may be used as a saturated solution, chloroform taking up about 40 grains (2.65 gm.) to the ounce (30 gm.). The patches are freed from scales and freely painted over—giving two or three coats. The chloroform evaporates and leaves a thin layer of the powder. To keep this in place Stelwagon applies over it a few coatings of either plain or flexible collodion or a mixture of the two. New appliances are made as necessary. As soon as the tendency to scaliness ceases and the skin of the patches becomes pale and normal, the applications are discontinued.

Stelwagon states that this method is generally successful with large, stubborn patches. Staining of the surrounding skin follows the applications, but to a less extent than when chrysarobin salve is used.

When chrysarobin is used as a paint it is prescribed in collodion or in solution with gutta-percha, 48 grains (3.2 gm.) to the ounce (30 gm.). Fox recommends adding salicylic acid, but this is not comfortably borne by individuals with delicate skins. The following formula is recommended by Stelwagon:

℞.	Chrysarobini	ʒi	4	
	Acidi salicylici	gr. x-xx		65-1.3
	Ætheris	fʒi	4	
	Olei ricini	m. v		33
	Collodii q. s. ad	f℥i	30	

M. Sig.: Apply to the psoriatic patches.

This is less apt to stain the clothing and surrounding parts, Stelwagon states, if a coating of plain or flexible unmedicated collodion be painted over it.

Acute Gastritis.

The causes of acute or subacute gastritis may be irritants introduced into the stomach through the mouth or regurgitated from the intestine (a rare event) or else excreted from the blood. The irritant may arise from the decomposition of food. In such cases the food should be removed from the stomach. For this purpose emetics are recommended by most authors. Rodari (*Grundriss der medicomentosen Therapie der Magen und Darinkrankheiten*) recommends apomorphin in doses of from 1/12 to 1/6 grain (0.005 to 0.01) hypodermically. Ewald and Boas recommend the following:

℞.	Pulveris ipecacuanhæ	gr. xxiii	1	5
	Antimonii et potassii tartratis	gr. 5/6		05

Ft. chart. No. i. Sig.: To be taken at once or in divided doses.

Rodari considers tartar emetic contraindicated on account of the irritation of the gastrointestinal tract which it produces. The same objection holds against the use of copper sulphate as an emetic. Riegel and Boardman Reed properly protest against the use of irritating emetics. It is often practical to provoke vomiting by causing the patient to drink large quantities of warm water, followed by tickling the fauces or by the attempted introduction of the stomach tube. Vomiting is preferable to lavage for cleansing the stomach of food, since in some instances the masses of food are so large that they can not pass through the tube. Reed advises the ingestion of considerable amounts of water, not less than a pint at a time, once in fifteen minutes, until the stomach is completely emptied.

The stomach being emptied, absolute abstinence from food should be enjoined for twenty-four hours or until the signs of irritation cease. The intestine should be emptied and disinfected so far as this is possible by calomel.

Reed recommends giving 1/6 grain (0.01) of calomel every half-hour until it produces copious yellow stools. Hemmeter, following Ewald, gives 6 grains (0.4) at once, and repeats this dose in an hour. Rodari combines it with benzo-naphthol in the following prescription:

℞.	Hydrargyri chloridi mitis	gr. iiss-iv		15-.25
	Benzo-naphthol	gr. viii		5

M. Ft. pulv. No. iii. Sig.: One powder every two hours.

Other purgatives are contraindicated on account of their irritating qualities.

The stomach being empty, irritation usually promptly subsides. When it does not the appropriate remedies are charged waters containing carbon dioxid, alkalies to neutralize any excess of acid, menthol and in case of much pain, codein.

The fact that beer sometimes relieves vomiting may be explained by the fact that it contains alcohol in small amounts and carbon dioxid, two gastric sedatives. For hyperacidity indicated by continued pyrosis and thirst, Hemmeter recommends the following:

℞.	Magnesii oxidi			
	Sodii bicarbonatis, āā	ʒiiss	10	
	Menthol	gr. xxx	2	

Misce intime. Sig.: One-half teaspoonful as needed, followed by three ounces of water.

Rodari combines the following:

℞.	Menthol	gr. xxx	2	
	Sacchari alb.			
	Acaciæ, āā	gr. xv	1	

Ft. pil. No. xx. Or:

℞.	Menthol	gr. xv	1	
	Alcohol			
	Syrupi, āā	ʒvi	24	

M. Sig.: A teaspoonful once an hour.

In giving alkalies it is best to use magnesia if there is constipation and replace it by precipitated carbonate of calcium if there is diarrhea.

Boas advises the following suppository if pain is troublesome:

℞.	Codeinæ phosphatis	gr. i		06
	Extracti belladonnæ	gr. ss		03
	Olei theobromatis q. s.			

Ft. suppositoria No. x. Sig.: One suppository every hour until relieved.

By the mouth Hemmeter advises giving codein as follows:

℞.	Codeinæ phosphatis	gr. vi		4
	Aquæ menthæ piperitæ	f℥iss	45	

M. Sig.: One teaspoonful every three hours.

The following has been successful in Hemmeter's experience in checking persistent vomiting:

℞.	Bismuthi subsalicylatis	gr. x		65
	Cocainæ hydrochloridi	gr. ss		03
	Menthol	gr. ii		13
	Aquæ camphoræ	f℥ss	15	

M. Sig.: Every two hours until relieved.

In case the appetite fails after the attack he gives the following:

℞.	Strychninæ sulphatis	gr. 1/3		021
	Acidi hydrochlorici dil	fʒiii	12	
	Elixir gentianæ q. s. ad	f℥vi	180	

M. Sig.: One tablespoonful diluted with two ounces of water three-quarters of an hour before meals. Take through a glass tube.

Medicolegal

Absence of Attending Physician in Injury Case.

The Second Appellate Division of the Supreme Court of New York says that in the personal injury case of Brotherton vs. Barber Asphalt Paving Company, it appeared that at the trial the physician who treated the plaintiff for the injuries complained of, and who had treated him for injuries received in a prior accident, was not present as a witness, and did not testify. When counsel for the defendant summed up he undertook to comment on the failure of the plaintiff to produce his physician as a witness. But on cross-examination the plaintiff had sought to explain away the absence of his physician. He said that the physician had been there every day, and that he looked for him that day, though he had told him the day before that the case would probably be reached by the last of the week, and he had not made any efforts to communicate with him about the case that day. The trial judge held that, under the circumstances, the defendant's counsel should not be allowed to refer to the absence of the physician. He said that the case was forced on to trial under circumstances where there was evidently some misunderstanding and he was going to charge the jury that, under the circumstances under which this case went to trial, they must draw no inference one way or the other from the absence of the physician. Nevertheless, the Appellate Division holds that this was reversible error. It says that it thinks it is a well-established rule of practice that where a witness who bears the relation to a party such as the physician bore to the plaintiff in this case, and such witness is not produced on a trial, the opposing counsel may call attention to the fact, and comment on it, with a view of having the jury infer the witness was not called because his testimony would not have been favorable to the plaintiff's case. This seemed the more proper in this particular case because the plaintiff, on his cross-examination, had under oath sought to explain such absence and failure to testify, and the jury had the full benefit of that explanation. The statement of the trial court as to what occurred before the jury was impaneled, and before the case was on trial, could not be substituted for evidence.

The Jury and Expert Testimony.

The Supreme Court of Iowa, in the personal injury case of Madden vs. Saylor Coal Company, holds that an instruction given the jury, the effect of which was to permit the jury, instead of the medical witnesses, to determine the materiality and importance of the facts embraced in a hypothetical question, was in this respect erroneous. The only province of the jury is to determine whether the statements are true. If found to be so, weight may be given to the testimony of the witnesses; but, if found untrue, they are not to be considered. Again, the court says that the company called physicians who had made a physical examination of the plaintiff, who testified as to his physical condition as it appeared to them from their examination. Among other things, they testified as to the comparative length of his legs, and also as to certain marks on one of his thighs, and as to the appearance and condition of his flesh. The jury was instructed that expert testimony is appropriate when the subject matter of the inquiry is such that without such assistance inexperienced persons are unlikely to prove capable of forming a correct judgment on it; that the jury is to determine the weight to be given to such testimony, and that while it is proper for the jury to consider it, and give it such weight as it may think it justly entitled to, considering the amount of skill and knowledge possessed by the witnesses giving such testimony, the jury should, however, consider it with caution. But the court is of the opinion that there was nothing in the testimony of the physicians in this case calling for the caution given in this instruction, or the statement that their testimony could not overthrow the testimony of witnesses testifying from personal knowledge. Skilled physicians are clearly competent to testify to visible physical defects and are clearly better qualified to testify as to the probable effect of stated physical conditions than non-experts.

Exhibitions of Private Parts to Jury Not Allowable.

The Supreme Court of Iowa says that in the case of State vs. Stevens, where it affirms a conviction of rape, that the defendant testified that he was a miner, had been injured in his private parts, and had had his side crushed about sixteen years previous by coal falling in the mine, and that he had suffered a similar injury about seven years previous to the trial, and that, as a result, he had been without sexual desire since the first injury, and incapable of indulging in sexual intercourse. His counsel then requested the court to allow the jury to retire to a private room and examine him. The county attorney suggested that the jury might not be able to determine anything from an inspection, but that no objection would be urged against such an examination by one or more physicians. Counsel for the defendant responded that he wished the jury to have the best evidence, and, in reply to a question by the court as to whether he desired a commission of physicians appointed, responded that such was not the request; that he desired the jury to look at the parts. Thereon the request was denied, and, the Supreme Court thinks, properly so. The defendant's testimony, it says, did not indicate anything concerning the nature of his injuries, or that an examination would aid in determining his capacity. Moreover, such exhibitions are not tolerated in this state. Garvick vs. Railway (Iowa) 100 N. W. 498.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

May 25.

1 *Aerotherapy in Cold Weather in Tuberculosis and New Model of Window Tent. S. A. Knopf, New York.
2 Results of Excision of Hip in Tuberculosis of Joint. C. Ogilvy, New York.
3 *Corneal Burn by Direct Flame. M. Talmey, New York.
4 Serum Therapy and Serum Diagnosis in Syphilis. S. Politzer, New York.
5 Chemistry of Milk. L. L. Van Sylke, New York.
6 *Congenital Stenosis of Pylorus. J. J. Gilbride, Philadelphia.
7 Cream and Whole Milk Calculation. E. K. Shelmerdine, Philadelphia.
8 Case of Melanuria. F. Bierhoff, New York.

1. **Aerotherapy in Cold Weather.**—Knopf dwells at great length on the value of aerotherapy in the treatment of tuberculosis. He says that he has found tuberculosis to be benefited by judicious outdoor sleeping, even in very cold weather. He has never noticed that an acute or chronic catarrhal condition of the upper respiratory tract has been brought about or, if present, has been increased through cold pure air. But, he says, to force a tuberculous patient, who has but a few weeks to live, with no chance of recovery, to sleep outdoors in cold weather, against his wish and comfort and inclination, is utterly useless, unscientific and inhumane. Knopf also describes a new model of window tent, which was fully described and illustrated in THE JOURNAL, Jan. 19, 1907, page 214.

3. **Burn of Cornea.**—Talmey reports a case of severe burn of the cornea, by a flame directly striking the eye, which was treated with good results by frequent instillations of atropin and the application of a tepid solution of boric acid.

6. **Congenital Stenosis of Pylorus.**—Gilbride reports a fatal case occurring in an infant seven weeks old. Operation had been refused.

Medical Record, New York.

May 25.

9 *Antral Sinusitis as an Etiologic Factor in Production of Hay Fever. J. E. Schadle, St. Paul, Minn.
10 Clinical View of Ulcer of the Stomach. F. B. Turck, Chicago.
11 *Method of Reducing old Colles Fractures. C. A. McWilliams, New York.
12 *Blood Pressure in Compressed Air Workers. H. Brooks, New York.
13 Popular Education in Medical Matters. H. W. Wright, Astoria, N. Y.
14 *Inaccuracy of Dare's Hemo-alkalinometer. F. P. Vale, Washington, D. C.
15 *Pilocarpine in Pruritus. J. J. Reid, New York.

9. **Antral Sinusitis as Cause of Hay Fever.**—Schadle advances the theory that catarrhal sinusitis of the antrum of Highmore is an important etiologic factor in the causation of hay fever and some of the commoner forms of catarrhal disease of the nasal tract. He says that the affection does not occur in persons in whom the ostium maxillare is of the normal small size, but in those in whom the disease, malformation or injury has made the antrum opening of sufficient size to admit germs to the interior of the cavity. Under normal conditions, the opening is for purposes of ventilation only, and the cavity is sterile, the opening being securely protected by the tissues and hard to reach. The author has treated ninety-one cases by washing out and medicating the antrum, and has obtained the best of results in nearly all cases treated. Only one patient was not benefited. Most of the patients were entirely cured in from one to two weeks and remained so.

11. **Reducing Old Colles' Fractures.**—McWilliams uses for refracturing the bones a large monkey-wrench with the blades well padded. This is used to immobilize the upper fragment, resting against the projecting edge of the lower fragment. Thus a fracture in the line of the original injury may be produced with the expenditure of very little force. There is no strain in the structure of the wrist, and the injury to the tendons is very slight.

12. **Blood Pressures in Compressed Air Workers.**—Brooks has made a study of blood pressure in seventy-five compressed air workers before, during and after working in the caisson, and gives conclusions that are the opposite of those generally accepted, namely, that there is no marked rise in arterial pressure under compressed air. He finds that the changes in blood pressure after labor under a pressure of thirty-one pounds plus are practically the same as under the usual atmospheric pressure, and that about the relative space between the systolic and diastolic pressure exists in both conditions, being practically the same as in the normal atmosphere. Hence deleterious effects on the health of compressed air workers are not due to external pressure on the superficial vessels. Slight disturbance of the vascular distribution results from moderate increase or decrease of atmospheric pressure when slowly accomplished. Moderate degrees of heart or kidney disease need not contraindicate work under compressed air.

14. **Inaccuracy of Dare's Hemo-alkalinometer.**—Vale finds that practically there are a number of inaccuracies in Dare's method of ascertaining the alkalinity of the blood sufficient to render the method entirely useless.

15. **Pilocarpin in Pruritus.**—Reid recommends the use of pilocarpin in the treatment of pruritus vulvæ and other forms of this affection, in doses of from 1/8 to 1/4 grain (0.008-0.016).

Boston Medical and Surgical Journal.

May 23.

16 *Borderland of Medicine and Surgery. R. H. Fitz, Boston.
17 Physical Training in Boston Public Schools. J. B. Fitzgerald, Boston.
18 Medical Supervision Versus Medical Inspection of Public Schools. T. F. Harrington, Boston.
19 Physical Welfare of Public School Children. G. S. C. Badger, Boston.
20 School Hygiene. S. H. Durgin, Boston.

16. **Borderland of Medicine and Surgery.**—Dr. Fitz gives a very excellent review of the conditions in and the development of medicine that led up to the existence of the borderland cases, showing how specialism sprang from such cases, and pointing out the good that has accrued in many instances, from the invasion of the borderland by the surgeon. Both the surgeon and the physician, he says, are in consequence better trained and the necessity of the clinical laboratory is daily made more evident. Many problems have been solved in the laboratory, and many such problems are to be found within and without the borderland. And the more thorough the preparation of the physician and the surgeon, the more skilful and beneficent they are, the more exact and the more productive their science.

Lancet-Clinic, Cincinnati.

May 25.

21 Case of Toxemia in Pregnancy. D. M. Hall, Memphis, Tenn.
22 Treatment of Typhoid. W. Walley, Richton, Miss.
23 *Exophthalmic Goiter. F. M. Miller, Peoria, Ill.
24 Hair, Gray and Gone. E. S. McKee, Cincinnati.

23. **Exophthalmic Goiter.**—Miller reports three cases. All the patients were cured by means of the Roentgen ray and an iodin free diet. Thyroidectin was tried but failed to give any relief. An interesting feature in connection in one of these cases was the fact that the patient gave birth to twins at the seventh month of gestation and each child had a greatly enlarged thyroid gland.

St. Louis Medical Review.

May 18.

25 Early Diagnosis in Tuberculosis. W. Porter, St. Louis.
26 Tuberculin as Diagnostic Agent in Pulmonary Tuberculosis. L. M. Warfield, St. Louis.
27 Therapeutic Means for Relief of Spasm. W. C. Abbott, Chicago.

American Journal of Obstetrics, New York.

May.

28 *Prophylaxis and Treatment of Postoperative Phlebitis. A. Brothers, New York.
29 Postoperative Thrombophlebitis. H. C. Coe, New York.
30 *Mesosigmoiditis and Its Relation to Gynecologic Affections. E. Ries, Chicago.
31 Indications for Correcting Uterine Retrodisplacement. R. S. Hill, Montgomery, Ala.
32 *Ventral Fixation of the Uterus as Cause of Dystocia. R. H. Ingalls, Hartford, Conn.
33 *Backward Displacement of Uterus. E. W. Pinkham, New York.
34 *Case of Complete Rupture of Uterus During Labor. A. R. Small, Chicago.
35 Pregnancy and Normal Labor at Full Term After Abdominal Hysterotomy for Large Submucous Fibroid. H. N. Vineberg, New York.
36 Two Cases of Dystocia Due to Ovarian Cyst. M. W. Myer, Columbia, Mo.
37 *Causes of Sudden Death and Syncope During and After Parturition. A. C. Godfrey, Denver, Colo.

28. **Postoperative Phlebitis.**—The prophylactic treatment of postoperative phlebitis is summarized by Brothers as follows: 1. Careful attention to every aseptic and antiseptic detail in every operation, and adequate drainage in purulent or infected conditions. In gynecologic abdominal surgery this implies the use of the vagina or lower portion of the abdominal incision, or even the removal of the uterus for purposes of efficient drainage. The Fowler elevation of the bed is a useful postoperative adjunct to carry out this end. Some operators, even in this class of cases, will urge their patients early out of bed with a view to prevention of postoperative phlebitis. 2. In aseptic, nonpurulent intra-abdominal conditions which are submitted to other than fixation operations the occurrence of postoperative phlebitis will be reduced in frequency by getting such patients out of bed before the end of the first week. In the treatment of postoperative phlebitis Brothers advises absolute rest, with elevation of the affected limb. He cautions against friction and massage.

30. **Mesosigmoiditis.**—Ries reports the case of a young woman, previously healthy, who was infected in the course of a labor. This necessitated an operation during which a cyst of the left ovary and chronically inflamed tubes were removed. Six months later a laparotomy was performed to relieve an intestinal obstruction. The cause of the obstruction was found to be a band located high up in the abdominal cavity and having no connection with the sexual tract. A second laparotomy had to be done within twenty-four hours because of symptoms of obstruction and at the operation there was found a volvulus of the sigmoid due to mesosigmoiditis. After this volvulus was untwisted there was complete relief, and the patient made a speedy and uneventful recovery.

32. **Ventral Fixation.**—Ingalls reports three cases of ventral fixation seen by him, in which this operation interfered seriously with the course of pregnancy. In nine of these cases proper symmetrical dilatation of the uterus failed to take place. The fundus remained where it had been fastened to the anterior wall, and the entire dilatation was at the expense of the posterior wall, causing a great thinning out of the tissue. In two cases there resulted a rupture of the wall of the uterus in the woman's attempt to deliver herself.

33. **Backward Displacement of Uterus.**—The basis of Pinkham's paper is a series of 341 cases of retroversion and retroflexion, occurring among 1,730 women, or about 1 in 5 cases. He concludes that the most frequent cause of retrodisplacement is parturition with its sequels. The trouble may arise from trauma, or from some error in the treatment of the recently delivered woman. Of the 341 patients 93 were followed a year or more. Of these 60 were treated by the pessary; 11 being completely cured, that is, after the pessary was removed the uterus remained in place. Forty-six patients were benefited and 3 were not benefited at all and refused operation. Pinkham believes that in most cases non-operative treatment should be tried first. When the uterus can not be replaced, operative procedures are demanded. In his series 31 patients operated on were watched for six months or more. In 23 a ventral suspension was done; an Alexander operation was done in 3 cases, and in 5 cases the uterus was suspended by the transplanted round ligaments according to the author's method. There were 8 failures, 6 of ventral suspension; one of Alexander's and one of transplanting the round ligaments. In the latter case the uterus was so heavy that it sagged, stretching the round ligaments until they were unable to hold up the organ.

34. **Rupture of Uterus.**—In the case reported by Small, the uterus was ruptured from the external os to the fundus on the left side, between the folds of the broad ligaments. The broad ligament was also ruptured. As the tear was ragged and irregular, a hysterectomy was decided on, but the patient died before the operation could be completed.

37. **Sudden Death During Parturition.**—Godfrey reports a case of death from pulmonary embolism during labor.

Chicago Medical Recorder.
April 15.

38 Medical Treatment of Hemorrhage. G. W. Webster, Chicago.
39 Serum Treatment of Scarlet Fever. H. W. Cheney, Chicago.
40 Trabeculated Bladder. G. Kolischer and L. E. Schmidt, Chicago.
41 Determination of a First-class Risk. R. Sonnenschein, Chicago.
42 Methods of Calculating Proteid and Energy in Infant Feeding. T. G. Allen, Chicago.
43 Wounds of Cranium. C. Adams, Chicago.

The Military Surgeon, Carlisle, Pa.
May.

44 *Classification and Treatment of Burns. C. P. Kindleberger, U. S. Navy.
45 Endurance Test at Camp Tacoma. R. S. Woodson, U. S. Army.
46 *Prolonged Artificial Respiration with Apparent Drowning. J. W. Trask, U. S. P. H. and M.-H. S.
47 *Use of Yeast in Genitourinary Work and Gynecology. T. P. Grant, Kentucky State Guard.
48 English, German and French Conceptions of Colonial Prophylaxis in East Africa. H. S. T. Harris, U. S. Army.
49 The Base Hospital in Cuba. W. H. Brooks, U. S. Army.
50 Report of Committee on Public Service Medical School—1906. J. VanR. Hoff, U. S. Army.
51 Description of an Electric Incubator for Use Aboard Ship. R. C. Holcomb, U. S. Navy.
52 Amputation of the Thigh Under Hyoscin-Morphin-Cactin Anesthesia. H. G. Ebert, U. S. P. H. and M.-H. S.

44. **Treatment of Burns.**—Kindleberger advocates the use of picric acid solution in the local treatment of all burns, no matter how severe or extensive.

46. **Prolonged Artificial Respiration.**—Trask reports two cases of apparent death from drowning in which prolonged artificial respiration restored life. In one case the first sign of life was observed after artificial respiration had been carried on for one hour and twenty minutes. It was kept up for one hour and forty-eight minutes in all. In the second case competent natural respiration was restored two hours after the boat had capsized.

47. **Use of Yeast in Genitourinary and Gynecologic Cases.**—Grant has used yeast in over a dozen cases with most gratifying results. The yeast was used in liquid form and as pencils or crayons.

Bulletin of the Johns Hopkins Hospital, Baltimore.
May.

53 *Suture of Blood Vessels. S. H. Watts, Baltimore.
54 Boston Medicine 100 Years Ago and a Notable Physician of the Last Century. J. G. Mumford, Boston.
55 *Adenoma of Island of Langerhans. H. F. Helmholz, Baltimore.

53. **Suture of Blood Vessels.**—Watts has made a very careful clinical study of the suture of blood vessels, and carried on a series of experiments on dogs in order to determine the value of this procedure. Of 31 experiments on the vessels of the neck 28 were successful, whereas of 12 experiments on the femoral vessels only 2 were entirely successful. This discrepancy is not difficult to explain. Wounds in the neck are inaccessible to the dog's teeth, and can be readily bandaged, the wounds being thus kept clean and dead space obliterated. In the groin, however, it is very difficult to apply a bandage which will remain in place, obliterating the large dead space which is so apt to be present and preventing movements of the leg which interfere materially with a successful vessel suture. The results show conclusively that completely divided vessels can be sutured with almost uniform success, when the aseptic technic is good. The intima can be included in the suture with impunity, the application of the suture being thus greatly facilitated.

55. **Adenoma of Langerhans' Island.**—Helmholz by chance discovered an adenoma in the pancreas while examining the tissue as a matter of routine. He believes that the tumor arose from the cells of the islands of Langerhans because of the anastomosing arrangement of the acini, the intimate relation of the capillaries to the epithelium in some parts of the tumor, and the characteristics of the tumor cell.

Journal of the Medical Society of New Jersey, Orange.
May.

56 Chronic Gastrointestinal Diseases of Infants. F. H. Glazebrook, Morristown, N. J.
57 *Evils Besetting Medical Practice. L. Emerson, Orange.
58 Eye Symptoms of Affections of the Accessory Sinuses of the Nose. C. F. Adams, Trenton.

57. **Evils Besetting Medical Practice.**—Emerson says that the greatest evil besetting medical practice is lack of organization.. He urges physicians to join their state and national associations and to influence their neighbors to do likewise.

New Orleans Medical and Surgical Journal.
May.

59 *An American School of Tropical Medicine. Shall There Be One? Where Shall It Be Located? What Shall Be Its Organization? I. W. Brewer, Fort Huachnca, Ariz.
60 *Spina Bifida. E. D. Fenner, New Orleans.
61 Handling and Diet of New-born, With Notes on Goat's Milk. L. G. LeBenf, New Orleans.
62 Two Cases of Infected Wounds of Hand and Forearm Treated with Bier Vacuum Cups. P. B. Salatich, New Orleans.

59. **American School of Tropical Medicine.**—Brewer claims that such a school should be located in New Orleans, because there is an abundance of material there for the study of tropical diseases, and if a hospital were established to treat such cases the clinical material would rapidly increase. Its organization, he states, should be on the lines outlined by Manson.

60. **Spina Bifida.**—Fenner reports two cases of spina bifida in which a successful operation was done. One patient was ten days old, the other two months. In both cases the tumor was situated in the sacrolumbar region.

Journal of Nervous and Mental Diseases, New York.
May.

63 *Case of Epilepsy Associated with Acromegaly. W. T. Shanahan, Sonyea, N. Y.
64 Gliomatosis of the Pia and Metastasis of Glioma. W. G. Spiller, Philadelphia.
65 *Is Epilepsy a Disease of Metabolism? J. F. Munson, Sonyea, N. Y.
66 Diagnostic Value of Lumbar Puncture in Psychiatry. J. L. Pomeroy, New York.

63. **Epilepsy Associated with Acromegaly.**—Shanahan's patient manifested the first symptoms of acromegaly when she was 22 years old. Four years later she had her first epileptic seizure. This seizure was apparently grand mal in type. There were no aura. The patient is now 31 years of age and the acromegaly is progressing in the usual manner.

65. **Epilepsy.**—Munson believes that the epileptogenous change affects the chemical structure of the cell, and he doubts that the lesion can be made visible by the methods of the pathologist. He says the fact that some variation from the normal is almost always reported makes one rather hopeful that further work along biochemical lines will in the end bring a solution of the problem.

Journal of Cutaneous Diseases, New York.
May.

67 *Tuberculous Infection of the Skin, and One Allied Case. T. C. Gilchrist, Baltimore.
68 Pigmented Spots in the Sacral Region of White and Negro Infants. C. Herrman, New York.
69 Intramuscular Injections of Mercury in Treatment of Syphilis. E. H. Shields, Cincinnati.
70 New Comedo Extractor. J. F. Schamberg, Philadelphia.

67. **Tuberculous Infections in Skin.**—Gilchrist reports a case of primary tuberculosis of the sole of the foot, the diagnosis being confirmed by a microscopic examination of the tissue, and the finding of tubercle bacilli. An interesting point in the history of the case was that there was living in the house with the same patient a phthisical individual who practiced bad expectorating habits, which probably accounted for the source of the infection. In another case of tuberculosis of the back of the right hand the patient was working at a bench with a consumptive. The patient had a scratch over the knuckle; this was followed later by a pimple, which finally took on the typical character of tuberculosis varicosa cutis. Tubercle bacilli were demonstrated in the tissue. Gilchrist also reports a case of tuberculous tumors of the skin with lesions on the lower extremities simulating *Erytheme induré scrofuleux* in a young negro girl, and a case of acne necrotica.

Therapeutic Gazette, Detroit.

April 15.

71 Symptomatology and Treatment of Toxemia of Pregnancy. W. H. Wells, Philadelphia.
72 Treatment of Eclampsia. J. C. Hirst, Philadelphia.
73 The Urine in Toxemia of Pregnancy and Eclampsia. C. Foulkrod, Philadelphia.
74 External Inflammatory Diseases of the Eye. L. F. Appleman, Philadelphia.
75 Relation of the Volume of Air Inspired to the Rise of Temperature in Neurogenic Fever. I. Ott and J. C. Scott, Philadelphia.
76 *Is the Use of Potassium Iodid Admissible in Pulmonary Tuberculosis? H. R. M. Landis, Philadelphia.
77 *Local Use of Magnesium Sulphate Solution in Inflammation. H. Tucker, Philadelphia.
78 Anesthesia and Methods Producing It. H. B. Ingle, Philadelphia.

76. **Potassium Iodid in Tuberculosis.**—Landis says that inasmuch as it is apparent that an incipient or quiescent lesion may be aroused into activity by the use of potassium iodid, it would seem that the use of this drug in the more advanced stages of tuberculosis might be productive of harm rather than good. As iodid of potassium fulfills no distinct indication in the treatment of tuberculosis and there is reasonable evidence as to its dangers, the safer course would be to avoid it altogether. When, however, tuberculosis and syphilis coexist, iodid of potassium is often necessary, and under these circumstances may be given.

77. **Magnesium Sulphate in Inflammation.**—Tucker has used magnesium sulphate as a local application with gratifying success in about thirty cases. The application consisted of a saturated solution of magnesium sulphate and water applied in the form of a wet compress and left in place for twenty-four hours. The parts are then washed with water and the dressing is reapplied, if indicated. The majority of the cases reported in which the application was used were gonorrheal in origin, such as orchitis, epididymitis, and rheumatism. It was also used successfully in two cases of erysipelas, one case of alcoholic neuritis of the lower extremities, and in two cases of traumatic neuritis. In these cases, however, the effect was not curative but palliative.

Journal of the Missouri State Medical Association, St. Louis.

April.

79 Prolapse of Sigmoid Flexure. J. M. Allen, Liberty, Mo.
80 Pathogenesis of Chorea Minor. M. Goldman, Kansas City, Mo.
81 Importance of Postoperative Treatment in Diseases of the Rectum. W. H. Stauffer, St. Louis.
82 Lessons to Be Drawn from 43 Recent Operations on the Stomach. W. Bartlett, St. Louis.
83 Treatment of Adenoids by the General Practitioner. W. E. McKinley, Denver, Mo.
84 Method of Radical Relief of Cases of Deafness of Long Standing Abandoned as Hopeless. R. Barclay, St. Louis, Mo.
85 Endothelioma of Ovary. E. D. Porterfield, St. Louis, and J. D. Porterfield, Jr., Cape Girardeau, Mo.
86 Primary Ligation of Internal Iliac Arteries in Hysterectomy. N. O. Harrelson, Kansas City, Mo.

The Post-Graduate, New York.

April.

87 Two Cases of Thoracic Aneurism. W. H. Porter, New York.
88 Obstetric Hemorrhages and Their Treatment. H. P. DeForest, New York.
89 Modern Obstetric Technic. G. L. Brodhead, New York.
90 Management of Mother and Child During the Puerperium. W. H. W. Knipe, New York.
91 Case of Acute Malignant Endocarditis. T. H. Coffin, New York.
92 History Blanks. F. Cabot, New York.

Medical Fortnightly, St. Louis.

April 10.

93 Lupus Erythematous. J. V. Shoemaker, Philadelphia.
94 Management of Pregnancy, Labor and the Puerperium. J. C. Murphy, St. Louis.
95 Résumé of Theories in Regard to Etiology of Chronic Enlargement of the Prostate. H. J. Scherck, St. Louis.
96 What Shall We do With Charcot's Joints. S. G. Burnett, Kansas City, Mo.

April 25.

97 Caseous Maxillary Sinusitis. R. H. Johnston, Baltimore, Md.
98 Peritoneal Adhesions. B. A. McDermott, Omaha, Neb.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 11.

1 Early Symptoms of Mental Disorder. W. H. B. Stoddart.
2 *Vicious Circles. J. B. Hurry.
3 *Differential Diagnosis Between Ménière's Disease and Others Exhibiting Ménière's Complex of Symptoms. T. W. Parry.
4 Nine Cases of Carbolic Acid Gangrene. D. Wallace.
5 Early Specimen of Total Enucleation of Prostate Removed by the Late Mr. McGill. J. A. C. Forsyth.
6 *Nerve Degeneration and Regeneration. W. D. Halliburton.
7 Spirillosis of Domestic Fowls. M. F. Reaney.
8 Sterility in Man. A. Cooper.
9 *Strangulated Hernia in Infant. A. Mitchell.
10 *Secretion of Milk in Axilla. H. P. Godfrey.

2. **Vicious Circles.**—Hurry discusses vicious circles under the following classifications, based on etiology: Organic, symptomatic, infective, neurotic, chemical, mechanical, artificial and spurious. He says that the watchful practitioner may sometimes prevent the development of these vicious circles if he is thoroughly acquainted with the course diseases tend to follow, and at the right moment gives such aid as will check the morbid processes at work. The circles are really illustrations of cause and effect, such, for instance, as the occurrence of polydypsia and polyuria in diabetes, and dental caries being the cause of oral sepsis.

3. **Ménière's Disease.**—Parry reports a case of persistent Ménière's symptoms in which a cure was effected when all other methods of treatment had failed, by the simple insertion of a seton.

6. **Nerve Regeneration.**—Halliburton has given the subject of regeneration of nerves considerable study. As the result of this study he inclines to the belief that the Wallerian doctrine—that new nerve fibers are growths from the central ends of divided nerve trunks—is correct.

9. **Strangulated Hernia in Infant.**—The patient in Mitchell's case was six weeks old, breast-fed and previously healthy. The herniotomy was done under local anesthesia. The sac of the hernia was found to contain a large coil of small intestine, the cecum and the appendix. The patient recovered.

10. **Secretion of Milk in Axilla.**—Godfrey reports the case of a woman who has a well-marked mammary gland on each side, quite distinct from the principal mammary gland and extending to the axilla. Each of these glands has a distinct nipple, and from them there is always a free discharge of milk during the puerperium.

The Lancet, London.

May 11.

11 Nerve Degeneration and Regeneration. W. D. Halliburton.
12 Causes of Cardiac Motion and Disordered Action. A. Morison.
13 Treatment of Fractures in Vicinity of Joints. W. A. Lane.
14 *Opsonic Index in Sane and Insane. C. J. Shaw.
15 Metastases in Malignant Disease of Viscera. C. O. Hawthorne.
16 *Paratyphoid Fever Following Removal of Ovarian Cyst. W. Thyne.
17 *Perforation in Typhoid and Its Relation to Blood Pressure. A. L. Sheppard.
18 Status Lymphaticus. L. Vintras.
19 Congenital Diverticulum of Stomach and Duodenum in Physiologic Hour-glass Stomach. W. H. Horrocks.

14. **Opsonic Index in Sane and Insane.**—Shaw summarizes his article as follows: As the insane are particularly liable to tuberculous infection, a comparison of the average indices recorded in the sane and insane and also in the various classes of insane patients would indicate that the opsonic power of the blood serum can be used as a measure of liability to infection and that a low opsonic index precedes infection. The injection of a small dose of tuberculin TR in healthy persons produces no negative phase to the tubercle bacillus and, therefore, may be used as a method of diagnosis. A smaller dose of tuberculin, however, will more often produce a negative phase in a predisposed person than in one less liable to tuberculous infection. To determine the value of a negative phase after injection the daily variation in opsonic power as well as its level at the time of injection must be estimated. For this reason a number of consecutive observations are necessary; a single or a number of isolated observations is not sufficient. The average opsonic indices of healthy individuals varies little to different organisms. The injection of a large dose of tuberculin even in healthy individuals causes a fall in opsonic power to other organisms than the tubercle bacillus. This explains the liability of tuberculous patients to secondary infection. For purposes of differential diagnosis by the production of a negative phase a very small dose must be administered. Large doses of tuberculin can be injected into healthy persons without producing constitutional symptoms. Amount of dose, therefore, may be a matter of diagnostic significance as a small dose causes a reaction in infected cases.

16. **Paratyphoid Following Removal of Ovarian Cyst.**—What is believed to be the first case of this kind on record is reported by Thyne as having occurred in a woman aged 38, from whom he removed an ovarian cyst of about the size of a football. The paratyphoid manifested itself on the twenty-first day, the diagnosis being confirmed by the agglutination test, which proved negative to typhoid and positive to paratyphoid.

17. **Perforation in Typhoid.**—According to Sheppard, a rise of blood pressure occurring in the course of typhoid may be regarded as positive evidence of perforation, although, he says, that a stationary pressure is no indication that the catastrophe has not occurred.

Journal of Tropical Medicine, London.
May 1.

20 Peculiar Blood Condition, Probably Parasitic, in Fowls. A. Balfour.
21 Food Plants Cultivated by the Umbundu-Speaking Natives of Portugese West Africa. F. C. Wellman.

Indian Medical Gazette, Calcutta.
April.

22 Recent Advances of Knowledge in Connection with Rabies. J. W. Cornwall.
23 Malta Fever in the Punjab. C. N. C. Wimberley.
24 Occurrence of Ameba Coli in Port Blair, Andaman Islands. A. R. S. Anderson.
25 Cerebrospinal Meningitis in Bhagaipur in 1906. J. M. Woolley.
26 *Liquor Sodæ Chlorinatæ. Anukul Chandra Basu.
27 Fatal Case of Snake Poisoning. G. G. Hirst.
28 Malarial Pneumonia. J. H. Burgess.
29 The Plague in Kashmir. A. Mitra.
30 *Two Native Remedies for Acute Dysentery. H. E. Banatvala.
31 Transverse Fracture of Patella. L. G. Fischer.
32 *Value of Creosote Inunction in Medicine. H. S. Wood.
33 Sarcoma of the Temporal Fascia. E. O. Thurstone.
34 *Two Cases of Ascaris Lumbricoides. C. J. R. Milne.

26. **Liquor Sodæ Chlorinatæ.**—Basu has found this solution an excellent dressing for all sorts of unhealthy and badly sloughing ulcers, using the solution in the strength of 1 to 20.

30. **Remedies for Dysentery.**—The two native remedies referred to by Banatvala are the juice of the leaves of *Jasminum sambac*, and a mixture of *Chinai sakkar*, cardamon and sugar. The latter is a household remedy among the Parsees in Bombay.

32. **Creosote.**—Wood has noted excellent results from the use of creosote as a preventive of dysentery, and in the treatment of phthisis, pneumonia and malaria. The drug was administered by inunction. Thirty minims of creosote were mixed with vaselin or olive oil, and half of this was rubbed vigorously into the axillæ and groins in the morning and half in the evening. A more detailed report is promised at another time.

34. **Ascaris Lumbricoides.**—The two cases reported by Milne are of some interest in view of the number of parasites present in the first case, and their unusual location in the second case. Both the patients were insane. The first patient passed altogether about 630 worms, weighing about four pounds, in seven days. He did not seem to be inconvenienced by their presence, and the removal of the worms had not the slightest effect on his mental condition. In the second case the worms were not discovered until at the postmortem on the patient. The number and location of the worms were as follows: Duodenum and jejunum, 51; common duct, 20; gall bladder, 5, and liver, 19.

Glasgow Medical Journal.
May.

35 *Sarcoma of Right Pleura and Lung. A. Napier and J. Anderson.
36 *Treatment of Sciatica with Saline Injections. A. G. Hay.
37 Marriage Laws and Customs of West Australian Aborigines. D. M. Bates.

35. **Sarcoma of Pleura and Lung.**—The patient, whose case is reported by Napier and Anderson, was only 23 years old. The tumor was confined to the pleura, right side of the chest, and the lower part of the interior mediastinum; the trachea, esophagus and blood vessels escaping invasion. Tumor nodules were found in the left suprarenal and kidney and in the liver. The case terminated fatally six months after its onset. The original diagnosis was chronic pleurisy. There was also a pericarditis, which is one of the common complications of malignant intrathoracic tumors.

36. **Saline Injections in Sciatica.**—Hay reports four cases in which the treatment of sciatica by means of saline injections proved effective. He says that several injections may be required to effect a cure, but the improvement after the first injection has so far been sufficient to make the patients willing to return for further treatment. Hay makes the injection in the gluteal fold midway between the great trochanter and the tuberosity of the ischium.

Annales d. Mal. d. Org. Gén.-Urinaires, Paris.
Last indexed, XLVII, page 972.

38 (XXIV, No. 12, pp. 881-960.) *Is the Intermittent Albuminuria of Children due to Nephritis? (Alb. in. de l'enfance.) H. Dauchez.
39 (No. 13, pp. 961-1040.) *Supposed Recurrences After Prostatectomy for Simple Hypertrophy. (Des prétendues récidives après prostatectomie.) André.
40 *Traumatic Lesions of the Testicles and Industrial Insurance. (Lésions accidentelles des testicules.) V. Balthazard.
41 (No. 14, pp. 1041-1120.) *Pains in the Bladder in Women. (Cystalgies des femmes.) Rochet.
42 (No. 15, pp. 1121-1200. Experimental Study of Effects of Ligature of Renal Artery and Vein. (Lig. de l'art. et de la veine rén.) M. Jungano. Commenced in No. 12.
43 (No. 16, pp. 1201-1280.) *Treatment of Tuberculosis of the Testicle. (Tub. du test.) L. Batut.
44 Treatment of Oxalate Gravel. (Gravelle oxalique.) Dedet.

38. **Intermittent Albuminuria in Children.**—Dauchez analyzes a number of cases of various types of intermittent albuminuria in children with apparently healthy kidneys. He is convinced that prolonged observations in such cases will always reveal a partial nephritis developing in a soil predisposed by some inherited taint.

39. **Recurrence After Removal of Prostate for Simple Hypertrophy.**—André relates a case which confirms the assumption that when recurrence is observed under these circumstances the trouble is in reality of a cancerous nature instead of simple hypertrophy. Motz and Albarran estimate at 10 per cent. the proportion of cases of hypertrophy due to unsuspected malignant disease. André's patient is a farmer. 62 years old, whose prostate was removed in 1903 by the perineal route, for supposed simple hypertrophy. Recurrence soon developed, and the malignant nature of the affection is now beyond question, but the patient is still in good health and has a good appetite, his only complaint being that it is difficult to introduce the catheter.

40. **Traumatic Lesions of Testicles and Industrial Insurance.**—Balthazard reviews two recent judicial decisions in France in regard to the compensation for insured wage earners after injury of the testicles in an industrial accident. One decision rejected completely the plea for indemnity and imposed the costs of the suit on the plaintiff. The other decision—in the same court, but by a different judge—awarded a pension of 58 francs from the day of the accident, about one-twenty-fifth of the salary the man had been receiving. In this case one testicle had been crushed by a kick from a horse. Balthazard's conclusions from his study of the physiology of the testicles are that the only traumatic lesions of the testicle which might possibly incapacitate a workingman are those which entirely abolish the internal secretion. The consequences of the loss of the internal secretion of the testicles are more serious the younger the victim. The amount of incapacity he estimates at 25 per cent. for an adult between 30 and 40; up to 50 per cent. for youths under 20, and down to 10 per cent. or zero for persons over 50.

41. **Cystalgia in Women.**—Rochet thinks that the factors for a possible bladder trouble are more numerous in women than in men, but he adds that more can be done for the relief of cystalgia in women than is generally supposed. Persevering differentiation and treatment of the main factors will sometimes cure even after the physician has long given up hope. In case of the possibility of an old latent gonorrheal or puerperal infection, instillation and lavage with disinfectants may give prompt and brilliant results. In case of uremia or gout, general treatment is required, restricting local measures to mild cauterization of the neck of the bladder with a 1 in 50 or 1 in 100 solution of silver nitrate. In case of a possible influenzal origin for the cystalgia, local disinfection may be useful, but quinin sulphate, 0.2 gm (3 grains) morning and evening for a week, then suspending for a week and recommencing, is, he states, the true internal treatment for these cases, giving sometimes prompt and unexpected relief and cure. Concomitant gynecologic affections should be treated as indi-

eated. If the bladder trouble persists, local treatment may be needed. Vaginal or rectal sedative suppositories and hot injections are generally beneficial whatever the cause of the cystalgia. The injections should be made with water at 104 F. or still hotter, using 2 or 3 quarts, and allowing several minutes for the flowing of the water. Treatment of the general nervous system is important. Hygiene, hydrotherapy and possibly bromids or valerian internally will render great service. Even although the cystalgia may never be entirely cured, it may be kept within bearable bounds with perseverance on the part of patient and physician. In case of absolute failure, surgery is the only resort, and even a comparatively insignificant operation such as slitting the sphincter, may give permanent relief. This was the result in Rochet's experience in one case in which the patient had suffered for years from intense cystalgia. Incontinence of urine generally results from this operation, but as the urine escapes by the natural outlet there is no irritation from it. As a last resort Rochet advises resection of the perineal branch of the internal pudic nerve.

43. **Tuberculosis of the Testicle.**—Batut reports 10 cases of tuberculous processes in the testicle, all cured by curettement and cauterization of the lesions or by epididymectomy.

Revue de Gynécologie, Paris.

Last indexed page 1905.

45 (XI, No. 2, pp. 195-384.) *Cancer of the Ovary in the Course of the Evolution of Cancers of the Stomach, Intestine and Biliary Passages. (Cancer de l'ovaire, etc.) Goullioud.
46 Uterine Cysts. (Kystes de l'ut.) S. Mercadé.
47 *Fistulas Between Stomach and Colon. (Des fistules gastrocoliques.) G. Chavannaz.
48 The Senile Appendix. (L'app. senile.) E. Mériel.

45. **Cancer of the Ovary Accompanying Cancer Elsewhere.**—Goullioud emphasizes the frequency of bilateral malignant disease in the ovaries during the course of cancer in the stomach, intestine or biliary passages, or after its removal. As a rule, he says, ovarian cancer is a metastasis. His experience with five cases teaches the extreme malignancy of ovarian tumors coinciding with cancer elsewhere. It also teaches the necessity for examining the ovaries in operating for cancer elsewhere, and for examining the stomach and intestine in case of ovarian cancer.

47. **Gastrocolic Fistula.**—Chavannaz comments on the scant attention paid to this condition in the literature since the first description was published in 1857. In 47 cases on record the fistula was of cancerous origin; in 38 the cancer was in the stomach. In 7 others there was merely an ulcer, and in 4 more this was probable. In 5 others the fistula was the result of a tuberculous process in the stomach or intestine, and in 2 of an abscess in the intestine. The total 79 cases are summarized and jejunostomy is advised for patients suffering from inanition. Colocolostomy may be preferable for those with fecaloid vomiting.

Semaine Médicale, Paris.

49 (XXVII, No. 18, pp. 205-216.) Treatment of Aneurisms on the Limbs, the Result of Firearm Wounds. (Anévrysmes des membres.) F. Lejars.
50 (No. 19, pp. 217-228.) Technic for Interval Appendectomy Free from Danger of Eventual Eventration. (Appendicectomie à froid permettant d'éviter l'éventration.) Le Bec.
51 Case of Third Testicle. (Triorchidie.) J. Potarca.
52 Discussion of Regulations Reorganizing the Sanitary Service in the German Army. (Service de santé de l'armée all. en campagne.) Commenced in No. 18.

Berliner klinische Wochenschrift.

53 (XLIV, No. 13, pp. 361-384.) Dislocation of Hip. (Hüftgelenksluxationen.) L. R. von R. Rydygier. Clinical lecture.
54 Inaction of Complex Hemolysins in Solutions Without Salt, and Its Cause. (Unwirksamkeit der kompl. Hämolysine.) A. Ferrata.
55 *Therapeutic Injection of Oxygen into the Knee. (Therap. Sauerstoffeinblasungen.) L. Rauenbusch.
56 *Graphic Record of Pulse Pressure. ("Turgo-Sphygmographie.") E. v. Koziczkowsky.
57 *Inherited Tendency to Heart Affections in Youth. (Myocardismus und Endocardismus hereditarius.) G. Galli.
58 Thyroid Treatment of Hay Fever. (Heufieber.) P. Heymann.
59 *Congenital Strictures of the Urethra. (Angeb. Strikt. der Harnröhre.) C. Posner.
60 Present Status of Treatment of Cutaneous Tuberculous Processes. (Hauttuberkulose.) A. Alexander.

55. **Therapeutic Injection of Oxygen into the Knee.**—The Journal mentioned on page 1141 of Vol. XLVII, 1906, Hoffa's recommendation of injection of oxygen into a joint to facilitate Roentgenoscopy. The various parts of the joint show far more distinctly when this is done. Rauenbusch here states that the injections of oxygen for this purpose were followed by the surprising experience that the patients returned after a few days, begging to have the oxygen injected again, as it had arrested all pain in the diseased joint and the affection seemed better in every way. The measure was then tried for therapeutic purposes, and he here relates in detail his experiences with several cases of synovial tuberculosis, etc. Subjective improvement was manifest in every instance, and in some cases was followed by evident objective improvement. In 5 cases of chronic arthritis no other treatment was attempted and improvement was soon evident. The injections were repeated at intervals of from 1 to 3 weeks, as the benefit seemed to subside after a certain interval. For the present the treatment is empiric only, but the obstinate persistence of affections of the knee justifies a trial. Sufficient time has not yet elapsed to determine whether or not the improvement will progress to ultimate cure. Hoffa has also found injection of oxygen beneficial after evacuation of a hemorrhagic effusion in the knee. The mechanical compression of the synovial membrane by the oxygen tends to prevent the reproduction of the effusion. Benefit might also be realized, he thinks, by injection of oxygen every 3 or 4 days after breaking up fibrous ankylosis, to prevent the parts growing together again. It can only be done, however, when the capsule is still intact, as otherwise the oxygen would diffuse through the tissues and the mechanical effect would be lost.

56. **Determination of Pressure of the Pulse by "Turgo-Sphygmography."**—This communication from Strauss' clinic at Berlin describes with illustrations a little instrument which it is claimed records the behavior of the pulse more accurately than other means to date. It is a combination of Gaertner's tonometer and Oehmke's turgograph, and seems to be free from the inconveniences of the ordinary sphygmograph. It shows with special precision the lower part of the pulse wave, which is generally rather slighted in the ordinary pulse tracings. It is said to be particularly valuable for oversight of the pulse during general anesthesia.

57. **Inherited Tendency to Heart Disease.**—Galli has observed at Rome a family in which the father had succumbed at 45 to heart disease, and the four children all present signs of low resisting power on the part of the myocardium. He applies the term "inherited myocardism" to the condition, which is characterized by symptoms of weakness of the heart muscle. In Huchard's "inherited aortism" the tendency is to high blood pressure, with general vigor, but it leads in time to pathologic changes in the blood vessels in the remotest regions, with arteriosclerosis. In the "inherited myocardism" there may be chronic pathologic changes in the myocardium, but arteriosclerosis is not necessary for their development. Besides these two types there may be an "inherited endocardism," and this may entail valvular defects.

59. **Congenital Stricture of the Urethra.**—Posner protests against the general assumption that a stricture in the urethra must necessarily be due to preceding inflammation. He describes the case of a lad of 11, always healthy except for an attack of scarlet fever. In the summer of 1905 the boy suddenly presented symptoms suggesting pyelitis, that is, pains in the region of the right kidney, turbid urine, tenesmus and hematuria on one occasion. A kidney stone was surmised, but neither radioscopy nor palpation gave positive findings. The lower part of the abdomen protruded and there was considerable retention of urine. The catheter met with some obstacle in the region of the enlargement of the urethra, but it was easy to overcome this obstacle. Regular dilatation with progressively larger sounds soon put an end to the retention of urine and the urine cleared up. The case can be explained only by a congenital stricture in the urethra.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

61 (XXXIII, No. 16, pp. 617-664.) Immunity and Its Importance for the Practice of Medicine. (Immunitäts-Wissenschaft.) A. Wassermann.
62 *Nature and Treatment of Tendency to Gout. (Gichtische Anlage.) W. Ebstein.

63 Case of Auriculoventricular Tachycardia. (Atrioventrikulare Tachycardie.) J. Rihl.
64 Icterus with Cholecystitis from Passage of Bile from the Inflamed Gall Bladder Directly into the Vascular System. (Ict. bei Cholecystitis.) H. Eppinger.
65 Sensation of Vibration and Pressure Sense. (Vibrationsempfindung und Drucksinn.) H. Steinert.
66 Negative Results of Attempted Transmission of Leprosy to Animals. (Uebertragung der Lepra auf Tiere.) P. V. Jezierski.
67 Treatment of Experimental Trypanosomiasis. (Atoxylbehandlung der exp. Dourine.) W. L. Yakimoff.

62. **Nature and Treatment of Tendency to Gout.**—Ebstein regards gout as the result of a disturbance in the intermediary metabolism especially in the metabolism of nuclein, and probably located in the nuclei of the cells. Diabetes, he states, is the result of a disturbance in the metabolism of carbohydrates. Persons who suffer from gout in later life are liable to display certain morbid tendencies in childhood. Such children generally have a healthy aspect, perspire readily, have a good appetite but with a great tendency to indigestion, eczema and itching cutaneous affections, take cold easily, and are especially prone to recurring attacks of granular pharyngitis. Migraine is the most constant sign of the gouty tendency in early life; epistaxis in the morning is another sign, as also pains in the joints, dyspepsia and dizziness, signs of neurasthenia and, especially, acidity of the urine, with deposits of urates and uric acid. Other signs of the gouty tendency, even in the absence of actual gout, are variability of mood, depression and a certain disposition to dissimulation. It is important to detect the tendency to gout early and to insist on a simple mode of life with dieting as for obesity, restriction of carbohydrates, with plenty of albumin and fat. He regards vegetable albumin as fully equivalent to animal albumin in the diet. Alcohol should be entirely avoided, as also too much bread, sugar, sweets of all kinds, cake, puddings and other foods that tend to make fat. He adds that the physician is rarely able to impose this mode of life on patients who most need it, but he should never refrain from preaching it, and occasionally his advice may be taken. In any event he may be able to steer into safety the children in families with this tendency.

Münchener medizinische Wochenschrift.

68 (LIV, No. 14, pp. 649-712.) Superiority of Zigzag Incision for Appendicitis, for Femoral Hernia, for Ligature of External Iliac Artery, and for Extensive Intra-abdominal Operations. (Zuverlässigste Appendixschnitt, etc.) Riedel.
69 Prevention and Treatment of Fecal Fistula after Appendicitis Operations. (Kotfisteln nach App.-Op.) P. Janssen.
70 *Roentgen Treatment of Enlargement of the Prostate and its Technic. (R.-Behandlung der Prostatahypertrophie.) F. Haenisch.
71 *Properties and Aims of New Method of Urethroscopy. (Harnröhrenbesichtigung.) H. Goldschmidt.
72 *Active Hyperemia in Treatment of Arteriosclerotic Gangrene. (Akt. Hyperämie in der Behandlung der art. Gangrän.) W. Röpke.
73 *Healing after Fracture of Patella. (Heilungsergebnisse von Patellar-Frakturen.) H. Landwehr.
74 Congenital Dislocation of Patella. (Kong. Luxation der Pat.) H. Bogen.
75 Nail Affection with Black Discoloration in Syphilitics. (Onychia pigmentosa luetica.) H. Vörner.
76 Successful Tuberculin Treatment of Tuberculosis of Eye. (Tub. des Auges.) Erdmann.
77 Technic for Drawing Blood from Rabbit's Ear. (Blutentnahme aus dem Kaninchenohr.) O. Prym.
78 Tester of Sense of Contact, etc. (Sensibilitätspriifer.) S. Auerbach.
79 Intratumoral Roentgen Treatment of Cancer. (Intratumorale Röntgenbestrahlung.) H. E. Schmidt.
80 *Semmelweis or Lister? Weckerling.

70. **Roentgen Treatment of Enlargement of the Prostate.**—Haenisch reviews what has been accomplished in this line by Moszkowicz and others since the first publications on the subject in March, 1905. He also describes his own experience and gives an illustrated description of what he thinks is the preferable technic. The patient assumes a partial knee-elbow position, the trunk resting on an adjustable cushioned support, and the arms and elbows on a lower cushion. The Roentgen tube is on an adjustable standard and folding arm, centering the rays in a lead glass speculum fastened in the rectum. By this arrangement the patient reclines comfortably and if he moves can not be injured, as there is nothing to hit against, while the tube does not become uncentered. The necessity of applying the rays to the bladder at the same time is emphasized by Haenisch, who also confirms the experience of others that the success of treatment is in inverse proportion to the duration of the affection. He does not describe his clinical experience further than to state that it has been very satisfactory. The distance between the anticathode and the entrance to the speculum was always about 27 cm.; the exposure was six minutes in length, and was repeated until from 6 to 8 exposures had been given in the course of 2 or 3 weeks. The bibliography of the subject is added.

71. **Improved Urethroscopy.**—Goldschmidt's urethroscope is constructed on the principle of Nitze's system of lenses. Water enters through the urethroscope and distends the urethra, thus opening it up for inspection. His experience with the new urethroscope has been very favorable, and has revealed many features of the urethra and entrance to the bladder which have hitherto escaped notice. It is especially instructive when the urethra is thus inspected while the rectum and prostate are being palpated. The findings, he states, throw new light on the functions of the genital organs. The new urethroscope renders galvanocauterization a simple and easy matter. He adds that it is astonishing how well the posterior urethra and bladder tolerate the injection of cold water. The details of the urethroscope are described and illustrated.

72. **Active Hyperemia in Treatment of Arteriosclerotic Gangrene.**—Röpke reports a case of arteriosclerotic gangrene of the toe in which the process continued a progressive course after exarticulation of the toe. There was no pulsation in the arteries of the foot and no bleeding from the wound. The patient was a man of 59 who had suffered from gout for 22 years. In dressing the wound one day very hot water was used, and the wound bled a little. Consequently hot foot baths were then given systematically every day, for 15 minutes or more, and within a week the arteries in the foot showed distinct pulsation. The wound gradually healed and, except that this foot is always colder than the other, the aspect of the skin and the pulsation are approximately the same as in the other foot. The hyperemia induced by the hot water extended only to the limits of the vital tissues, and thus differentiated the dead from the living tissue.

73. **Healing of Fractured Patella.**—Landwehr tabulates the ultimate results in 16 cases of fractured patella treated at Bardenheuer's clinic with suture or extension only, and reexamined after one or more years. The results confirm his previous assertions in regard to the advantages of extension treatment. Equally good results were attained with the bloodless measures as with the sutures, while the former avoids all the dangers inherent in surgical measures. The suture does not always produce perfect results by any means.

80. **Semmelweis or Lister?**—Weckerling wrote to Lister to inquire if he had been influenced by Semmelweis' writings in his discovery of the principle of antisepsis. Lister replied that he had never heard of Semmelweis or his work when he published his first announcements in 1863. Even when he visited Budapest twenty years later the name of Semmelweis was never mentioned. A short time after this, however, in 1883. a Hungarian physician in London made him acquainted with Semmelweis' writings.

Therapie der Gegenwart, Berlin.

Last indexed, pages 461 and 1387.

81 (XLVII, No. 10, pp. 438-480.) *Pylorospasm. (Pylorospasmus.) O. Heubner.
82 *Nature of Certain Bodily Disturbances in Hysteria and Their Importance as Guide to Treatment. (Wesen einige körperliche Störungen der Hysterie.) H. Curschmann.
83 Intravenous Strophanthin Treatment according to Fraenkel. (Intraven. Strophanthintherapie.) F. Mendel.
84 Advocacy of Spinal Anesthesia in Operative Obstetrics. (Narkose in der op. Geburtshilfe.) C. J. Gauss.
85 Hot Local Baths in Treatment of Gonorrhea. (Einfaches Hilfsmittel.) O. Buber.
86 The Tasks of Chemo-Therapy. (Aufgaben der Chemotherapie.) P. Ehrlich.
87 (No. 11, pp. 481—528.) *Tuberculosis and Pregnancy. (Tub. und Schwangerschaft.) J. Veit.
88 Modern Methods of Treating Epilepsy. (Einige neuere Methoden der Epilepsiebehandlung.) A. Eulenburg.
89 *Chemical, Physical and Morphologic Findings in 240 Spinal Punctures and their Interpretation for Diagnosis and Treatment. (240 Spinalpunktionen.) W. Cimbal.
90 *Suggestion for Internal Treatment of Acute Peritonitis after Appendicitis. (Peritonitis nach Perityphlitis.) M. Katzenstein.
91 *Abortive Treatment of Cold in the Head with Atropin. (Atropinbehandlung des Schnupfens.) O. Kohnstamm.

81. **Pylorospasm.**—Heubner states that he has observed 49 cases of spasmodic contraction of the pylorus in 10,000 children with various affections in his charge. He has been able to trace the after-life of 18 of the children with pylorospasm in infancy. In one family 3 children died in infancy from the results of pylorospasm. All the other children recovered under exclusively dietetic measures. He leaves the stomach at rest, refraining from lavage, and making the intervals between feedings as long as possible, but then allowing the child to drink freely and to vomit afterward. He also orders warm cataplasms or the thermophor to the stomach, but never counter-irritation. Opium or atropin, to subdue the contraction, he prefers to give by the rectum, and supplements all these procedures by a high enema of tepid water once a day, hoping that the warmth from this source will aid in subduing the contraction of the stomach. The condition may persist for weeks and months, reducing the strength of the little patient, but even then, he declares, conditions are not so bad as after a gastroenterostomy. This operation does not inevitably cure the spasm, while the mortality has been 50 per cent. in this class of cases. Expectant dietetic treatment has only a mortality of 9.5 per cent. to date. In all his cases the final tendency toward recovery was never later in making its appearance than the end of the third month of life. In general, the upward trend was evident within one or two weeks. In later life four of the children exhibited a tendency to nervous troubles, but all the others of whom he has knowledge are in excellent health.

82. **Physical Disturbances in Hysteria and Their Importance for Treatment.**—Curschmann advises closer study of the sensory and motor disturbances in hysterics, saying that careful analysis of their origin and mechanism will often point the way to diagnosis and cure. As the motor or sensory troubles are cured, the general hysteria subsides.

87. **Prognosis and Treatment of Tuberculosis in Pregnant Women.**—Veit comments on the fact that the pregnant woman, as a rule, gains in weight more than is explained by the growth of the ovum. Not only the cells of the fetus, but the cells of the maternal organism, under the influence of the growing ovum, acquire the faculty of increased assimilation. The tuberculous woman, he says, may present this same phenomenon when she becomes pregnant, or she may show a progressive decline in weight owing to the progression of the tuberculous affection. In the latter case she is doomed. In his experience women in this last class either abort or die soon after delivery. Between these two groups is a third group in which the weight fluctuates within narrow limits. His impression is that women in this group are in peril, but that they can be saved by speedy interruption of the pregnancy. By careful study of the weight he thinks that it is thus possible to foretell the outcome when a tuberculous woman becomes pregnant. Those who gain steadily in weight come through the ordeal unimpaired. Those who lose steadily are doomed, while those whose weight remains stationary or fluctuates a little are in grave peril. He has not had sufficient experience to determine the standards for weekly increase in weight during pregnancy. When the woman is first seen she is weighed. Then he gives an ounce of castor oil and the next morning the intestines are thoroughly rinsed out, the bladder emptied, and the woman is weighed fasting. Afterward she can eat and drink as she will, but must not exert herself—he prefers to have her stay in bed. Daily, after evacuation of the bladder, she is weighed again, fasting, but without a purgative, and again after one week she is given the same dose of castor oil and weighed again, and the findings are compared with those of the first weighing. In some dubious cases he has kept this observation up for weeks before formulating his final decision as to the indications.

89. **Lumbar Puncture.**—Cimbal relates the findings in the cerebrospinal fluid obtained by 240 punctures in 14 persons with various functional psychoses or intoxications, but otherwise healthy; also in 12 cases of paralysis; in 12 of paralysis from syphilis of the brain; in 13 cases of tumors of the brain, chorea, eclampsia or similar conditions; in 12 of cerebral hemorrhage, and in 14 of meningitis. He found that the chemical, physical and microscopic findings varied widely in different cases of the same affections, imposing great caution in deductions from them. The findings in the spinal fluid can not be accepted as an index of the composition of the whole mass of the cerebrospinal fluid. In one case the fluid in the fourth ventricle was found to differ widely from that obtained by lumbar puncture. The stage of the affection and the prognosis are indicated better by the chemical findings than by the findings in regard to the cells found in the fluid. The chemical findings are generally the same for both tuberculous meningitis and syphilis of the brain. The increased proportions of salt and albumin point to severe alterations. In conclusion he calls attention to the regular and strikingly favorably influence of lumbar puncture in severe cases of alcohol intoxication —delirium tremens—in his experience.

90. **Suggestion for Internal Treatment of Acute Peritonitis After Appendicitis.**—Katzenstein's suggestion applies only to severe cases. It is based on his discovery that the walls of a cavity, the seat of an effusion, especially if hemorrhagic, become coated with fibrin. This fibrin clogs the passages for absorption of the fluid and there is little or no absorption. In case of peritonitis the gradual invasion of the peritoneum by bacteria causes a copious effusion, rich in fibrin, which becomes deposited on the walls and impedes absorption. When the invasion of the peritoneum occurs suddenly, especially when the blood is thicker than usual from any cause, then there is little effusion and no deposits of fibrin, consequently absorption proceeds unhindered. This explains the acute intoxication of the organism in a few hours, the result of unimpeded absorption of the bacterial toxins. For these reasons he has been applying in otherwise doomed cases of peritonitis a procedure which J. Wernitz has found extremely useful in cases of puerperal sepsis. (Described in The Journal, Vol. XL, pages 745 and 813, 1903.) Katzenstein modifies the technic somewhat to refrain from exciting peristalsis. Four gm. (60 grains) of salt are dissolved in a pint of warm water (40 C., 104 F.). This fluid is allowed to flow into the rectum at the rate of one or two drops a second, no faster. The fluid is renewed and the procedure continued until 2 or 3 quarts have thus been passed into the rectum, allowing one or two hours to each pint. After 12 hours the procedure is repeated. The patient thus receives from 4 to 6 quarts of the fluid in 24 hours, and soon shows great benefit from it, while peristalsis is scarcely at all excited. Any masses of feces in the rectum are, of course, softened and expelled. He has thus treated 3 patients who, he is convinced, could not have recovered without this saving measure. A major operation in these cases would certainly have extinguished the last spark of life by heart failure. Two patients were children, the other was a man of 40. Zollikofer has recently reported the recovery of twenty-six patients with appendicitis treated on this same principle with no mortality, but Katzenstein is an advocate of operative treatment as a rule, and advises the above technic only when other measures are contraindicated.

91. **Abortion of a Cold with Atropin.**—Kohnstamm has found in his own person and in the clinic that atropin is able to abort a cold. The dose required ranges between 0.5 and 1.5 mg. (1/150 to 1/60 of a grain). This amount of atropin sulphate is dissolved in a glass of water and the whole sipped in the course of an hour. By the end of an hour or two all symptoms have vanished. If they reappear the next day he repeats the dose. He has found the same measure useful in a case of nervous rhinorrhea which is always promptly arrested by this dose. As the catarrhal secretion subsides under the influence of the atropin, the general symptoms vanish with it.

Zeitschrift f. Geb. und Gyn., Stuttgart.

Last indexed, page 1643.

92 (LIX, No. 3, pp. 385-580.) Stratified Pavement Epithelium in Surface of Uterine Mucosa. Its Innocent and Malignant Character. Cancer Variation. (Mehrschichtiges Plattenepithel. Kaufmann-Hofmeiersche Krebsvariation.) A. Sitzenfrey.

93 *Operative Treatment of Vesicovaginal Fistula, especially in case of Loss of Urethra and Neck of Bladder. (Blasenscheidenfisteln.) O. v. Franqué.

94 *Etiology of Chorioepithelioma without a Primary Tumor in Uterus. (Aetiologie der Chorionepitheliome.) M. Walthard.

95 *Vanishing of a Pregnancy. (Beitrag zur Lehre von der Blasenmole.) O. Polano.

96 *Study of Recurrences after Removal of Carcinomatous Uterus and Treatment of Inoperable Uterine Cancer. (Rezidive und inop. Uteruskarzinom.) M. Henkel.

93. **Operative Treatment of Vesicovaginal Fistula.**—In the 12 cases of vesicovaginal fistula in which von Franqué has operated, nothing was left of the urethra or neck of the bladder in 6 instances. The particulars of these cases and the technic followed are given in detail. In one case in which there was both rectovaginal and vesicovaginal fistulas he used a flap from the rear wall of the vagina to repair the defect and to make a new urethra. The rest of the rear wall of the vagina was sutured to the posterior lip of the os uteri and the rest of the front wall of the vagina was sutured to the anterior lip. The functions of vagina and uterus were not interfered with. The principle is similar to that followed by Cazin in a similar case. In other cases von Franqué followed Freund's technic, using the uterus to repair the breach, and commends it as admirably adapted for cases of extensive defect with complete loss of the neck of the bladder, unless the patients are very anxious to retain the genital functions. He thinks that it is not necessary to restrict this technic to incurable atresia of the uterus, but that it can be applied in any case, even with still functioning uterus, by making a new opening into the uterus in the fundus. Direct transverse union of the neck of the bladder and the remains of the urethra should be given the preference, but when this is impossible, or has failed, the Freund technic will be found most excellent.

94. **Chorioepithelioma Without Primary Tumor in Uterus.**—Walthard's patient was a v-para of 27 in the second half of an apparently normal pregnancy, with delivery of a living child. She entered the hospital on account of uterine hemorrhage at the eighth month, and two small polypous tumors were found in the vagina and removed. They were found to be metastases of chorioepithelioma. To prevent further dissemination of the malignant affection the woman was delivered by Cesarean section, followed by total extirpation of the uterus. The child died in a few days. After seven months the patient returned on account of pain in the left side, spreading to the kidney region and groin, accompanied by hematuria, and she soon died. No traces of chorioepithelioma had been found in the uterus or placenta when removed, but numerous metastases, similar to those first found in the vagina, were discovered in the kidneys, lungs and elsewhere. He accepts the case as demonstrating that fatal chorioepithelioma can proceed from a uterus which contains nothing to indicate any special proliferating energy on the part of the cells of the placenta.

95. **Vanishing of a Pregnancy.**—In the case related by Polano, bilateral ovariotomy at the fourth month of a pregnancy was followed by the entire vanishing of the pregnancy without expulsion of any parts of the ovum. The findings in the ovaries indicated an excessive reaction to an abnormal pregnancy. He theorizes to explain the facts, suggesting a possible autolysis on the part of some of the fetal elements. He was able to demonstrate this with elements of a hydatidiform mole.

96. **Outlook for Cancer of the Uterus.**—Henkel's article issues from Olshausen's gynecologic clinic at Berlin, and gives a tabulated résumé of all operations undertaken for recurrence after removal of cancer of the uterus, with the methods followed with inoperable cancer. Instead of wasting time on theoretical considerations in regard to recurrence in the glands, etc., Henkel has made a systematic study of every case of recurrence, and has learned several important points. In the first place, every woman who has had a cancer removed is instructed to return to the clinic for re-examination every ten or fourteen days. Every three months used to be the rule, but it was found that this was not often enough, as large cancerous infiltrates are liable to develop in the course of a few weeks, and when the woman notices hemorrhages or discharge, the trouble is generally too far advanced for successful intervention. The experiences at the clinic upset the notion that recurrence in a gland is a frequent ocurrence. On the contrary, the recurrence was at the site of the original cancer in 90 per cent. of all cases. This may be due to particles of the cancer being taken up by the lymph, and then being deposited again from the lymph at the site of the wound. It has been the general experience that the lymph always pours out into the wound after an operation. For this reason Henkel urges extreme care in operating not to allow particles of the cancer to be forced up into the lymph vessels. This assumption may also explain the results which follow the use of the actual cautery in excising cancer. As the orifices of the lymph vessels are seared by the heat, they are occluded and cancer particles are not taken up, or, if taken up, can not be floated out again into the open wound left by the excision. Daily experience at the clinic has shown that metastatic involvement of the glands is liable to retrogress completely after removal of the primary tumor and the patient is freed permanently from the malignant disease. It is considered at this clinic that the best and surest means to reduce the mortality from cancer is by careful training of medical students in the recognition of malignant disease. Patients with inoperable cancer are anesthetized before the students examine them. Unless the patient is thus anesthetized she finds examination annoying and painful, and the students are unable to obtain an accurate idea of the characteristics of the growth. It has been found that hard cancers display a less malignant course and are less likely to recur than those with extensive lymphatic connections and where there is a tendency to hypertrophy and hyperplasia of the lymphatic apparatus, as in case of pregnancy. Sciatica after removal of a cancer is very suggestive of recurring trouble. In every such case at the clinic the recurrence was not long in making itself objectively manifest. In one case, neuralgia in the brachial plexus was the first symptom to attract attention to recurrence of a mammary cancer. In case of recurrence a single cauterization or operation is not enough. Intervention should be repeated again and again as needed. Metastases in the vagina should be excised and the inguinal glands watched. Olshausen classifies cases of uterine cancer in 5 groups according to the prognosis. These "prognosis figures" are: 1. Incipient carcinoma, restricted to one lip of the os uteri or, if in the cervix, small and superficial. 2. More advanced, but still restricted to the uterus. 3. More advanced, but removal into sound tissue practicable. 4. Removal leaves a suspicion that some cancer elements have been left. 5. Incomplete operations leaving cancer tissue. The tabulated details of operations for recurrence during the last 4 years fill nearly three pages. It is noteworthy that the operations for recurrence are fewer in number with each year that passes —only 8 in 1906, and 39 in 1902.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Diagnosis and Modern Treatment of Pulmonary Consumption, With Special Reference to the Early Recognition and Permanent Arrest of the Disease. By Arthur Latham, M.A., M.D., Oxon., etc., Physician and Lecturer on Medicine at St. George's Hospital. Cloth. Pp. 257. Price, $2.00. New York: William Wood & Co., 1907.

Thirty-fifth Annual Report of the Board of Directors of the Zoological Society of Philadelphia. (Incorporated March 21, 1859.) Read at the Annual Meeting of the Members and Loan-holders of the Society, April 25, 1907. Paper. Pp. 37. Philadelphia: Press of Allen, Lane & Scott, 1907.

Diseases of Women. A Clinical Guide to their Diagnosis and Treatment. By George Ernest Herman, M.B., Lond., F.R.C.P., Consulting Obstetric Physician to the London Hospital. With 265 Illustrations. Pp. 900. Price, $5.00. New York: William Wood & Co., 1907.

Essentials of Chemical Physiology for the Use of Students. By W. D. Halliburton, M.D., LL.D., F.R.S., Fellow of the Royal College of Physicians. Sixth Edition. Cloth. Pp. 258. Price, $1.50. New York and London: Longmans, Green & Co., 1907.

Twenty-fourth Annual Report of the State Board of Health of the State of Rhode Island, for the Year Ending December 31, 1901, and Including Births, Marriages and Deaths in 1900. Cloth. Pp. 300. Providence: E. L. Freeman Co., 1907.

Twentieth Annual Report of the Board of Managers of the St. Lawrence State Hospital, Ogdensburg, N. Y., to the State Commission in Lunacy. For the Year Ending Sept. 30, 1906. Paper. Pp. 167. Albany: J. B. Lyon Co., 1907.

Handbook of Skin Diseases and Their Treatment. By Arthur Whitfield, M.D., Lond., F.R.C.P., Professor of Dermatology at King's College. Cloth. Pp. 320. Price, $2.40. New York and London: Longmans, Green & Co., 1907.

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Addresses

THE DUALITY OF MAN.

CHAIRMAN'S ADDRESS IN THE SECTION ON OPHTHALMOLOGY AT THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, N. J., JUNE, 1907.

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NASHVILLE, TENN.

In his address before the Medical Club of Philadelphia a short while ago Mr. Gilder, editor of the *Century*, urged "the establishment of an institute for the investigation of faith cure and other treatments not recognized by the medical profession." His suggestion should not be passed over lightly, for such things constitute a problem which should be solved, and that, too, by medical men. In all of these faith fads and fancies there is an element of truth which should be freed from the abominable errors that becloud it. If the solution is ever found it must come from the study of man as a dual creature, spirit and matter, spirit a unit, the material body a union. Life, not alone of man, but of the lower animals also, is the mystic union of spirit and matter. This mystic union we may never understand, nor can we ever know how the spirit of man differs from the spirit of the lower animals. As human intuition and intelligence are higher than animal instinct, so is the spirit of man more exalted than the spirit of the beast. The material parts of all the members of the animal kingdom are subject to disease and death. Whether the spirit of the lower animals can combat disease and delay death may be seriously doubted. That the spirit of man can help the organs of the body to fight disease and delay the oncoming of death must be conceded; and, on the contrary, the spirit in man, in some of its moods, may weaken the fight of the physical body against disease, and even hasten the hour of dissolution, the breaking of the mystic union between spirit and matter.

There is nothing further from the truth than that the only substance is spirit, unless it be the contrary statement that the only substance is matter. Without knowing the real essence of life, the union of spirit and matter, we may study its phenomena.

To have any correct understanding of the influence that the spirit has over the body we must study that one part of man, the nervous system, through which the spirit manifests its power. Since mind may be said to be the manifestation of spirit power through the nervous system, the terms mind and spirit will be used interchangeably. Through the nervous system the mind is in relationship with every part and organ of the body; and when the body is undisturbed by deformity, or by the germs of disease, and is not weakened by the wear of time, the mind, in some one of its faculties, controls perfectly, through the nervous system, the function of every organ. Hence, how all important is the study of the nervous system through which the mind works.

Prior to 1891 the study of the nervous system was by no means clear or satisfactory. In that year Waldeyer collected the recently accumulated evidence that the nervous system is a collection of units that are anatomically and physiologically independent. He named this unit the neurone. Later investigations by earnest and capable men, in many countries of the world, tend to establish the correctness of the neurone theory. But during all these years there have been some who have opposed Waldeyer's teachings; however, they are now few, as compared with the many who accept the neurone as an entity. Cajal has done more probably than any other man for the establishment of the neurone theory.

In the light of the investigations of His and Forel, made in the three fields of histology, embryology and pathology, it may be said that the nervous organism is composed, in part, of two systems of neurones, the afferent and the efferent. The neurone is defined as the central cell with its dendrites, the axone with its collateral branch, and the terminal organ or cell of the axone. Nervous energy has been named "neuricity" by Dr. G. W. Drake, of Hollin's Institute, Virginia, and a more appropriate term could not have been coined. Nervous energy so nearly resembles electricity, indeed, some claim that it is electricity—that the name neuricity must appear as most appropriate. Even if nervous energy is electricity it would be better to distinguish it, not by calling it "animal electricity," but by the shorter name neuricity.

It is certain that neuricity always runs from the peripheral end-organ to the central nerve cell of the afferent neurone, and from the central nerve cell to the peripheral end-organ of the efferent neurone.

Each neurone is a neuritic battery and corresponds, part for part, with the electric battery. The electric battery, in its simplest form, consists of a glass jar, whose length may be anywhere from a few inches to a few feet, and containing an acid liquid, in which are partly immersed, at one end, a plate of zinc, and at the other end a plate of carbon, a copper wire connecting the two exposed ends. The acid acting on the zinc generates heat, which is diffused throughout the liquid, passing from the zinc to the carbon; the carbon takes up the heat, transforms it into electricity and carries it to the copper wire, along which it travels to the zinc, by which it is probably transformed into heat. If the circuit is not complete the electric energy can not be made manifest.

In the generation and transmission of neuricity the containing vessel is the cuticular covering of the body, and its contents are the soft and hard structures of the body, all of which contain more or less water. The two ends of the neurone are entirely submerged, as is also the axone, but the latter is insulated. In the afferent neurone the central cell corresponds to the zinc and the end-organ to the carbon, and the insulated nerve fiber corresponds to the copper wire. In such a neurone the neuricity must travel from the periphery to the center. In the efferent neurone the central cell corresponds to the carbon and the end-organ to the zinc, the insulated axone corresponding to the copper wire. In such a neurone the neuricity must travel from the center to the periphery. The structure and composition of the central cell and the end-organ determine the nature of the individual neurone; that is, they make it either an afferent or an efferent neurone.

It may never be known how neuricity is generated. The "carbon" end of the neurone may be endowed with power that enables it to take material from the blood that circulates around it, and by chemical action generate neuricity. It must also be endowed with power to store it, for neuricity travels along the axone only when a proper agent has acted on the generating-storing cell in such a way as to discharge it, or to set free its stored neuricity. The "zinc" end of the efferent neurone must be so endowed as to transform the received neuricity into power and heat—power to cause functional activity; while the "zinc" end of the afferent neurone transforms the received neuricity into heat and excites some faculty of the mind. If one end of a neurone is a generator the other end must be the receiver, while the axone simply transmits the neuricity.

The central end of a neurone is a protoplasmic cell consisting of a body and numerous dendrites. The cell body differs from its dendrites only in that it contains the nucleus with its nucleolus. There is found in the dendrite the same protoplasm as is found in the cell body. The dendrites exist, probably, only that the surface of the protoplasm may be enlarged many times—in some instances a hundredfold. The enlargement of surface enriches, to a corresponding extent, the blood supply around this small body of protoplasm. Whatever may be the function of the cell body, that must be the function of its dendrites. If the cell body is a generator of neuricity, its dendrites must do the same thing; if the cell body receives the neuricity, generated at the other end of the neurone, and transforms it into heat and awakens some faculty of the mind, its dendrites must be engaged in the same work. In no case, it would appear, is the dendrite a conductor of neuricity from the cell body to which it belongs to the dendrites of some other cell body, near or remote. The dendrites of two or more cells may intermingle, as the limbs of two or more trees in a forest intertwine; but no more does one cell body get anything from the other cell body because of this intermingling of dendrites, than does one tree get sap from another tree because of the intertwining of their branches. The neurone is conceded to be an independent unit, just as each tree of the forest is an independent unit.

Just how the axone begins in the cell body has not been set forth. Its beginning may have an important relationship with the nucleus of the cell body. It is certain that it consists of many fibers, and these fibers of fibrillæ. It is reasonable to suppose that all these fibers, except those composing the collateral branch, go without interruption from the cell in the brain to that part of the periphery in which they terminate in proper end-organs, as in a muscle; or some of these may go to an organ on one side of the body, while others from the same cell may go to the corresponding organ on the other side of the body.

Since the collateral branch of one axone does not unite with a collateral branch of another axone, and dendrites do not blend with dendrites, it can hardly be claimed that these branches and dendrites associate cells or centers in action, unless by contact. It would be interesting to know if all axones have collateral branches, or only those axones that help to form afferent neurones. The axones from the cells in the anterior part of the cord, helping to form the anterior roots, have no collateral branches; therefore, it is reasonable to conclude that all axones belonging to the efferent system are without collateral branches. If this is true, it would appear that the design of the collateral branch is to carry from the cell into the structure, in which the intracranial part of the neurone is imbedded, the heat which has resulted from the transformation of the neuricity by the cell power.

The length of an axone, some writers say, is from a few m.m. to half the length of the body, but no actual measurement can possibly be taken. The very function of an axone would seem to determine its length. This function is to conduct neuricity from the "carbon" end of the neuron to the "zinc" end; then it would appear that an axone simply covers the distance between the cell and the terminal organ, as from a sensitive point at the tip of the toe to a cell in the sensitive area of the cortex of the brain; as from a cell in the motor area of the cortex to a muscle that moves the toe; as from a retinal point to a cell in the cuneus. On its way from the cortical cell to the periphery, an efferent axone may pass through a cell or center at the base of the brain or in the spinal cord, but it is reasonable to suppose that it must be insulated there as elsewhere, so that there may be no dissipation of the neuricity which it may be conducting. From such a basal or spinal cell another axone goes with the former axone to the same structure or part of the body to help supply it with needed neuricity. Such an axone has an independent beginning ("carbon" end) and an independent termination ("zinc" end) from the one that has come from the cortex. In either case the neuricity is liberated or discharged by some faculty of the mind, one faculty controlling one cell and a very different faculty controlling the other cell. To illustrate: the right sixth cranial nerve is composed of axones from left cortical cells or center and axones from right basal cells or center. The axones from the cortex come from the left side of the brain and pass through a basal center (fourth) on the right side. In this basal center other axones have their origin, and these accompany the axones first mentioned to the right externus. If the eye is to be turned to the right, this must be accomplished through a volitional discharge of neuricity from the cortical cells, without any accompanying discharge from the basal cells, provided there is only the one eye; or if there are two eyes, provided they are well-balanced eyes. If there are two well-balanced eyes, and the object of fixation is straight ahead, and the head is in the primary position, there is no discharge of neuricity from either the cortical or basal cells; if the eyes are not well balanced, but esophoric, the position of the head and the point of view being as above, the right and left fourth basal centers are made to discharge enough neuricity to excite just enough contractility of the two externi to prevent the excessively strong interni from crossing the visual axes before the point of fixation is reached. This discharge of the basal centers is made in order to fuse the two images in the interest of binocular single vision, and the discharge may be said to have been effected by the fusion faculty of the mind. This action of the basal centers is not accompanied by excitation of the cortical centers which are under the control of the will. These cortical and basal centers, although they are both connected by the same nerve with the same muscle, must have independent axones, since they are capable of acting independently.

The greater number of both afferent and efferent neurones are unilateral in action. The neurones of ordinary sensation connect points on one side of the body with parts of the cortex on the opposite side of the brain; the neurones giving power to the muscles of the extremities begin in the cortex on one side of the brain and pass only to muscles on the opposite side of the body. The single organs—the heart, the stomach, and still others—probably have neuronic connection with both sides of the brain, and the same is probably true of every respiratory muscle.

The eye is the only double organ, parts of which have a common neuronic connection with only one side of the brain. That this may be, the axones divide, some fibrils going direct from one side of the brain to the corresponding eye, while the other fibrils cross and go to the opposite eye; or reversing the course, a point in one macula sends fibrils back through the optic nerve, and across the chiasm, to meet fibrils from a similar point in the macula of the other eye; these then go together as a single axone to the cuneus, to terminate in a single cell in the cortex. The impression made on cones in the one macula and the impression made on the cones in the other macula are conducted by the fibrils which later unite to form one axone, to one brain cell, and thus the two impressions excite a single sensation. This arrangement of visual axones readily accounts for corresponding retinal points and, therefore, for binocular single vision.

The brain cell in the cortex, whose discharge of neuricity calls into action two muscles, one belonging to each eye, accomplishes this work only because fibrils in its axone separate at a point in the base of the brain, some of them going to a muscle of the corresponding eye, while the others cross and finally reach a muscle of the opposite eye. Because of this distribution of the fibrils a discharging single cell sends its neuricity to two muscles, associating them in action, through the spirit power called volition.

The central cells of all the afferent and efferent neurones occupy only about one-third of the cortex. The remaining two-thirds of the cortex is occupied by cells that have no axones in the sense that they pass out of the cranial cavity to some remote organ. Histologists and physiologists teach that fibrils like those found in afferent and efferent axones leave these cells to go to some other part of the brain, near by or remote, calling them association fibers, but the existence of association fibers may be reasonably doubted. The non-sensory and non-motor areas of the brain, so much larger than the combined sensory and motor areas, have been called the silent areas for want of a better name. Of these there are at least three on each side of the brain, the anterior, the middle and the posterior. The middle area is the island of Reil, and this is separated from the anterior and posterior silent areas by a collection of special centers, as speech, hearing, smell, taste. The cells of these silent areas are used by the higher faculties of the mind, such as memory, imagination, reason, reflection and judgment, and the emotions—joy, sorrow, love, hate, hope, ambition. The action of the mental faculties on the cells of the silent areas depends, in some way or other, on excitation of afferent neurones. The mental processes thus generated are perfected by the activity of the cells in the silent areas, but can manifest their workings only through efferent neurones. The efferent neurones act on the mind and acquaint it with the physical world; the mind, in some one of its faculties, acts on the efferent neurones and through them acquaints the physical world with its powers. The stimulus of the afferent neurone is physical, as light, sound waves, heat and chemical and mechanical irritants; the stimulus of the efferent neurones—whether those that develop locomotion, excite secretion, control circulation and respiration, or produce speech—is the mind in some one of its many faculties. The mystery of the union between spirit (soul) and matter will remain a mystery, after the last word has been said about the structure and arrangement of the cerebrospinal axis. My object is not to explain the mystery of the dual nature of man, but to affirm it. Neither spirit nor matter can be defined, but the phenomena of both may be studied.

The neurone doctrine precludes the thought that the central cells of neurones have any direct connection. If the nervous organism is simply a self-acting machine there must be some sort of physical relationship between the central cells of the afferent and efferent systems, so that they may act and react on each other. This relationship is supposed to be by contact, but no one seems to be certain as to whether this contact is between dendrites or between collateral branches, and no one has been able to explain how this contact is brought about. Either direct connection or connection by contact is essential if there is any truth in the teaching that the afferent current of neuricity is conveyed from the "zinc" end of that neurone to the "carbon" end of an efferent neurone, and by it is transformed into an efferent current. Such teaching denies that efferent neurones are capable of spontaneous or independent action or that they can be restrained from acting; and at the same time affirms that activity of nervous energy must always begin in the periphery, and can be excited only by some external agent, such as light, heat, sound waves or chemical and mechanical excitants. Such teaching must appear to be materialistic.

What has been taught about association of cells has also been taught about association of centers, for centers are nothing more than a collection of similarly endowed cells. Until Flechsig announced his discovery of the three association or silent areas of the brain, authors were a unit in teaching that there were association fibers that connected one center with another, or one center with a number of other centers. This is best illustrated by what was taught of the association of the sight center with the speech center, and of the hearing center with the speech center. It was taught that many fibers made their way direct from the cuneus to the speech center, and that neuricity was conducted along these fibers whenever visual impressions were to call into action the center of speech, and without this safe conduction of neuricity, seeing could not excite talk. In like manner it was taught that association fibers extended from the hearing center to the speech center, and that hearing could make one talk only as a result of the safe conduction of neuricity along these fibers from the former center to the latter. This teaching was apparently proven true by pathology, for disease between the cuneus and the speech center, involving the supposed association fibers, rendered the person incapable of naming anything seen. The conclusion was easily reached that all this came about because of inability of the crippled association fibers to convey neuricity from the one center to the other. In this case the supposed association fibers connecting the center of hearing with the center of speech not being involved, sound would excite speech. Further on another explanation of these phenomena will be offered.

Flechsig has taught us that the afferent and efferent centers, such as the center of sight and the center of speech, are not directly connected, but that there is an association center which lies between the two. These association centers, he has taught us, are collected in three parts of the cortex, the silent areas already referred to. Barker, in setting forth Flechsig's teaching, uses this language: "The individual sense areas are isolated, not touching one another directly. They are separated by regions which have no direct connection, at any rate at this stage of development, with the centers below or with the periphery of the body."

It is supposed that some of the cells in the silent areas are connected with cells in the sense centers, and that other cells in the silent areas are connected with cells in the motor centers. It is also taught that fibers connect the silent areas on one side of the brain with silent areas on the other side, so as to associate them in action. But there is a difference of opinion as to how this association is effected; that is, whether these fibers go direct from one association center, by way of the corpus callosum, to an association center in the opposite hemisphere, or whether the fibers from one such center go, by way of the corpus callosum, to a center at the base of the brain, in which begin other fibers that go to the opposite association center.

If there must be a physical connection between afferent and efferent centers, then there must be millions of association fibers connecting the sensory area of the brain with the speech center, for a prick of a pin on any part of the body can excite the center of speech, for one can name the part of the body thus pricked. Or, again, there must be millions of association fibers going from the sensory area to the centers controlling the hand, for one can instantly and accurately place his finger on any part of the body that has been pricked with a pin. Or, again, there must be millions of association fibers going from the sensory area of the cortex to the centers controlling the movements of the eyes, for one can fix his eyes instantly on any viewable point of the body that has been pricked with a pin. The great multiplicity of association fibers that would be necessary to connect afferent and efferent centers is against the idea that there are any such fibers. If association fibers exist at all, they exist that neuricity may be carried from an afferent center to an efferent center to excite it into activity. Under such a condition an afferent center excited by some external agent must excite, in its turn, every efferent center with which it is connected. Thus the prick of a pin must make one speak about it, must compel him to touch the point pricked with a finger of one hand or the other, and must force him to fix his vision on it. While one who is pricked with a pin may do one or all these things, he, nevertheless, may do neither. If there is a physical connection between afferent and efferent centers there must be some power not physical that can restrain an efferent center from acting, although excited. Could not the same power call into action an efferent center not connected by association fibers with an afferent center?

That there are association centers can not be denied, but that these centers have a physical connection, on the one side, with afferent centers, and, on the other side, with efferent centers, is improbable. It is likewise improbable that association centers on one side of the brain have any physical connection—association fibers—with association centers in the other hemisphere.

The nervous system in action can be viewed in either of three lights, but only one of these can be the true light. First, the old theory was that afferent centers have a direct physical connection with efferent centers by means of nerve fibers, and that these fibers carry the afferent current of neuricity from the one to the other, the latter transforming it into the efferent current. Such a view makes a man a mere machine, incapable of being set in motion except by external influences, either mechanical or chemical, for if man's brain were thus builded every efferent current of neuricity would be a transmitted and transformed afferent current. If this theory were true man could not be a responsible being, for his every action would be determined by external influences, such as light, heat, or sound, etc. This theory may be dismissed, for no one now believes it to be true, and if not true, then materialism has no foundation on which to stand.

The second light in which nervous phenomena may be studied comes from the neurone doctrine. To accept this theory is to confess that man's body is material, but that it is dominated in all of its parts and organs by a power that is not material—a spirit power. This second theory explains nervous phenomena by declaring that the dendrites or collateral branches connect afferent and efferent neurones by contact, confessing that there is some power other than neuricity that makes the contact or prevents its being made. But, like the first theory, this one would make the efferent current of neuricity nothing more nor less than the transformed afferent current. If the neuritic current, uninfluenced, forced the contact, every afferent current would immediately excite an efferent current, and this second theory would be no improvement on the first. If contact is necessary in order that there may be any efferent current of neuricity, it must be made, if made at all, through the medium of the mind, or, more properly, the spirit. Man is responsible to his fellowmen and to his God, only because his spirit, through his nervous system, has been given control of his body.

The power that can make and break contact of dendrites or collateral branches, and can even prevent such contact, needs no physical connection, either by continuity or contact, between afferent and efferent centers that it may control the physical being. Therefore, the third theory is that the mind receives impressions through the afferent neurones, and that the mind sends impulses out to the various organs and parts of the body through the efferent neurones. The purpose of the afferent current of neuricity is to arouse some faculty of the mind, while the efferent current is set free by some faculty of the mind for the purpose of exciting into action some organ or part of the material body; that the afferent and efferent currents are not transformable the one into the other, and that the two sets of neurones are related only through the mind. This theory gives some clearness to the study of reflex neuroses, and it furnishes a foundation for the study of suggestion and hypnotism.

Man's spirit becomes acquainted with the external world through afferent neurones. Information must come from without, and can come only through afferent neurones; but information is only raw material which must be taken by the mind to one of the silent areas of the brain, and there be manufactured into knowledge. Knowledge has for its outlet, or means of distribution, the efferent neurones. Knowledge does not come from without, nor can it be imparted to others, else we would all be equally wise. The best and highest thing that one mind can do for another is to impart information.

All faculties of the mind, or spirit powers, should be appreciated and should be studied so far as possible. There must be a great number of these, a much larger number than have yet been named. Among the few known and named are volition, memory, imagination, reason, judgment, and the visual, aural and musical faculties.

There is a spirit power that presides over every organ of the body, controlling its function in the interest of the entire body. The tireless and ever-working faculties are those in charge of the centers of respiration and circulation. The one may be called the respiratory faculty, the other the cardiac faculty. A suspension of the power of either of these faculties for even a short while means death. Probably several faculties are concerned with the various processes of digestion, and each should be named in harmony with the organ over which it presides, as the gastric faculty for the stomach, the hepatic faculty for the liver. Some faculty of the mind controls the making of the red blood corpuscles by the spleen and red bone-marrow, while another faculty must have charge of the lymphatic glands in their work of making the white blood corpuscles. The brain or cord centers that control the work of secretion of the ductless glands must themselves be governed by a mind power. So might be mentioned every organ of the body, each of which has connection with some center in the brain or cord, or sympathetic ganglion, over which center a spirit power presides.

Overtaxation of one faculty of the mind will cripple one or more other faculties, hence disturbance of the function of the organs over which they preside. These disturbances, functional at first, if oft repeated or long continued, will bring structural changes. Mental efforts, conscious or unconscious, will be made to right these errors, and, if properly directed, should succeed. If mental states alone disturbed organs in the performance of their functions, then a change of the mental state might correct these errors.

Human ills are not all functional, nor are they all imaginary. The human body has a thousand foes in the shape of germs that are ever ready to do their destructive work, if they may be permitted to enter. The God of Nature has made wonderful provisions, both within the body and without, for fighting these enemies to health and comfort. The suffering body complains to the spirit through afferent neurones that an enemy has come in; then through the efferent neurones the spirit excites into greater activity the organs that make the white blood corpuscles, whose function is to engulf and to destroy the germs. Another mind power acts through some other efferent center on some other organ or organs which are made to furnish in greater abundance the substance known as opsonin. Thus is increased the opsonic index of the blood serum, which stimulates the white blood cells in their fight against the foe. If the germs be few and not too virulent, the opsonic index may be raised without external aid, and the white blood cells may destroy them. Especially will this be so if there is a hopeful state of the mind and the judgment as to diet and rest is good. Other invasions are so overwhelming that the resisting powers of the body, stimulated ever so much by the faculties of the mind, would fail in the fight for victory unless aided by such external means as would be suited to the given case. In still other cases the germs will be victorious in spite of the combination of spirit power, bodily function and skilled medication. For every poison there is an antidote, though it may not now be known; for every germ there is a germicide, either direct or indirect, though some of these agents are yet to be found. These antidotes and germicides are both within and without the body. There are laboratories in the body continually at work producing those things that will destroy germs or neutralize their toxins, and there are other organs at work furnishing material to counteract ptomains. The individual's mind controls these internal laboratories. The mind of man for ages has been active in drawing from external nature medicinal agents that, when properly administered, will stimulate the functional action of the laboratories within and will help them in destroying germs and antidoting toxins. These external laboratories, under the guidance of trained minds and conducted by skilled hands, are to-day supplying agents that are as specific in their work as are the products of the internal laboratories, and many of them seem far more powerful than the internal agents that they are intended to help. To emphasize this it is only necessary to mention antirabic serum and diphtheritic antitoxin. As the years go by, the list of such agents will grow longer. The opsonic theory of treatment of disease gives great promise to medicine as a science and as an art.

When so much of good can come from without, how absurd are the Eddyites and others of like beliefs and practices in their outcry against the medical profession. The grain of truth they hold is the fact that the mind can influence the body; but with this grain of truth there is a ton of error. On the other hand, the medical man should not lose his grasp on the truth that the human being is a dual creature, spirit and matter, and that the spirit power can influence through the nervous system, itself material, the organs of the physical body. Cheerfulness in the sickroom and hopefulness on the part of the patient have a far fuller meaning in the practice of medicine than most physicians appreciate. The patient's confidence in his physician stimulates the internal laboratories and increases the efficiency of administered medicinal agents. Confidence lost may be restored by a consultation, but, if not restored, justice to the patient and to the physician in charge demands that he retire from the case, for these conditions make the fight unequal and the result doubtful.

Are you ready to ask me: What is man's spirit? My answer will be a question: What is matter? Answer me, and then I will answer you. This I know: When the mystic union is severed, the material part returns to the earth, from whence it came, and the spirit goes to God who gave it.

Rearing of Children.—Dr. George Carpenter, London, states in the *Dietetic and Hygienic Gazette* that for children to make a good start in life their infancy must be spared those dyspeptic disorders which are so frequent in nurslings, and which, even if they do not destroy them, nevertheless undermine their constitutions, lower their vitality, and seriously handicap them in the battle of life.

VENOUS ANGIOMA OF SKIN SHOWING BEGINNING MALIGNANCY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON CUTANEOUS MEDICINE AND SURGERY AT THE FIFTY-EIGHTH ANNUAL SESSION, HELD AT ATLANTIC CITY, JUNE, 1907.

RALPH R. CAMPBELL, M.D.
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In recent years, for no good and sufficient reason, the interesting subject of venous angioma has been almost entirely, if not absolutely, neglected by the dermatologist, and in consequence of this the field has been appropriated by the general surgeon.

I trust that bringing the subject to your attention again may result not only in reclaiming a subject which rightfully belongs to the dermatologist, but in stimulating original work on it to such an extent that in the future our text-books will not neglect entirely a condition which is of so much importance to the dermatologist.

Through the courtesy of my colleague, Dr. M. L. Harris, I have had the opportunity of studying the following interesting case:

Patient.—J. W. H., civil engineer, American, aged 38, married.

Family History.—Father, 70 years old, living and well. Mother died, at the age of 69, of tumor of the stomach, probably carcinoma. One sister died of pulmonary tuberculosis at the age of 21. One sister died suddenly at the age of 38. One brother died of dysentery at the age of 2. Four sisters are living and well. Two maternal uncles died of pulmonary tuberculosis. Patient has two children who are living and well.

Personal History.—The patient had measles and parotitis during childhood and had rheumatism (?) at 15 years of age. Otherwise he has always been well. He denies venereal disease.

Present Trouble.—The patient presents three tumor masses on the right leg; one on the anterior surface of the foot just below the ankle joint, about the size of a 50-cent piece; a second, covering almost the entire anterior surface of the lower half of the leg; and a third, just above the latter, about the same size as the first. The areas are bluish-gray, covered with a dirty crust; irregular and nodular on the surface, and elevated from one-half to three-quarters of an inch. Parts of the areas appear to be solid; others can be compressed and diminished in size. The largest area presents a deep ulcer, about the size of a dollar, the edges of which are ragged and bleed easily. These areas were congenital and at first were of about the same size. They were red, smooth and non-elevated. Later they began to take on a crusty appearance, the crusts being adherent and at times one-half inch in thickness. If the crusts were picked or knocked off, the tumors would bleed freely. The whole tumor would always bleed easily, often profusely, but he was always able to stop it himself. Any part of the tumor which became bruised or injured would heal, only very slowly, often requiring years. Until the patient was 6 years old the areas never ulcerated. At this time he was brought to Chicago, and the areas were cauterized with the actual cautery. There then ensued severe breaking down of the tissues, and the lesion never healed entirely, but the crusting tendency ceased. Occasionally there would be slight pain. The patient's occupation, that of surveyor, necessitates his walking from five to twenty miles daily, and in April, 1904, he wore a pair of leggings with metallic fasteners, which pressed against the tumor, and resulted in sloughing of the tissue and producing the ulcer described above. This has increased in size, regardless of treatment, and is rather painful.

Diagnosis.—Ulcerating congenital angioma of the right leg.

Operation.—July 5, 1904. Excision of tumors. Skin grafting. The man was discharged, well, Aug. 17, 1904.

Macroscopic Examination of Tumor.—The tumor formed a large, flattened, irregular, sponge-like mass, which on section was easily seen to be composed of variously sized blood channels. The skin covering the mass was thin and presented very few small hairs. Near the center of the external surface was a large excavated ulcer from 3 to 4 cm. in length by 2 to 3 cm. in width. The edge was somewhat thickened and firmer than the surrounding parts.

Microscopic Examination.—The tumor was seen to be made up of large and small, irregularly-shaped, thin-walled blood spaces, lined with endothelium. Where the spaces were small they were separated by rather a large amount of connective tissue, which was rich in round cells; but where the spaces were large the blood vessel walls, which were composed of but a single layer of endothelial cells, lay side by side, with almost no intervening connective tissue. Some of the spaces were either entirely or partly filled with a homogeneous, hyaline-like material. Where the homogeneous material occupied but a portion of the space, the remainder was still filled with blood. This hyaline material did not appear to be uniformly distributed throughout the tumor, but occurred in scattered areas only. The epithelium covering the tumor was not thickened except in the neighborhood of the ulcer. Surrounding this great proliferation had taken place, and long, finger-like prolongations dipped down deeply into the underlying tissue, but no nests or pearls were found. These projections often coalesced, and in the space thus surrounded were found large blood spaces. These epithelial prolongations suggested an epithelioma, as did the macroscopic appearance of the ulcer, but the absence of nests and the fact that no epithelial formation was present on either the lateral walls or the base of the ulcer excluded this view as to the cause of the ulcer. One could not help feeling, however, that the excessive epithelial proliferation marked the beginning of malignancy about the old ulcer. The base of the ulcer showed characteristic granulation tissue with marked round-cell infiltration. This connective tissue layer closed the large blood spaces, and this accounts for the comparative freedom from hemorrhage at the site of the ulcer.

McGregor[1] showed a case before the Glasgow Pathological and Clinical Society, Oct. 12, 1903.

History.—The patient was a girl, 15 years old. The family history was negative. Capillary nevi had been present unchanged since birth. The swelling appeared when 9 years old, gradually increasing in size. At first it was small and darkbluish; there was no pain. After increase in size, there was difficulty in walking, with sharp, jagging pain. At the time of admission to the hospital, the girl had a large diffluent swelling of the left thigh, extending from the junction of the upper and middle thirds of thigh in front to the level of the upper border of the patella on outside of limb. It occupied most of the outer side of thigh in that area, and its inner border corresponded to the line of the internal saphenous vein. Its consistency was generally soft. There were many tortuous veins around the periphery of the growth. The tumor was prominent at the center, shading gradually to healthy tissue. This prominence almost disappeared on pressure. Scattered irregularly over the surface were twelve small pigmented spots; these were purple and slightly raised.

Treatment and Result.—The patient was treated by ligating the principal veins running into the tumor. As a result the tumor diminished in size, and pain and tenderness were lost. Interesting features of the case were the large size of the nevus; the occurrence of small capillary nevi resembling angiokeratomata, which were evidently independent growths from the rest of the tumor; the appearance of enlarging cicatrices at seat of wounds of operation, resembling false keloids.

Audrey[2] reports a case of a man, 45 years old, syphilitic.

History.—For many years he had an unusual skin lesion above the right eyebrow. It was a small, round, disc-like tumor, very little elevated above the surrounding tissue, and formed by an area of very firm, superficial infiltration. The epidermis covering it was smooth and shiny, having small, bright red spots scattered over it. It was not deeply adherent, and there was no pain. From time to time it would swell up and form scabs on top which would then come off and cause profuse bleeding. The lesion would then heal up as before. The tumor was excised.

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[1] A Large Venous Nevus, Glasgow Med. Jour., 1904, lvi, 34-37.

[2] Sur un Angio Epithelioma de la Peau, Jour. de Mal. Cut. et Syph., Paris, 1900, xii, 759-761.

Microscopic Findings.—The epithelial covering was thin with no papillæ. Underneath was an almost fibrous dermis, containing many capillaries. In some places this was healthy; in others were found epithelial areas typical of epithelioma. These epithelial areas were very diverse, both in form and size, and were found throughout the entire thickness of the dermis, separated at times by fibrous connective tissue and sometimes by tissue greatly infiltrated by plasma cells. In fact, it had the usual structure of *ulceras rodens.* The unusual part of the structure consisted in the presence of large blood spaces filled with blood and situated very superficially. One or two giant cells were found. The tumor, therefore, was an angioma of slow development, but combined with superficial angioma.

The histologic examination accords perfectly with the symptoms observed (hemorrhage, long duration, persistence), but the exact significance of the lesion remains undetermined.

Did the angioma precede the epithelioma or the epithelioma precede the angioma? Or are they contemporaneous? Or should one consider the whole lesion as the terminal stage of an evolution, etc., according to Cohnheim's theory that the lesion is the tardy development of a congenital tumor? Audrey inclines to the last proposition. The angioepitheliomas should, it seems, be considered as a peculiar type of epidermal neoplasms of embryonal origin.

Morestin[3] reported a case of a little girl, 10 years of age.

History.—The tumor existed from birth on the inner mucous membrane, on the side of the lower lip. Vertically, it extended from the free edge of the lip to the furrow formed by the gums and the lip. The whole tumor resembled an almond without its shell. The surface of the tumor was a red color, with little raised places here and there, some of which were violet-colored, while others were a pale pink. On palpation the tumor was firm, non-reducible, rather well limited, and grown in the mucous membrane, though showing some mobility on the muscular layer. There was no pain. The diagnosis was circumscribed angiolymphangioma. The tumor was excised.

Microscopic Findings.—Sections showed a large number of blood vessels and enormous lymphatics. The labial glands were altered and inflamed. The mucous membrane covering the tumor was thickened and modified, and contained a great number of blood capillaries and dilated lymphatics. The papillæ were higher and larger than normal.

Stangl[4] first gives a short résumé of the nomenclature of tumors arising from the blood vessels; then he reports two cases.

Case 1.—A girl aged 20, for many years had a small, bluish-colored, slightly swollen place on the ulnar side of her right forearm. This began increasing in size. A smaller similar spot appeared on the skin near by. The tumors were excised.

Microscopic Findings.—In the loose subcutaneous fat ran broad bands of dense connective tissue, in which appeared large, irregularly-shaped blood spaces, which often communicated with one another and were filled with blood. The walls of these spaces showed the following characteristics: In some places they showed a single layer of flat endothelial cells, so that the small spaces had the appearance of capillaries. In other places on the layer of endothelium were one or more layers of cubical cells, with dark nuclei, and small irregular protoplasmic bodies. These cells lay directly on the endothelium, so that it seemed to be surrounded by a thick cell-mantle. These spaces contained blood. In the connective tissue septi also ran apparently unchanged capillaries. The stroma of the tumor was dense connective tissue, not very rich in cells.

Case 2.—A girl, aged 18, had a tumor, the size of a nut, on her little finger. She also had a smaller one near by. The tumors excised.

Microscopic Examination.—The tumors possessed firm capsules, were rich in cells, and contained large blood spaces filled with blood. The tumors were made up of medium large, polygonal, or round cells, having a clear protoplasm, with round chromatin bodies and clear cell boundaries. The cells lay directly on one another and showed no intercellular substance. The stroma of the inner part of the tumors was particularly rich in blood vessels, which seemed to be intimately connected with the tumor cells. The blood vessels of the tumors showed marked changes. In the smaller arteries the endothelial lining could be clearly seen, but in others it seemed to have a homogeneous appearance. Many times the endothelial layer disappeared, and in place of the vessel lumen there was a solid homogeneous structure, on which the tumor cells above described lay. There were hemorrhages throughout the tumor. Stroma was lacking in the inner part of the tumor, and broad bands of connective tissue ran down from the capsule into the outer layers.

Stangl[4] discussed the question as to whether tumors were of epithelial or connective tissue extraction. He considers the two cases described as rightly named perithelial tumors.

Ribbert[5] says that to understand clearly the genesis of angiomas one must decide between two questions:

Is the tumor a simple dilatation of the vessels in a circumscribed area? Is it the result of new growth? If one holds to the second opinion, one must decide whether the tumor arises from increase of tissue of normally inserted vessels or grows out of an originally independent germ which has become free from its normal connection.

Ribbert advocates the latter view, and the following article is to strengthen proofs already set forth in former article.[6]

CAVERNOUS ANGIOMA.

Two varieties may be selected as examples: First, skin angiomas having wart-like form; second, angiomas of the liver.

Angiomas of the skin are characterized by their intimate relations to the neighboring structures; that is, sometimes with the subepithelial connective tissue and sometimes with the deeper corium, where the vessel walls are of endothelium placed directly in contact with the connective tissue. The connective tissue is sometimes scanty and sometimes plentiful, but often irregular, so that little groups of vessels are often cut off from similar groups by thick connective tissue bands. The angioma is thus divided into lobules. The connective tissue is mostly poor in cells, but rich in nuclei. The new growth gradually shades into the surrounding corium, so that there are no sharply defined borders to the tumor.

Neither small openings nor any signs of them are found connecting the blood spaces of the tumor with the vessels of the neighborhood, nor is there any indication that, by the gradual narrowing of the wide lumina, they are transformed into capillaries, or that the lumina themselves are transformed into capillaries. These views are not changed at all by the fact that in angioma there are arteries running into the tumors and veins leaving them.

To show the independence of the blood spaces in angioma from the blood vessels of the surrounding tissue, Ribbert injected some angiomas. By means of a direct puncture into the tumor mass he found that only the angioma itself was colored, while the surrounding tissue was not affected.

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[3] Tumeur Congenitale de la Levre Inferieure: Angio-Lymphangiome, Bull. Soc. Anat. de Par., 1898, lxxiii, 430.

[4] Zur Kentniss der Perithelialen Blutgefasstumoren der Haut.

[5] Ueber Bau, Whachstums und Genese der Angiome, Arch. f. Path. Anat., etc., Berlin, 1898, cli, 381-481.

[6] Ueber Ruckbildung an Zellen und Geweben und uber die Entstehung der Geschwulste.

Microscopically, it was shown that the blood in the spaces of the tumor was either driven out or mixed with the material injected, while nowhere did the coloring matter pass the borders of the tumor.

There existed no anastomoses with the capillaries in the surrounding tissue; the angioma showed a circulation shut off within itself, with only a connection with the arteries and veins of the neighborhood.

These results would not allow him to think that the tumor grew in extent through its relationship to the surrounding capillaries which became dilated. The growth came, then, from a dilatation of the vessels already existing there, and by their increase in number and size by a process of new growth.

Considering these angiomas as new growths, then, we have no right to infer that originally the vessels of the new growth were not included in a normal way in the circulatory system, and only later should have isolated themselves as a tumor. It is much more probable that the relation of the tumor to the surrounding tissue was the same from the beginning, and that the complex system of vessels composing it had always had an independent existence.

Since the multiple, wart-formed angiomas here described are congenital, we may refer their beginning to the time of the development of the skin, and may infer that in the formation of a circulatory system a blood vessel tumor was not formed in a normal way, but grew by the assistance of a little piece of independent connective tissue imbedded there.

ANGIOMAS OF THE LIVER.

After investigating these tumors, Ribbert comes to the conclusion that they are also independent tumors, growing not by spreading to surrounding tissues, but from within themselves. (*Die Telangiectesie. Das Lymphangiom*). He describes these tumors and gives a description of the genesis of the cyst formation.

Dutton[7] reports a case of a girl, 8 years old.

History.—A large nevus on ear was treated and became somewhat improved. Two small tumors appeared; one larger, a somewhat pedunculated tumor, about the size and shape of a pea; the other smaller, but similar. The tumors were removed and sections were made.

Microscopic Examination.—The tumors showed but poor development of both epidermis and corium; no papillæ. Large veins ran in every direction, surrounded by thick fibrous adventitia. Outside this adventitia and running parallel with blood vessels were dense masses of endothelial cells, imbedded in hyaline material. Outside these endothelial areas were strands of fibrous tissue which limited them and separated them from each other.

In looking over the literature, I could not find any tumors described which correspond to these.

Lamy[8] states that angiomas are congenital vascular productions, due to modifications occurring in the course of embryonal development. They most often occur in the regions in the face and neck where the branchial clefts appear. Virchow has named them angioma-fissuraux.

The angiomas of the face appear in a series, and their extent marks the differentiation of the germinal areas at whose expense they are formed. One has then: Angiomas of the frontal germinal area; angiomas of the superior maxillary germinal area; angiomas of the inferior maxillary and those of the second branchial arch.

This differentiation, according to germinal areas, is confirmed by the analogy which angiomas present with other congenital malformations (intermaxillary clefts; atrophy of inferior maxillary—congenital lymphangiomas).

In order to explain the production of angiomas, it is necessary to have a sufficient cause (disease of the embryo), favored by histologic circumstances (a vascular region) on an anatomic position (one where such lesions frequently occur), at an early period in the development of the embryo.

BLOOD ANGIOMA.

Vascular tumors that are macroscopically recognized as such may be differentiated in many instances only with great difficulty from the simple dilatations of preexisting blood spaces. To call the lesion a tumor it is essential to prove a progressive new formation of vessels. In such cases it is not necessary that all three layers of the vessels participate; frequently the muscularis is entirely wanting. Again, we see, in tumors even of an absolutely benign character, the irregularity in the formation of the details of the cellular construction. Ordinarily we make a distinction between the different forms of simple "blood angioma": 1, Angioma simplex; 2, cavernous angioma; 3, hypertrophic angioma.

The first and third forms are closely related with each other and may exist combined. Angioma simplex appears principally in the skin as a light red or blood-red discoloration, in many instances not in the form of a neoplasm. It consists of newly-formed arteries and veins, which are surrounded by an abundance of connective tissue. In cases of telangiectasis we are dealing chiefly with neoplasms of the capillary vessels. If they are very abundant, the result may be a vascular nevus, ordinarily with thinning of the epidermis and flattening of the papillary bodies.

These simple, tumor-like growths of the subcutaneous vessels, which in their structure are often similar to the little fat clusters of the subcutaneous cellular tissue, resemble very much the form to which Ziegler has appropriately applied the term hypertrophic capillary angioma. The substratum of this form of angioma consists of thickened capillaries and in a hardened section of an atypical case with little intervascular tissue, in which the empty capillaries appear compressed, the microscope may show an appearance much resembling a benign adenoma, as of a sweat gland.

Diagnostically, much more easily do we recognize angiomas of wide cavernous spaces, often found in the liver, but likewise frequently seen in this form, which is the most frequent, and which may occur in almost any organ, and is absolutely benign in character, so long as no damage is done by its position or from hemorrhage. A transformation into a malignant mixed form, with the appearance of nucleated cells in the connective tissue stroma, is a very rare occurrence.

Angiosarcomata which are not very uncommon have an entirely different structural development. These may be a combination of hemangiomata, with increase of connective tissue or fat (angiofibroma and angiolipoma), which should be called telangiectatic fibroma or lipoma. The cavernous type may lead to thrombus, the lumina becoming entirely filled with round cells; furthermore, it is possible to find a brownish pigment which can easily be differentiated from melanosarcoma. Very rarely do the thrombi become calcified.

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[7] Two Vascular Tumors, with Marked Endothelial Proliferation Growing from the Skin in the Neighborhood of a Large Congenital Nevus of the Right Ear of a Child, Liverpool Medico-Chir. Jour., 1898, xviii, 369-375.

[8] Contribution à l'Etude des Angiomes Fissuraux, Paris g. Steinheil, 1900, No. 515, p. 64.

In conclusion, I desire to express the belief that venous angiomas do not take on malignancy, but that on account of the constant irritation due to their presence the overlying epithelium may take on carcinomatous changes.

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Original Articles

CATARACT EXTRACTION.

I. IS THE CASE OPERABLE? II. PREPARATION OF THE PATIENT. III. THE ANESTHETIC.*

EDWIN E. JACK, M.D.
BOSTON.

I. IS THE CASE OPERABLE?

In opening this subject I fear that I have little to give that is new or even interesting. The question whether a case is operable must be decided from three standpoints—that of the general health of the patient, the condition of the eye and its surroundings and the state of the cataract itself. There has been, as far as I know, but little recent change in the accepted views on these points. Chronic heart, lung and kidney disease and diabetes are no longer considered bars to operation, provided the patient is put into the best general condition which his disease will permit, and also provided, of course, that this condition justifies the operation. Coughing reduced by treatment to a minimum, the inability to lie down in bed and other necessary concomitants of the diseases mentioned are not as important as the estimate of the general condition of the patient. And as the operation can to a certain extent be adapted to the needs, such diseases are of importance not so much on account of the possible difficulty in operating as from the increased susceptibility of the patient to infection by decreased resistance and to post-operative delirium with its attendant misfortunes. This, it seems to me, is about the worst of post-operative troubles. Old age also is not in itself a contraindication to operation; senility, however, is.

We have to do, in our estimate of the general condition, not with the success or failure of the operation from the point of view of vision, but with the possibilities of suppuration or plastic inflammation, entailing long suffering and many times shortening life. The statistics of suppuration in cataract cases at the Massachusetts Eye and Ear Infirmary for the last ten years show that about a third of the cases were due to infection by the hands, in most instances in connection with delirium. Marked arteriosclerosis and hypertension increase the risk of choroidal hemorrhage, but treatment will alleviate the condition somewhat and operation is justifiable. I have never seen sudden death follow cataract extraction in the old; I have, however, seen most of the other possible melancholy results, and my dread of them is genuine. It is well then to make the estimate of the general condition as carefully as possible, with the history of the past as well as the present in view. After all is done that can be there yet remains the unknown element. Patients with everything apparently in their favor may go to pieces and others with evident cause for fear go through the ordeal with astonishingly little upset.

In the consideration of the eye and its surroundings the condition of the tear passage is of the greatest importance. There is, I think, nothing new to be said of it; it is, and bids fair to remain, the greatest source of danger, not only in its diseased state, but to a certain extent in its normal condition as a channel for infection from the naso-pharnyx. If treatment of the more ordinary kind does not relieve the case sufficiently to justify operation, we must have recourse to the extirpation of the sac, obliteration of the canaliculi with the cautery or occlusion of them temporarily with a suture. I have found in a limited experience that this last procedure has been satisfactory. It is generally regarded, I think, that a purely watery secretion from the sac is harmless. Perhaps it is in itself, but I am confident that I have seen such a discharge changed under the influence of the bandage into a virulently purulent one, and I would suggest in any such case that a preliminary test with the bandage be made for a few days.

I am distrustful of eczema. The bandage, of course, aggravates it, and either because of the trouble itself or from the irresistible desire of the patient to lift the bandage and scratch, thus causing infection, there is considerable danger. The condition of the conjunctival sac and edge of the lids also demand attention. It seems impossible, for a number of reasons, to make bacteriologic investigation a basis for operation, but in any suspected case the recommendations of Dr. C. S. Bull should be carried out:

> A careful microscopic and bacteriologic examination should be made of the contents of the conjunctival sac in every suspected case, carrying the examination as far as the cultivation of the bacteria in a proper medium and the subsequent inoculation of the germs. If toxic germs are found in great number, no matter what their varieties, no operation on the eyeball should be undertaken until the germs have disappeared, and the conjunctival sac has been rendered as sterile as we can hope to make it.

In a given number of infections there are always some which are not easily explained by the more ordinary and well-known causes. It is quite possible that the state of the naso-pharnyx may account for some of these. No one, of course, would operate during any acute process in that region, but there are also chronic conditions which should be taken into account, such as chronic and atropic rhinitis with crusts about the lachrymal duct, ozena and tonsillar crypts. In any case preliminary cleansing of the passages as recommended by Dr. Lippincott is an added safeguard.

The question whether the case is an operable one has to do also with the condition of the cataract—whether it is immature, ripe or hypermature. I take it that it does not come within the scope of this short paper to discuss all the problems relating to this part of the subject. It is certainly right to operate on a hypermature cataract under any conditions which make immediate operation advisable. To this form of cataract, it seems to me, the extraction in capsule is most applicable, and if it were possible to eliminate the disadvantages of this operation, hypermaturity of a cataract would be the condition of choice. The problem of the immature cataract seems about as far from solution as ever. Ripening operations have not, certainly in my part of the country, proved popular, and my own small experience has not been favorable. Intracapsular irrigation, too, has not gained the majority as adherents, certainly not as used by McKeown for the ripening of cataracts. Extraction in capsule is too hazardous, and I should feel that its performance was unjustifiable unless the prospects of an improved condition were remote and other urgent reasons for its performance were present. We meet cases, however, at times in which it would seem that the risk of operating was no more than that brought about by frequent examinations and disappointing postponements.

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*Read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

II. PREPARATION OF THE PATIENT.

The preparation of the patient should be general—physical and mental—in addition to that accorded the eye. The first thing of importance is the state of the bowels. Recent writers have shown how intimate and important is the relation of the eye to the intestinal canal. It would be well to inquire into the patient's history in this respect and correct any abnormality as far as possible beforehand. The customary cathartic should be given the night before the operation, followed by a saline the following morning, being sure that the effects have passed before operating.

A warm bath should be given. Shampooing the head seems to me objectionable in a patient not used to it. It is likely to cause a cold, an unpleasant accompaniment of a cataract extraction. The eyelids and surrounding region, especially the brow, should be well washed with soap and water and wiped with sterile gauze or cotton; the edge of the lids should be carefully cleaned and wiped with the same. The conjunctival sac must be washed out gently with sterile water or physiologic salt solution. In many cases, perhaps in all, it would be well to drop argyrol in the eyes for a few days beforehand. In spite of the doubts recently cast on this drug, I believe it to be a very efficient one. It was the older custom at the Massachusetts Eye and Ear Infirmary to make all these preparations the night before the operation and to bandage the eye over night, often with the addition of some antiseptic salve. The next morning the eyelids were, in many cases, stuck together and there was secretion in the conjunctival sac. This practice was soon abandoned and the cleansing was done on the morning of the operation. The present routine method, however, and the general rule of the hospital for all operative cases is to make the preparations the night before, to put White's ointment of bichlorid[1] in and over the lids and to bandage. Under this method it is rare to find the eye in the morning other than perfectly white and quiet, and free from secretion. Certainly from a clinical standpoint this has proven satisfactory, though I am not aware that any bacteriologic tests have been made. After the bandage has been removed the less done the better; gently wiping the lid margins again, as would naturally be done to remove superfluous salve, and gentle irrigation of the sac with the salt solution is sufficient. After this, until the actual operation, the eye should be kept covered with a moist piece of sterile gauze or cotton.

There is beside this another preliminary of importance—the mental preparation of the patient. I believe it helps the patient to bear the operation and the after treatment if he is told what he may expect and what is required of him. It is wise that he should believe the operation simple and that it will almost certainly be successful. He should be told what he must and what he must not do during the operation; instruct him to think not of what is being done but of what he is told to do, to make any ordered movements slowly and to be relaxed and calm.

I am not of the opinion, however, that the same mental preparation ought to be accorded the relatives and friends. Some one at least should know that the surgeon is to do something more than shell out a pea, though that simile may do for the patient. We have been so diligent in making patients comfortable concerning cataract extraction that I think the operation is generally considered simple and failure impossible, even by physicians, if I may judge from what I have heard. I think the operator owes it to himself that some one should know the true state of affairs, not necessarily, however, all the disagreeable possibilities. In the hospitals, and to a certain extent outside, tradition does much for the favorable mental preparation of the patient. One patient tells another that there is no pain to dread and that the discomfort is trivial.

Just before operating a repetition of the instructions, a short drill in the needed movements and during the operation, gentle and encouraging guidance, are helps of great value. It seems to me undesirable that the patient should be in the hospital more than one day before the operation. He can in that time become perfectly familiar with the surroundings, longer than this will be spent in worry and fear. During this time the room should not be darkened. A hypnotic to ensure a good night's rest is often advisable. With the use of morphia for this purpose, and with its more prolonged use for the alleged beneficial action on the healing process, I have had no experience. I should feel that to justify such use its advantages must be many.

III. THE ANESTHETIC.

Of local anesthetics one has a considerable range of choice. My personal experience is limited to cocain and holocain. I have, however, found no one who, having experimented with alpha-eucain or beta-eucain and tropacocain, has been converted to their use. Alypin (hydrochlorid of benzoyl—2—ethyl—1, 3—tetramethyldiaminopropan—2—ol) may prove valuable, but at present little can be said about it. These anesthetics differ one from the other in the rapidity, duration and intensity of their action, in their influence on the pupil, in their irritating and antiseptic qualities and also in the amount of hyperemia they cause. They differ, too, in toxicity, holocain and cocain being the most poisonous of the group. This, however, amounts to so little that it need hardly be considered. If the patient were known to be very susceptible to cocain, tropacocain, which is the least toxic, could be substituted. Holocain has enjoyed considerable popularity on account of its having no action on the pupil, tension or corneal epithelium and because of its bactericidal properties. Of these advantages, the only practical one, it seems to me, is its freedom from action on the pupil. It is on this account, theoretically at least, more fitted for use in simple extraction than is cocain. The effect of the latter on the corneal epithelium can usually be avoided. It is not necessary to go further into detail on this subject. It would seem then that cocain was the most generally useful of the anesthetics, holocain being substituted for it in certain cases.

The method of using the cocain is of some importance. The 2 per cent. and 4 per cent. solutions are most commonly used and seem sufficient. Dropped in the eye

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[1] This ointment, recommended by Dr. J. A. White of Richmond, Va., is as follows:

℞.	Hydrarg. bichloridi	gr. i		06
	Sodii chloridi	gr. v		30
	Petrolati	℥vi	180	

two or three times at five minute intervals good anesthesia results. The use of a 10 per cent. solution tends to emphasize the disadvantages of cocain, and I think it preferable for anesthetizing the deeper structures, to allow a drop of the weaker solution to run into the anterior chamber, after the section has been made.

THE INCISION FOR THE EXTRACTION OF CATARACT AND THE IRIDECTOMY.*

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In studying the incision employed for the extraction of cataract we need not go further back in the history of the incision than the time of Daviel.[1] The operation of extraction, as a recognized method of removing cataract originated with Daviel, the method having been matured about the year 1750.

The incision employed most frequently by Daviel and the one referred to when the term "Daviel's incision" is used is a flap incision (Fig. 1) made entirely in the corneal tissue close to the scleral margin. The cornea was first pierced by means of a broad needle at its lower margin; then, by means of small, blunt-pointed knives and by curved scissors (Daviel's scissors, right and left), the incision was continued on either side until almost two-thirds of the cornea near its margin had been divided. In the latter years of Daviel's life the incision was made shorter. In order to afford more support to the iris and to simplify the incision, Daviel introduced, during the last years of his life, a triangular incision (Fig. 2) with the base inward in some cases, with the base upward in other cases.

Since Daviel's time many forms of incision have been introduced. The principal ones will be described in chronological order.

Richter[2] advised an incision in the lower half of the cornea (Fig. 3) close to the margin of the cornea, to be employed in the operation for removing the lens in its capsule by gentle pressure after first freeing the lens from its attachments to the suspensory ligament.

De Wenzel[3] employed an incision (Fig. 4) through the cornea extending from the temporal to the nasal margin in the horizontal meridian for the removal of opaque, shrunken lenses and soft cataract. A few years later De Wenzel advocated a flap incision for the extraction of cataract (Fig. 4). The line of the incision followed the margin of the cornea ¼ line (0.5 mm.) from the sclera and extended from a point 45 degrees above the horizontal meridian on the temporal side to 45 degrees below the horizontal meridian on the nasal side, thus including one-half the circumference of the cornea. It was thought that such an incision would be less apt to gape because of the support of the upper and lower lids.

Santerelli[4] advocated a corneal flap upward, including about three-fifths of the cornea. The incision follows the periphery of the cornea, its central point falling on the vertical meridian of the cornea above (Fig. 5).

Beer[5] began to employ the Richter incision in 1790 and appears to have practiced it continuously, making the flap downward as a rule, but also making it upward in not a few cases. Beer introduced the triangular knife which still bears his name, the use of which markedly simplified the making of the incision (Fig. 3).

Mr. Wardrop[6] introduced an incision, which is described as follows (Fig. 6): Puncture on temporal side of the cornea one line from the scleral margin and a little above the transverse diameter, the direction being perpendicular to the surface of the cornea. When the point of the knife has entered the anterior chamber it is directed to a corresponding point on the nasal side of the cornea, where the counter-puncture is made. The incision is then carried a little downward and forward, then the knife is rotated sharply so that the edge is directed forward and the incision is finished by cutting directly outward, nearly perpendicular to the surface of the cornea. The incision should be made so that the lower margin of the wound is midway between the lower margin of the cornea and the lower margin of the moderately-dilated pupil. Its advantages are: 1, Large opening; 2, firm flap, not very large; 3, corneal margin broad to support iris.

The linear incision, variously placed in the cornea and of various lengths, was employed even before the days of Daviel for removing soft lens substances.

Sir William Adams[7] employed the linear corneal incision for removing all cataracts which could be broken up.

Guthrie[8] made the incision in the lower part of the cornea, most often (Fig. 7) beginning slightly above the horizontal meridian and carrying the incision around the periphery of the cornea one line from the scleral margin. In some cases the incision was made above.

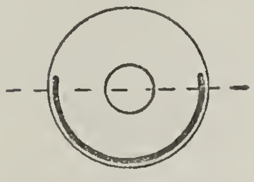
Fig. 1.—Daviel's incision.

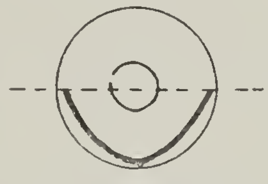
Fig. 2.—Daviel's inter-incision.

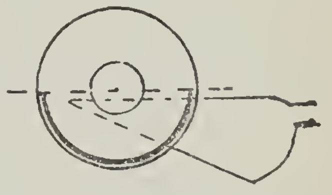
Fig. 3.—Richter's incision (Beer's knife).

Makenzie[9] advocated the flap incision and recommends that it be made in the upper part of the cornea in all cases except in those patients who have difficulty in looking down, when the incision should be made in the lower half of the cornea.

Graefe's classical linear incision was the result of his experience in the extraction of cataracts by means of the linear incision in the cornea, first employed by Palucci for removing membranous opacities from the pupillary area, and his desire to place the incision so that the loss of eyes from suppuration would be less frequent. The loss from suppuration when the corneal flap was the incision employed was from 7 to 10 per cent. Graefe urged, and very rightly so, that the healing of the wound would progress more rapidly if it were made where the blood supply was abundant, and that the resistance of the tissues to injurious influences would be greatest when the nutrition to the tissues was best. By placing the incision in the sclera he succeeded in reducing loss by suppuration very considerably. After a careful and prolonged study of the subject, evidence of which appears in the many articles on cataract extraction written by him,[10] Von Graefe selected the incision described below. The incision was placed almost tangentially to the upper margin of the cornea just below the clear margin. It described an arc in the sclera, its radius being nearly that of the sclera. It departed very little from the linear incision, having a height of from 0.50 to 1 mm. The length of the incision was from 10 to 11 mm., according to the size of the lens to be extracted (Fig. 8). The linear knife which bears Graefe's name was employed.

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*Read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

[1] Sur une nouvelle methode de guerir la cataracte par l'extraction du cristellin, Mem. de l'Acad. d. chirurgie, 1753.

[2] Abhandlung v. d. Ausziehung d. grauen Staar, Göttingen, 1773.

[3] Traité de la Cataracte, Paris, 1876.

[4] Ricerche per facilitare il cateterismo e l'estrazione della cataracta, Vienna, 1795.

[5] Lehre d. Augenheilk., 1817.

[6] Practical observations on the mode of making the incision of the cornea for the extraction of the Cataract, London, 1808.

[7] New Operations for the Cataract, 1817, p. 138.

[8] Operative Surgery of the Eye, London, 1830, p. 320.

[9] Diseases of the Eye, American Edition, 1855, p. 747.

One of Graefe's descriptions of his incision is as follows: The incision is made above with the narrow knife, the flat surface forward. The point of the knife is entered ½‴ (= 1 mm. plus) from the margin of the cornea and 2/3′″ (= 1.46 mm.) below a line tangential to the summit of the cornea. In order to make the inner wound as large as possible, the point of the knife is directed toward the middle of the pupil in front of the iris, and when the point has penetrated into the anterior chamber 3‴ (= 6.50 mm.) the handle of the knife is depressed and the point is pushed toward the place of counter-puncture exactly opposite the place of puncture. When the counter-puncture is made the blade of the knife is turned on its long axis, so that the back of the knife is directed toward the center of curvature of the cornea, and the incision is finished in this plane by to-and-fro movements. The knife, after it clears the sclera, is beneath the conjunctiva, which is now cut through, making a long or short conjunctival flap as desired.

Von Graefe made many experiments with conjunctival flaps.

Jacobson[11] practiced and advocated the making of an incision which was placed in the sclera 0.5 mm. from the limbus (Fig. 9), and included almost the entire lower half of the cornea. The extraction was accompanied by iridectomy.

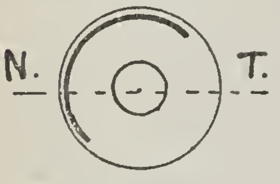

Fig. 4.—DeWenzel's incision.

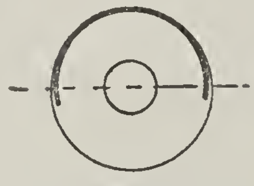

Fig. 5.—Santerelli's incision.

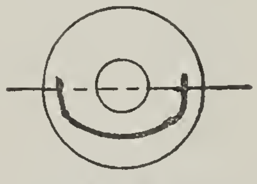

Fig. 6.—Mr. Wardrop's incision.

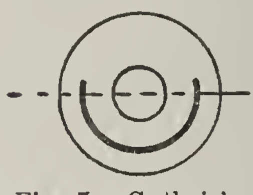

Fig. 7.—Guthrie's incision.

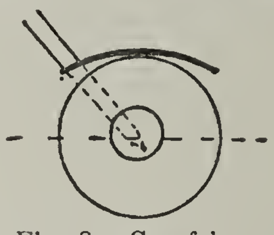

Fig. 8.—Graefe's incision.

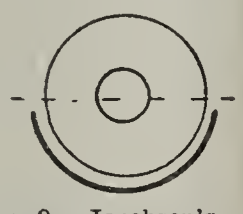

Fig. 9.—Jacobson's incision.

Stellwag von Carion, about 1864, advocated an incision which was made upward in the limbus conjunctivæ and included two-fifths of the circumference of the cornea.

Critchett[12] endeavored to make the incision as small as possible and to aid the escape of the lens by means of the curette. The incision was a flap in the upper sclerocorneal junction, including one-fourth of the circumference of the cornea (Fig. 10). The removal of the lens was preceded by an iridectomy (preliminary iridectomy). Critchett had used this method many years before the date of the above reference.

Horner, referred to by Stellwag, employed an incision wholly scleral, including one-third of the circumference of the cornea, beginning 1 mm. from the corneal margin, cutting upward and finishing the incision 1.5 mm. from the corneal margin (Fig. 11).

Steffan[13] made the puncture and counter-puncture 2 mm. below the horizontal meridian 1.5 mm. from the margin of the cornea, the distance between these points being 13 mm. The incision was so made that in individuals more than 40 years of age its lowest point was 1.5 mm. from the lower margin of the cornea (limbus); in individuals more than 45 years of age, 0.5 to 1 mm. from the lower margin of the cornea (Fig. 12).

Weber[14] made a careful study of the incision. He advised the use of a lance-shaped knife especially constructed. It measured 10 mm. wide at 6.5 mm. from the point and maintained this measurement 2 mm. further in order that the wound on the inner surface of the cornea might be made of the same length as on the outer surface. The blade was then narrowed to the shank. The under surface of the blade was slightly concave (illustration in *Graefe's Arch.*). For making incisions in the cornea above or below, the blade was bent on the flat, 8.5 mm. from the point at an angle of 120°. Weber designed to perform extraction without iridectomy. The knife was made to enter the cornea at the sclerocorneal junction, the inner edge of the wound being removed from the insertion of the iris into the ciliary body about 3 mm. The incision was made by choice at the lower or at the lower inner margin of the cornea. When iridectomy was determined on previous to the incision, the incision was made above. The globe was fixed immediately opposite to the point of the commencement of the incision. The incision (Fig. 13) beginning at the sclerocorneal junction, was carried slightly obliquely through the tissue of the cornea. After the point of the knife had entered the anterior chamber, the plane of the knife blade was made to advance in the plane of the base of the cornea and it was introduced about 8 mm., insuring an incision of 10 to 10.25 mm. The ends of the incision extended into the sclera about 1 mm. from the corneal margin. On removing the knife, which was done slowly, slight backward pressure was made to cause as little disturbance to the iris as possible. As a rule, the conjunctiva overlapped the outer extremities of the incision a very little. This was divided if it interfered with the escape of the lens.

Iridectomy was made: 1, If the rigidity of the sphincter iridis interfered with the escape of the lens; 2, if the iris prolapsed greatly; 3, if the iris was much injured when the lens escaped; 4, if it was difficult to restore the iris to its normal position; 5, if much lens cortex remained.

Kuchler[15] advocates the use of an incision extending directly across the cornea in the horizontal meridian, beginning and ending slightly in the sclera (Fig. 14), the incision of De Wenzel slightly elongated.

Lebrun[16] introduced an incision which he termed the "small median flap," termed by Warlomont the "Belgian incision" (Fig. 15). It is a curve with the convexity upward, lying chiefly in the upper corneal segment. A medium-sized Graefe knife is employed. The puncture and counter-puncture lie at the sclerocorneal junction about 2 or 3 mm. below the horizontal meridian of the cornea. The incision ends at the junction of the upper third with the middle third of the cornea in the vertical meridian. The incision is designed to avoid iridectomy.

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[10] Graefe's Arch., i., No. 2, 219; v, No. 1, 158; xi, No. 3, 1; xiv, No. 3, 106.

[11] Ein neues u. gefahrloses operationes verfahren sur Heilung d. grauen Staars, Berlin, 1863.

[12] Ann. d'oculistique, 1864.

[13] Erfahrungen u. Studien über die Staroperation, Erlanger, 1867.

[14] Graefe's Archiv., 1867, xiii, No. 1, 187.

[15] Die Querextraction des grauen stares d. Erwachsenen, Inaug. Diss., Erlangen, 1868.

[16] Compte rendu du Congrès de Londres, 1872, supplement, p. 217.

In 1885 Galczowski[17] advised a similar incision placed somewhat higher at the ends (2 mm. below the horizontal meridian), and likewise designed to avoid iridectomy.

Liebreich[18] advocated an incision in the lower part of the cornea, beginning with the puncture 1.5 to 2 mm. below the horizontal meridian, 1 mm. in the sclera, the counter-puncture being at a corresponding point opposite. The incision extends downward at 45 degrees for about one-half the width of the flap and is terminated by a curve, the apex of which is from 1.5 to 2 mm. from the margin of the cornea (Fig. 16). A Graefe knife was employed.

E. de Jaeger[19] advocated an incision which began in the sclera 3.5 mm. below a line tangential with the upper margin of the cornea, 2.5 mm. from the corneal margin, the counter-puncture being made at a corresponding point. The center of the incision corresponded with the clear margin of the cornea above (Fig. 17). The incision was about 12 mm. long externally, about 11 mm. long on the inner surface. The incision was made with a narrow bistoury, hollow-ground on one side, right and left. The knife was entered with the concave surface forward. This incision resembles that of von Graefe to some extent. A large iridectomy was always made.

Arlt[20] employed an incision which is a compromise between the Graefe incision and the old flap incision. It resembles that of E. de Jaeger, differing in that it does not enter into the sclera so far and that it is placed more in the limbus conjunctivæ.

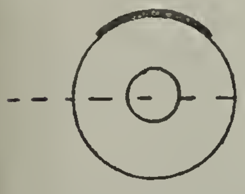
Fig. 10.—Critchett's incision.

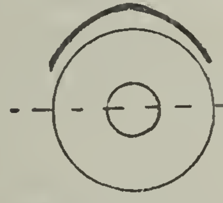
Fig. 11.—Horner's incision.

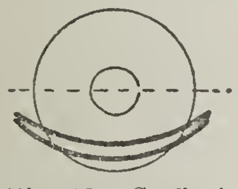
Fig. 12.—Steffan's incision.

Horner[21] employed an incision beginning 1 mm. from the corneal margin, 3 mm. below a line tangential with the summit of the cornea. It had a base of 12 mm. and a flap 3 mm. high. The incision was finished in the sclera about 0.5 mm. from the corneal margin. A rather large conjunctival flap was made (Fig. 18).

De Wecker[22] advocated the making of an incision located at the limbus conjunctivæ, forming a flap one-third of the diameter of the cornea in height. This is really an incision that includes almost two-fifths of the circumference of the cornea. A narrow Graefe knife was employed (Fig. 19).

Snellen's section is made just outside of the clear cornea (0.5 mm.), including about two-fifths of the circumference of the cornea upward, and is completed with a conjunctival flap 2 or 3 mm. long (Fig. 20). It is made with a narrow knife.

Many varieties of the incisions described have been made, the greater number falling in the upper half of the cornea being modifications of the linear or of the flap incisions (Fig 21). However, these approach the incisions described so closely that it is not necessary to be more explicit regarding them.

There is one incision that is advocated by some operators of which a few words may be written. The incision is made with a narrow (Graefe) knife. The puncture and counter-puncture are made in the limbus so as to include about two-fifths of the cornea above. The incision is then continued in the limbus with the plane of the knife in the plane of the base of the cornea until three-fourths of the incision is completed, when the knife is turned to cut directly outward. This divides the corneal tissue by the last maneuver at right angles to the surface, leaving a segment of clear cornea about 1 mm. in depth above. It is thought that the "shoulder" thus formed gives better support to the flap, and that a subsequent good healing, with slight danger of relapse of the iris, is assured (Fig. 22).

SUBCONJUNCTIVAL INCISION.

The only incision of this nature that has awakened any special interest is that described by Czermak.[23] The incision is made below in the sclerocorneal junction and includes almost one-half of the circumference of the cornea. It is commenced by a puncture, made with a wide Graefe knife, just below the horizontal meridian, cutting through conjunctiva, sclera and cornea at the scleral margin (Fig. 23). The point of the knife is advanced to the center of the pupil, preferably into the lens capsule, and is then withdrawn. A vertical incision downward in the conjunctiva, 12 to 15 mm. long, starting from the primary incision, is now made and the conjunctiva is detached from the underlying tissue. By means of specially constructed scissors, curved on the flat, the incision through the fibrous coat is continued in the sclerocorneal junction beneath the conjunctiva, until a point opposite to the puncture is reached. The other steps of the operation are then proceeded with. This extraction is performed without iridectomy.

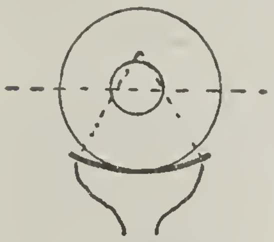
Fig. 13.—Weber's incision.

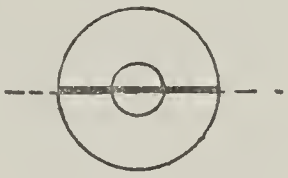
Fig. 14.—Kuchler's incision.

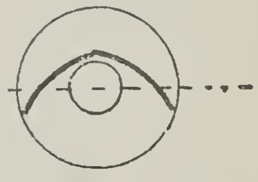
Fig. 15.—Lebrun's incision.

Knapp[24] makes puncture and counter-puncture in the limbus conjunctivæ from 0.5 to 1 mm. above the horizontal meridian of the cornea and completes the incision upward in the plane of the base of the cornea, making a small conjunctival flap. The incision includes a little more than two-fifths of the circumference of the cornea.

Fuchs[25] makes the incision of De Wecker, except that he makes a small conjunctival flap.

De Schweinitz[26] makes De Wecker's incision with a small conjunctival flap

SCLERAL INCISION.

The removal of cataract by scleral incision posterior to the incision of the ciliary body is not practiced by ophthalmic surgeons at the present time. However, it is of interest to note that extraction by means of such incision has been practiced, and with success, in a certain percentage of the cases. In preaseptic days it may have

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17. Progrès méd., November, 1885.
18. Eine neue Methode des Cataract Operation, Berlin, 1872.
19. Der Hohlschnitt, Vienna, 1873, p. 23.
20. Graefe's Arch., 1874, xv, No. 3, 294.
1880, Inaug. Diss., Zurich, 1882.
21. Muralt: Die Starextraction d. oph. Klinik in Zurich, 1870-
22. Ann. d'oculistique, lxxv, p. 264, 1875.
23. Klin. Monatsb. f. Augenheilk., November and December, 1903.
24. System of Diseases of the Eye, Norris and Oliver, iii, 798.
25. Lehrbuch d. Augenheilk., Achte Auf., 832.
26. Diseases of the Eye, Fourth Edition, p. 707.

possessed some merit, as the danger from infection was probably less.

Sir James Earle[27] removed cataract by an incision in the sclera. The incision was made through sclera, chorioid and retina, in some cases parallel with the margin of the cornea (equatorially), in other cases at right angles with the margin of the cornea (meridianly), the incision being five lines in length. By means of forceps the lens was seized from behind and drawn through the wound.

Ouadri[28] reported the removal of cataract through the sclera in 25 cases, 11 of which were successful.

DESIRABLE FEATURES OF THE INCISION.

1. It must be large enough to permit the lens to escape readily. If a linear incision or an incision approaching the linear incision is made the length of the incision should be from 10.5 to 12 mm. If a flap incision is employed it should include almost two-fifths of the circumference of the cornea for a moderately large cataract if an iridectomy is to be made, and a little more than two-fifths of the circumference of the cornea if a simple extraction is contemplated.

2. The incision should be placed where the healing of the wound will be rapid. While incisions that lie wholly or in part in the cornea are permissible in young individuals whose nutritive processes are vigorous, it is not desirable to place the wound in clear cornea in the aged or feeble, because of the danger of imperfect and retarded healing. In all such the incision should lie in the limbus or a very little back of the limbus, where the nutrition necessary to promote healing can be supplied directly and abundantly.

3. The incision should be placed so that the field of operation will not be too greatly interfered with by hemorrhage. By the aid of suprarenal extracts, hemorrhage from the small vessels at the limbus can be quite readily controlled.

4. The incision should not lie too close to the ciliary body. It would seem that the region of the limbus is the most desirable location.

In the opinion of the writer a desirable section is one located in the limbus, including about two-fifths of the circumference of the cornea, directed upward and terminating with a small conjunctival flap (Fig. 24).

POSITION OF THE PATIENT.

Whether the patient is in the sitting or prone position during the operation, the head should be so placed that the vertical transverse plane of the head dips 15 or 20 degree from the horizontal at its lower part (the chin lower than the forehead). This is attained in the chair by the position of the headrest. When the patient lies on the operating table or bed, suitable pillows are employed. Operators in the United States prefer, as a rule, to stand behind the patient while making the incision for both eyes, using the right hand for the right, the left hand for the left eye. The ability to do this is soon acquired whether the surgeon is ordinarily ambidextrous or not. If it is impossible to use the left hand for making the incision, it becomes necessary to stand or sit in front of the patient while making the incision in the left eye, when the surgeon must cut away from himself. The height of the patient's head should be so regulated that the surgeon's hands and arms will not be in a cramped position.

PUNCTURE.

The puncture should be made with the long axis of the knife almost at right angles to the surface at the limbus, and the direction should be changed so that the plane of the blade is in the plane of the base of the cornea as soon as the point has penetrated into the anterior chamber. If continued further the iris will become engaged, when the knife must be withdrawn until it is free from the iris. If much aqueous is lost by this maneuver the operation should be postponed until the anterior chamber is restored. If the point of the knife enters the tissue of the cornea at too great an angle it may pass for some distance in the lamellæ of the cornea, and in extreme cases may fail to enter the anterior chamber. Complications of this nature are especially apt to occur if the blade of the knife at and just back of the point is too flexible. The error may be readily corrected by withdrawing the knife and commencing again.

If, in passing the knife across the anterior chamber, the iris is engaged, the knife should be withdrawn sufficiently to free the point. If much aqueous is lost the knife may be entirely withdrawn, the operation may be postponed or the incision may be completed with the scissors or blunt-pointed knife.

COUNTER-PUNCTURE.

The point of the knife should be advanced across the anterior chamber, the plane of the knife corresponding with the plane of the base of the cornea, and the counter-puncture should be made at a point exactly corresponding to the puncture.

ERRORS.

(*a*) The point may be carried too far forward and emerge in clear cornea. This error is of little importance if it is not more than 1 or 2 mm. out of the way. The incision may be completed. (*b*) The point of the knife may be carried too far backward. This is a frequent error with beginners. If the iris or ciliary body is not engaged the section may be completed. If either is engaged, it is better to withdraw the knife and make a better counter-puncture, if little or no aqueous has escaped, and complete the section or withdraw the knife entirely and postpone the operation. (*c*) If a knife with a flexible point is used, the fibrous coat may be pierced very diagonally and the point emerge far back in the sclera. If the error is extreme the knife should be withdrawn and the operation postponed. (*d*) The knife may be entered with the back upward. If the blade of the knife is not too wide, this error may be corrected by quickly rotating the knife on its long axis, the sharp edge being turned toward the surface of the cornea; this is done to avoid engaging the iris on the edge of the knife. The incision may then be completed. If the knife is too broad for this maneuver, it may be withdrawn, the incision completed with the scissors, or the operation may be postponed until the anterior chamber is again restored.

The incision should be completed by long to-and-fro sweeps of the knife made rather rapidly at first, completing the section slowly; but little traction should be made on the cornea. Forward or backward pressure with the knife should be avoided. As the knife leaves the fibrous coat, the conjunctiva will be raised on its edge and a conjunctival flap of the desired length, from 2 to 3 mm., may be made.

ACCIDENTS.

(*a*) The iris may fall before the knife when the section is being completed. Injury to this membrane may sometimes be avoided by cutting corneal tissue with the toe of the knife on the thrust and with the heel of the knife on the draw without changing the direction of the incision. De Wenzel advises rubbing the surface of the cornea as the incision is being made to prevent cutting the iris in cases in which the iris falls before the knife. If these measures fail it is well to proceed with the section, removing the cut portion of the iris after the section is completed, and doing a more complete iridectomy subsequently if desirable. (*b*) The tissues of the lids and caruncle should not be pierced by the knife. Untoward movements on the part of the patient are apt to be induced by such interference.

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[27] Account of a New Mode of Operating for the Removal of Cataract, London, 1801, reported by Mackenzie.

[28] Annotozioni, Prat. suelle Malattie degli Occhi, iii, 167, Naples, 1827.

The healing of a section as described is rapid and satisfactory. He who finishes his incisions in clear cornea in old individuals will sooner or later come to grief on account of long-delayed healing with gaping of the wound or from suppuration because of the low vitality of the corneal flap.

THE CONJUNCTIVAL FLAP.

Many operators who have carried the incision within the domain of the conjunctiva have studied the conjunctival flap. Von Graefe[29] experimented extensively with it. He made a series of 100 extractions with large conjunctival flaps and a similar series with short flaps. He concluded: 1, When the wound is fully covered by a conjunctival flap the healing is most rapid; 2, small differences in the height of the flap are of no importance; 3, the flap should not be too large, as the hemorrhage will then be profuse and the blood may enter the anterior chamber and cloud the field of operation. The subconjunctival tissue may also become infiltrated, producing undesirable conditions.

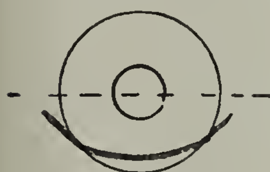

Fig. 16.—Liebreich's incision

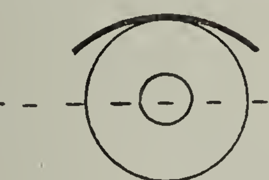

Fig. 17.—Ed. de Jaeger's incision.

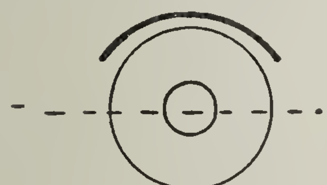

Fig. 18.—Horner's incision after Muralt.

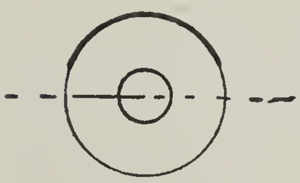

Fig. 19.—De Wecher's incision.

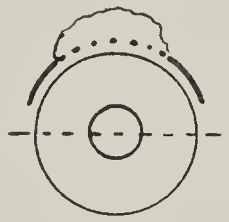

Fig. 20.—Snellen's incision.

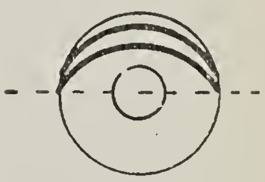

Fig. 21.—Modifications.

Horner[21] always made a conjunctival flap of greater or lesser dimensions.

In my opinion a conjunctival flap is of great value, especially in old individuals and in patients who are restless. I prefer a flap from 2.5 to 3.5 mm. wide and and from one-half to two-thirds of the length of the incision at its middle. The conjunctival flap should be turned forward immediately after the incision is finished. The bleeding from such a flap, which, without the use of adrenalin, would be somewhat profuse and might to some extent interfere with the subsequent steps of the operation, is almost completely controlled by the local use of this remedy instilled into the eye a few minutes before the operation is begun. After extraction of the cataract and the reposition of the iris, the conjunctival flap should be restored to its former position by means of a spatula. A suture may easily be introduced to retain the conjunctival flap in position if it is thought to be desirable. In my experience this is seldom necessary.

IRIDECTOMY.

Iridectomy at the time of the extraction of cataract is not of recent date. Daviel, about 1750, practiced it more or less extensively. If, in the course of the operation for extraction, the iris prolapsed, he did not hesitate to excise the prolapsed portion. If the sphincter was so rigid that it interfered with the free escape of the lens, he divided it with the scissors (iridotomy).

De Wenzel (1788) performed iridectomy at the time of the extraction in some cases. At times this operator excised a portion of the periphery of the iris, leaving the sphincter intact, extracting the cataract through the opening thus made.

Operators, such as von Graefe, A. Weber and E. von Jaeger, who extracted cataract by linear incisions situated partly or wholly in the sclera, performed iridectomy as a routine measure. Those who made the extraction by means of a pronounced flap—Daviel, Richter, Guthrie, Panas and others—and those who made the incisions in the cornea wholly or nearly so—Wardrop, Steffan, Kuchler, Liebreich and others—performed iridectomy but seldom.

Critchett and Bowman performed iridectomy as a routine measure. Mooren (1862) did preliminary iridectomy some weeks before the extraction.

With the development of the knowledge of the causes of infection and the departure from the linear incision of von Graefe, the performance of iridectomy became less frequent. The operation of extraction without iridectomy was advocated by Bettremieux,[30] Abadie,[31] Panas,[32] Schweiger,[33] Knapp[34] and others.

For a number of years after the return of the operation of the extraction of cataract without iridectomy, the "simple operation," as it was styled, was much in vogue, some operators employing it almost to the exclusion of extraction with iridectomy (the "combined operation").

Within the last few years a reaction has set in. Some of those who were very enthusiastic regarding the "simple extraction," because of the annoyance and trouble both to the patient and operator entailed by prolapse of iris; also because of the difficulty of freeing the eye of cortical lens substance, and the more frequent occurrence of glaucoma after the "simple operation," are now doing the "combined operation" more frequently. It is a well-recognized fact that the visual results by the one method are as good as by the other, and, since success with as little annoyance to the patient and a minimum of anxiety on the part of the operator are after all the objects to be obtained, it is best to choose the safer course in all cases.

While it is permissible to do the "simple operation" in young tractable subjects who have no history of rheumatism and gout, whose intraocular tension is not above the normal, whose irides are not atrophic and react readily, and whose lenses are not swollen, it is risky, to say the least, to do the "simple operation" in very old individuals with the gouty or rheumatic diathesis, whose blood vessels are atheromatous, intraocular tension increased, irides sluggish, lenses swollen, cataract hypermature, apt to be restless, chronic bronchial affection, asthmatic, etc.

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[29] Graefe's Arch., xii, No. 1, 162.

[30] Arch. d'ophth., 1885, p. 508.

[31] Ann. d'ocul., 1886, p. 257.

[32] Arch. d'ophth., 1885, p. 289.

[33] Arch. of Ophth., xviii, 1887, s. 143.

[34] Arch. of Ophth., xvi, 1887, p. 45.

The question of preliminary iridectomy is one on which different operators have widely different views. Theoretically, it is safer to perform iridectomy when the "combined operation" is chosen preliminary to the extraction of the cataract. I have no doubt that nearly all surgeons do preliminary iridectomy in certain cases of immature cataract in which it is desirable to expose clear lens at the periphery to afford better vision until the cataract reaches a suitable stage for removal, or in cases in which it is designed to hasten the opacification of the lens; also in cases in which the extraction is expected to present unusual difficulties, and in cases in which the patient has lost the vision of one eye.

I confess that I have not found the advantages in preliminary iridectomy to be all that the theoretical consideration of the subject has led me to expect. The ultimate results have not been sufficiently advantageous to induce me to extend greatly the application of this operation. In all cases in which there is no special indication for preliminary iridectomy, if the combined operation is decided on, the iridectomy immediately precedes the capsulotomy. An exhaustive discussion of this subject is purposely omitted.

IRIDECTOMY AT THE TIME OF THE EXTRACTION.

After the incision is made, the iris may prolapse into the wound, which condition is apt to occur if the aqueous humor escapes with a gush as the incision is finished, or it may retain its normal position, particularly when the aqueous is made to escape slowly. When a complete coloboma is contemplated, it is desirable to grasp the iris near the pupillary margin (the style of iris forceps is of no particular importance). The iris is then drawn gently out of the wound, and when the part seized is well out of the eye it is cut off close to the globe by one snip of the scissors.

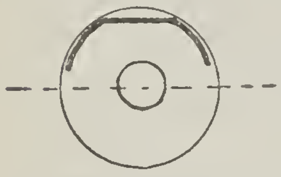
Fig. 22.—"Shoulder" incision.

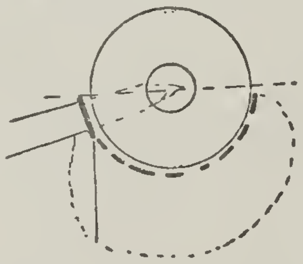
Fig. 23.—Czermak's incision.

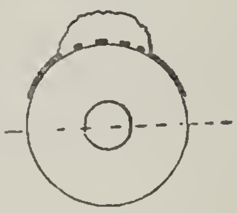
Fig. 24.—Incision practiced by the writer.

Shall the iris be excised by cutting it in the plane of the iris or at right angles to this plane? (In the line of the incision or at right angles to the line of the incision?) If there is a conjunctival flap it is difficult to excise the piece of iris by cutting at right angles to its plane without engaging and excising part of the conjunctival flap. For this reason, it is better when a conjunctival flap has been made to excise the iris in the direction of its plane. If no conjunctival flap is present it makes no difference which procedure is chosen. The amount of iris excised can be regulated to suit the surgeon, whether he chooses one or the other method. It is thought that the columns of the coloboma are less liable to become engaged in the angles of the wound if the iris is excised at right angles with the course of the incision, but in reality there is little in this contention, particularly if the piece of iris is excised at one snip.

Should a large or a small part of the iris be excised? This is really of little importance aside from the question of appearance, provided the columns of the coloboma remain free from the wound. If the incision approaches the "linear" and extends into the sclera, the iridectomy should be large to provide against incarceration or prolapse of the iris; if in the limbus or in the cornea, the size of the iridectomy may be small without great risk of its becoming permanently engaged in the wound; if upward, it makes little difference whether the iridectomy be large or small, so far as the visual results are concerned. A small iridectomy gives a somewhat better cosmetic effect. Whether much or little of the sphincter iridis is removed is of small importance. If the iridectomy is small and but little of the pupillary margin of the iris removed, the amount of light entering the eye may be better controlled; however, it seldom happens that aphakic patients suffer from inability to control the amount of light that enters the eye, whatever the size of the iridectomy. The operator should free the wound from all incarceration of iris at the proper time of the operation, with the greatest care, using the spatula for this purpose.

COMPLICATIONS.

It sometimes happens that the iris is not readily grasped with the ordinary iris forceps. This is particularly apt to be the case if the iridectomy is not decided on until after the lens has been removed. Should this difficulty be experienced we may succeed by using forceps with the teeth placed on the lower edge of the blades near the tip of the blades, as in the Mathieu, the Smith, and the Knapp capsule forceps. If these do not succeed, the blunt or sharp-pointed Tyrell hook may be employed. If, after the lens has escaped, the pupillary margin of the iris above recedes beneath the cilary body (folds under), it is best not to attempt its removal.

If there has been an iritis and the iris is attached to the capsule of a cataractous lens, the ordinary iris forceps may not suffice to grasp the iris securely enough to bring it out of the wound. Strong forceps with teeth on the lower edge should be used in such cases.

ACCIDENTS.

(*a*) In drawing the iris from the anterior chamber the traction may be too great and the iris be partly or wholly torn from its attachment to the ciliary body (iridodialysis). If partial iridodialysis is produced the portion of the iris withdrawn from the eye should be excised. The iris that remains in the globe, even if detached from the ciliary body for a short distance, will give no trouble. After complete iridodialysis the patient will be annoyed by excess of light, but fair vision may be retained. (*b*) The capsule of the lens may be seized on attempting to seize the iris. This accident is of no particular importance.

Various forms of iridectomy and iridotomy have been employed by different operators from time to time with a view of simplifying the operation of extraction and of saving more of the iris. Daviel cut the iris from pupillary margin to the insertion of the iris (iridotomy) from time to time. Galezowski advocated iridotomy as a routine procedure.

Manolescu also divides the iris radially after having drawn it out of the eye. This, of course, subjects the iris to more or less bruising.

Chandler[35] advocates excising a piece of the iris near its insertion just after the lens has been removed in cataract extraction. The piece of iris removed is as nearly as possible 1 mm. in diameter. Operation is as follows: After the lens has been removed, before the cortical substance is removed, the iris is seized near

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35. Arch. of Ophth., xxxiii, No. 1, 1.

its insertion by means of delicate forceps with the teeth placed at the ends of the blades. The seized portion of the iris is withdrawn from the wound and snipped off by means of thin-bladed scissors. Through the opening thus made, retained cortical lens substance is permitted to escape. The operation is termed the "modified simple" extraction. The operation was devised to avoid prolapse of the iris after simple extraction. Chandler reports 312 cases with 4 prolapses, 2 of which were the result of violence after the anterior chamber had been restored. Since the average of prolapse in simple extraction by good operators is approximately 6 per cent., the reduction by this method is very satisfactory.

THE DELIVERY OF THE LENS FOR THE EXTRACTION OF CATARACT; IRRIGATION OF THE ANTERIOR CHAMBER, AND THE FIRST TOILET OF THE WOUND.*

L. WEBSTER FOX, A.M., M.D.
PHILADELPHIA.

The second stage toward the successful completion in cataract operations depends, first, on the length and character of the corneal incision; second, on the laceration of the capsule or the removal of the lens within its capsule through the opening in the cornea. The importance of the amplitude of the incision is so well known to all ophthalmic surgeons that, in his symposium, Dr. Weeks has undertaken to embellish this part of our subject with the care and precision which characterize all his writings on ophthalmology. Dr. E. E. Landolt of Paris has recently written an historical review of all the work done on this subject in a monograph of 130 pages.[1] So, with Dr. Weeks on this side of the Atlantic and Dr. Landolt on the other, the ophthalmic world will be made thoroughly conversant with all that can be said or written on that delicate incision in the cornea, so important to the success of a cataract operation.

To carry out the mechanical and geometrical incision properly entails close study, for there is no operation in surgery so dependent on the cunning of the hand and its delicate training as this. Each cataract case is a law unto itself, and the operator who does not recognize immediately the necessity for a different kind of incision in patient A from that required in patient B has much to learn. No two eyes are alike; therefore, no two incisions can be mathematically the same in corneæ with varying geometrical areas.

With the proper incision we advance to the second stage of the operation. Shall it be with an iridectomy or without? My experience leads me to believe that if we were to operate alternately on a series of cases we would obtain far better ultimate results in at least 75 per cent. of the cases in which an iridectomy is performed, than in those in which the simple method is carried out. I have had my share of successful results by the simple method, but they have always been in selected cases.

IRIDECTOMY.

The iris may or may not present itself at the apex of the wound after the incision. It usually bulges forward, but may be replaced by gentle pressure with a Daviel spoon. It is then grasped with the proper iris forceps, drawn gently forward, and with one snip of the scissors is cut off close to its base. This gives the ideal keyhole iridectomy, and a space large enough for the escape of the lens without bruising the pillars of the iris, thus avoiding the complication of iritis, which is so apt to follow. In the simple operation, the hardened lens has to be forced through a space much smaller than its own diameter. This means an unusual stretching of the circular fibers of the iris; a partial paralysis is the result, which even eserin fails to hold in contraction, and is followed probably by incarceration in the lips of the wound. The currents of the fluids of the eye which flow from the wound are strongest at its apex and sweep the iris into this space like a floating flag, while the wound heals from its base toward the center. So long as there is the most minute opening, the currents of the eye flow rapidly or slowly according to the intraocular pressure, thus keeping the iris constantly in the gaping wound until closure takes place. In many examinations of the iris, I have found that its pupillary margin projects forward, and when this iris is bruised or stretched to the point of paralysis, it can be easily understood how the currents of the eye can sweep this floating tissue into the fissure of the incision. With this explanation it is readily understood why so few simple operations have the beautiful round pupil and the iris in its proper place. The successful cases of simple cataract operations are those in which the cornea is larger and the anterior chamber is deeper than usual and the iris appears to hang perpendicularly (from its base). With all such conditions confronting one, it is not difficult to understand why, in the hands of the larger number of operators, an iridectomy is preferable.

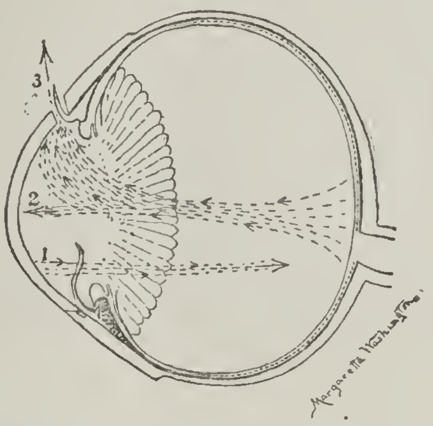

Fig. 1.—Currents of the eye, the results of pressure: 1. Showing primal pressure toward the optic nerve. 2. Currents returning, due to counter pressure. 3. Exit through corneal incision and floating iris.

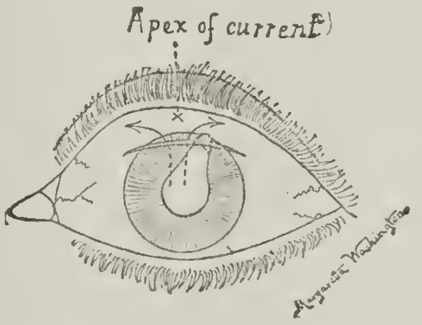

Fig. 2.—Incarceration of the iris due to paralysis of the circular fibers in simple operation.

HISTORY OF THE OPERATION BY EXTRACTION AND THE INSTRUMENTS DEVISED FOR OPENING THE CAPSULE.

To Daviel, a French surgeon, we are indebted for the operation for removing cataract by extraction as a routine practice. He performed this operation in 1747, although it was not a new discovery, for Rhazas, in 1529, says that "about the end of the first century Antyllus opened the cornea and drew the cataract out of the eye with a fine needle or hook," in which practice he was followed by Lathyrion.[2] If history is correct, this operation was forgotten or neglected until St. Yves (1707) performed the operation of extraction and described the operation in the following words:

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*Read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

[1] La Surface de Section des Plaies Faites en vue de L'Extraction de la Cataracte et de L'Iridectomie, 1905.

> When the operation of removing the cataract, which has passed into the anterior chamber, is to be performed, the patient must be seated on a chair, with the eye fairly opposed to the light; the lids are to be kept open with the thumb and forefinger of the right hand, the cornea is opened with a fine cutting lancet, commencing a little below the level of the pupil and continuing it across to the opposite edge, so as to leave only half a line on each side of the lower half of the cornea undivided. Through this opening a fine curette is to be introduced; and, by passing it behind the crystalline, its extraction is to be accomplished.

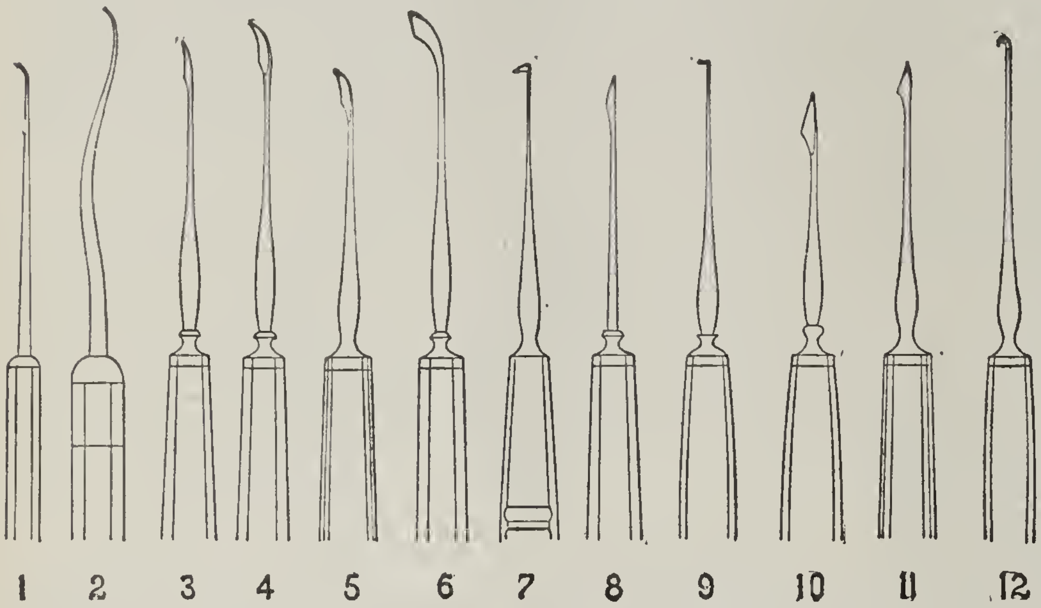

Fig. 3.—Cystitomes as used by: 1, Freytag; 2, Baron Wenzel; 3, Langenbeck; 4, Rosas; 5, Boyer; 6, Ritterich; 7, von Graefe; 8, Wardrop; 9, Arlt; 10, Desmarres; 11, Cusco; 12, Becker.

In 1708, Petit performed an extraction by the same method. Freytag (1721) also resorted to extraction through the cornea with a "hooked needle." The work of St. Yves and Petit led Daviel to follow the same method and he evidently made some improvements in the instruments of his day for the successful delivery of the cataract, for he speaks of using a small spatula (flat needle) with which he drew out from behind the pupil the different portions of the lens. Plantner (1780) speaks of extracting the lens through the corneal wound either with forceps or a little hook. From Daviel's time to the present many instruments have been devised for opening the capsule and delivering the lens, and the end is not yet. From various sources I have succeeded in gathering together almost every form of cystitome in use from Freytag, No. 1 (1721), down to the latest model of to-day. From the variety of these models, operators of 150 and more years ago were quite as ambitious to suit their own individual methods and to be remembered by these instruments as are the surgeons of to-day.

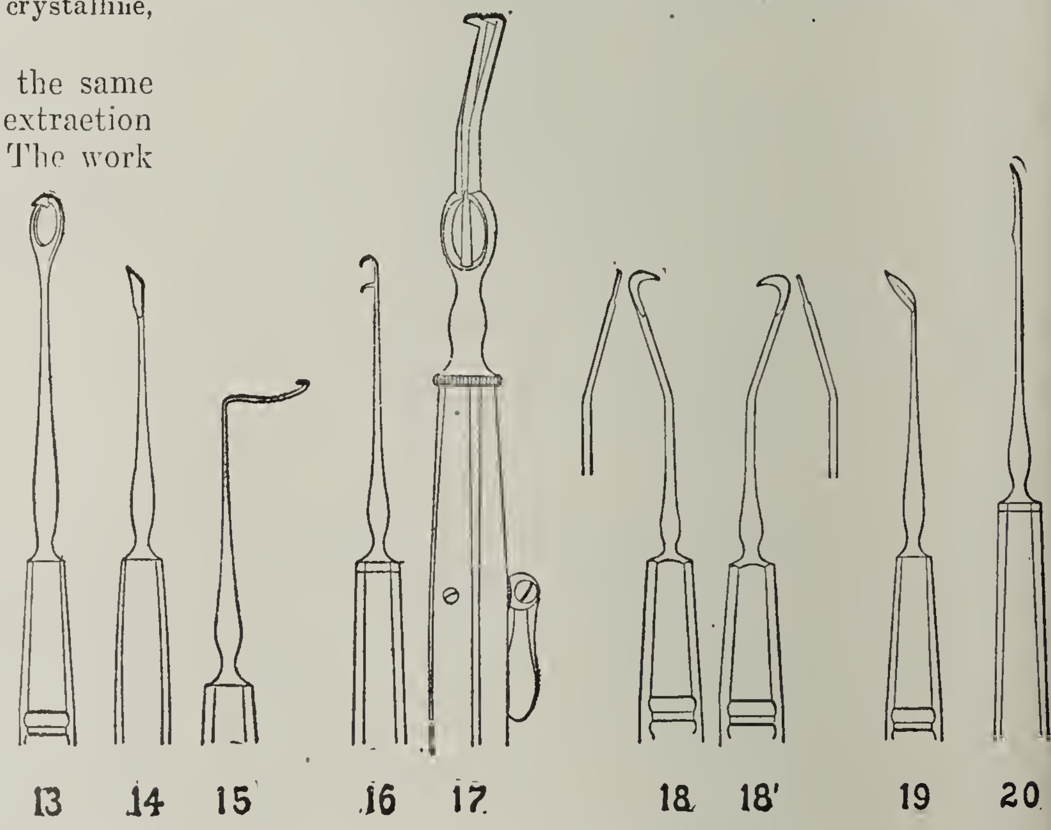

Fig. 4.—Cystitomes as used by: 13, Bettremieux; 14, Knapp; 15, Jaeger; 16, Weber; 17, Meyer; 18, Landolt, right and left; 19, Ziegler; 20 Galezowsky.

OPENING OF THE CAPSULE.

Many of the older operators removed the speculum after making the incision, and have the lids separated by the fingers of a trained assistant, or, raised by lid elevators so as to remove all pressure from the eyeball, and the same method is followed by some operators today. In my own practice I have rarely found this necessary. The speculum of Clark, from its shape and balance, seldom produces pressure on the globe heavy enough to press forward the vitreous; therefore, I dispense with an assistant.

Which cystitome is the best? I have tried nearly all the models used to-day, and each and every one has its advantage and disadvantage. The hooked needle and small sickle-shaped cystitomes of the older surgeons were introduced into the anterior chamber through the incision of the cornea with the concavity turned upward till the point is opposite the pupil. The point was turned inward and through the capsule, then drawn from side to side, and, freely dividing that membrane, it was carefully withdrawn with the convexity of the instrument downward.

While attending the clinics of Arlt in Vienna, I found he used a hook (Figs. 3, 9) with which he made a triangular flap in the capsule; Jaeger always very successfully used the right-angled cystitome (Figs. 4, 15), while Mauthner preferred the flexible cystitome of von Graefe (Figs. 3, 7). The cystitome of Jaeger appealed to me as one of the safest, as well as the most mechanically perfect in shape and less liable to become engaged in the iris, so it is the one that I have used in many cases. The instrument is passed into the anterior chamber, gently pressed against the cornea on the nasal side until it reaches the pupillary margin of the iris below, slightly turned backward and hooked into the capsule—not too deeply—then drawn upward toward the top, lacerating the capsule in its upward movement. It is again passed downward through this same opening, passing across horizontally until the iris boundary is again reached, a second vertical tear is made to the top across to the first incision. In this way a rectangular opening of a large size is made in the anterior capsule. Meyer attempted this same operation with the double cystitome invented by himself (Fig. 4, 17). This instrument is introduced in the ordinary way into the anterior chamber; on arriving at the inferior margin of the pupil, by pressing a lever, the cystitome becomes double; and, on drawing it back toward the corneal margin, a large central opening is made in the capsule. Before withdrawing it from the wound it is closed and this brings out the capsular flap. This instrument never became very popular, and now with many others is only an ophthalmic curiosity. While in Heidelberg I saw Becker use a cystitome (Fig. 3, 12) which bears his name and he used it most successfully. Weber (Fig. 4, 16) improved this instrument by devising a double hook, the fine teeth of which are placed one beneath the other. "He moves it in the capsule from one side of the pupil to the other and from the two angles of the capsular wound toward the incision in the cornea. If the capsular flap remains attached to the hook it is snipped off with the scissors." Geyet proposed to open the capsule near its superior borders by slight pressure. He tilts the margin of the lens into the corneal wound and then opens it with a small linear knife. Trousseau and some other dexterous surgeons pass the point of the knife through the capsule in making the corneal incision. This is not so difficult as would appear at first sight. It is done in the following way: Point the knife toward the tip of the nose, and, as soon as the instrument has entered the anterior chamber, pass the iris, dip the point of the blade into the capsule, then throw the handle backward and downward; this raises the point of the knife, lacerating the capsule and making the counter puncture in the cornea. Knapp (Fig. 4, 14) also adopted the peripheral incision with a cutting cystitome, and by his teaching both his instrument and method have been extensively followed. This cystitome is very similar to that used by Boyer (Fig. 3, 5), who lived during the eighteenth century. Landolt (Fig. 4, 18) has devised a right- and left-hand cystitome adapted for each eye, but at convenient angles to be inserted in the anterior chamber. Ziegler (Fig. 4, 19) has devised a lance-shaped cystitome which I have found extremely useful in making a large cut in a thickened capsule. The flexible cystitome of to-day (Fig. 3, 7) with its small-cutting lance-shaped blade was used by each and every surgeon at Moorfields in London during my term of service there, and it is probably used by more ophthalmic surgeons than is any other form. De Wecker (Fig. 5, 1), Foster (Fig. 5, 2), Collins (Fig. 5, 3), Liebreich (Fig. 5, 4) have substituted capsular forceps specially devised for grasping and extracting as much of the anterior capsule as possible. This method of opening the capsule requires great delicacy of touch and immobility of the eye. It is not my province nor wish to speak about the merits and demerits of each and every one of the many cystitomes made; I have only mentioned a few which I have found the most mechanically perfect and best adapted to lacerating the capsule.

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[2] Guthrie: Lectures on Operative Surgery, London, 1823, p. 290.

After the capsule has been opened by any one of the instruments described, cystitomes or forceps, the next stage is the delivery of the lens. Pressure on the lower half of the cornea and gentle pressure against the upper lip of the incision causes the eye currents to move backward in the lower half of the eye and forward in the upper half of the globe in direct ratio to this pressure and counter-pressure. The lens (Fig. 6) is thus made to tilt forward on its equatorial axis and by continued gentle pressure below it is forced forward and upward with the currents finding their way through the incision, and thus the cataract is gently expressed. If the pressure is too great, caused by the heavy hand of the operator, or a spasm of the muscles of the globe or eyelids, the lens is forcibly expelled and a gush of vitreous is sure to follow. The latter result was experienced during an operation for extraction, performed before the senior class in the amphitheater of the Medico-Chirurgical College. The eye had been thoroughly anesthetized and the patient was passive, yet, when the incision was made, an involuntary spasm of the orbicularis muscle took place forceful enough to close a Clark stop speculum. The force exerted was so great that the lens was thrown above my head and fell on the floor some distance from the patient. In another case the force exerted was not so great and the lens did not fly more than six inches from the eyeball. Some operators use the fixation forceps as a means of exerting counter-pressure, but any one thinking for a moment of the effect and counter-effect of this force on the fluids of the eye must at once realize the cause of many failures in expelling the lens. This is explained (Figs. 1 and 2), first, as to the effect of pressure on the lower third of the eye; second, the cause of a one-sided prolapse of the iris when the pressure is not properly exerted on the eyeball directly in the median line.

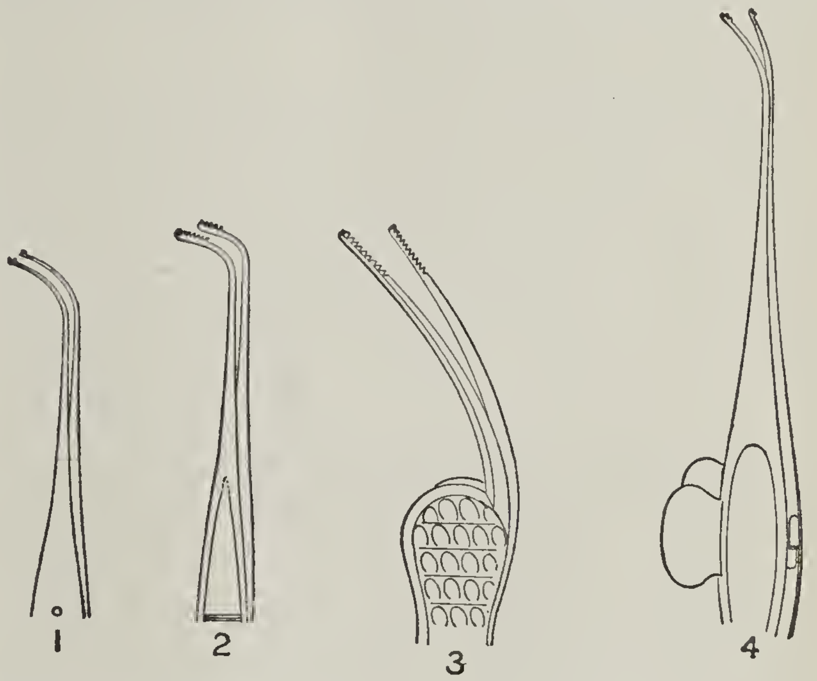

Fig. 5.—Capsular forceps as used by: 1, De Wecker, 2, Foster; 3, Collins; 4, Liebreich.

THE REMOVAL OF CORTICAL SUBSTANCE.

Is it deleterious to allow cortical substance to remain? I think it is to a certain extent. My observation has been that the posterior capsule always grows denser, and, in consequence, is more obstructive to vision when the tenacious lenticular masses are allowed to remain in the anterior chamber. I use massage first, and the Daviel curette second, then follow this by irrigation, if I have not cleared the anterior chamber sufficiently by the two methods mentioned. As soon as the cataract has been expressed the speculum is removed. Pressure is then brought to bear against the upper eyelid with the thumb of the left hand as a fixed point, and with the tip of the little finger of the right hand, the lower lid is gently pressed against the lower third of the cornea. Then, with an upward movement through the medium of the lids, all extraneous matter possible is forced out through the lips of the wound. This action usually cleanses the anterior chamber, leaving the pupil a velvet black and the iris in its proper position. Sometimes with this massage it is not always possible to clear the pupillary space nor the anterior chamber from all cortical substance; the curette is then called into use.

The curette has a limited field and removes only such particles that lie in the pupillary area, it being unsafe to pass the curette behind the iris and into the folds of the posterior capsule. Massage and the curette are only safe in the combined operation; the latter is not applicable in the simple operation. If I find that the pupillary space is black and the pillars of the iris stand out clear I let well enough alone and close the eye; but, if the anterior chamber presents a hazy appearance, I resort to irrigation with a physiologic salt solution—the mercuric salts or distilled water should *not* be used, as both have a deleterious effect on the endothelium of the anterior chamber. I have in my possession various irrigators—McKeown's, Lippincott's, Elliott's and the simple pipette of Terson. The most practical and safest is McKeown's, for with this instrument the fluid reaches every part of the interior of the capsule and forces out with the current all extraneous material and the cornea assumes its normal convexity.

I am firmly convinced, however, that the fewer instruments placed in the anterior chamber the better, but when necessity compels, the methods I have suggested are, I believe, the safest and best.

EXTRACTION OF THE CATARACT WITHIN THE CAPSULE.

From incomplete knowledge of the earliest operations, and from the models of instruments that have come down to us through the centuries, it is safe to say that whenever the cataract was displaced, first, by depression, and second, through the cornea, it was taken out of the line of vision within its capsule. I shall not deal with the couching method, but simply mention the extraction of the cataract through the cornea within its capsule. The first surgeons who succeeded by this method were Freytag (1721), Janin, Heckel and Richter, about the year 1773. A little later Mohrenheim, and especially Beer (1799), advised this method. It was again revised by Christiaen (1845), who strongly recommended it. Then followed Sperino, Gioppi, Feneglio, Gradenigo, Rosmini and Alexander Pagenstecher. The latter, from 1865 to 1875, performed 353 operations, and his work was given to the world in an article published by Dr. Hermann Pagenstecher, his brother, in 1877.

Delgado of Madrid attempted to extract the cataract in its capsule in the following manner:

> He begins by introducing into the anterior chamber, as in discission per corneam, an instrument combining the needle with a spatula; with this he detaches the lens and makes it mobile by gentle pressure on the periphery of the cataract. Having done so, he withdraws the instrument, waits until the aqueous has again filled the anterior chamber, and then extracts the lens in its capsule, using von Graefe's peripheral incision and the superior iridectomy.

From the days of Pagenstecher and Delgado until the present day many operators have had cases in which, owing to a thickened capsule and atrophy of the suspensory ligament (zonule of Zinn), they have delivered the cataract within its capsule without difficulty. Encouraged by this, they have operated on patients in whom these conditions did not exist and have not met with the same brilliant results.

For several years past, whenever I have found a hardened cataract with a thickened capsule and atrophied suspensory ligament, I have dislocated the lens with a Jaeger's cystitome (Fig. 4, 15) and then extracted the lens within its capsule. My method is as follows: Passing the instrument into the anterior chamber and hooking the lens at its inferior margin I make a backward pass, at the same time pressing the upper lip of the incision very gently downward and backward; this tilts the upper part of the lens forward; the lens is then brought back into its normal position, and this is followed by rotation on its axis, done by hooking the cystitome in the capsule. Then, removing the cystitome and by counter pressure on the lower third of the cornea with a tortoise shell spatula, I express the cataract through the incision without loss of vitreous. During the last five years I have operated on at least fifty patients by this method, and I find it preferable to the method advised by those operators who express the lens within its capsule by pressure. In the last ten cases, in which I followed the method suggested by Pagenstecher, Smith, etc., I have found considerable excitation of the iris, more or less pronounced irritability in healing, the eyeball remaining red, and there is also much distortion of the iris. Among the Anglo-Saxon race I am certainly not in favor of the operation of extracting the lens within its capsule as a routine method. Even in those cases in which I have delivered the lens within its capsule and in which the suspensory ligament was atrophied and no secondary inflammation followed, the average visual acuity obtained was no better than in those cases in which the ordinary operation was performed.

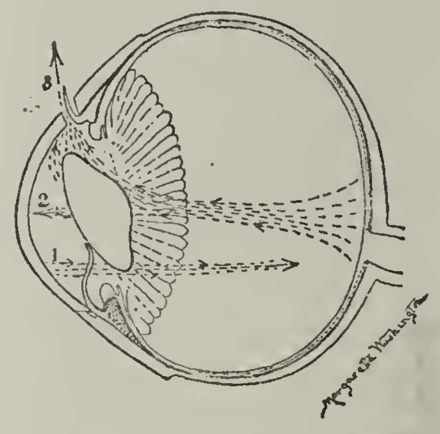

Fig. 6.—Demonstrating the forces which expel the crystalline lens: 1. Primal pressure with spatula on cornea. 2. Currents returning, tilting lens. 3. Exit of crystalline lens through corneal incision.

I have stated that the openings of the capsule are many and varied, and so are the instruments to make these openings. Each cataract is surrounded by a pathologic capsule. This change may be invisible to the naked eye, or very much thickened and dense and easily detected by oblique illumination, and yet it is very difficult to recognize the different types. Diaphanoscopy does not help us, oblique illumination may in some cases, but it is not to be relied on. I have found that the age of the cataract and the senility of the individual are the best guides. A cataract of one year's growth has a capsule with a bluish cast; a cataract of two years' growth has a capsule with a pale color, moderately dense in appearance; a cataract of three years' growth and over, has a capsule of yellow cast, and is dense and inelastic. As the cataract matures the capsule thickens, while the zonule of Zinn, or suspensory ligament, grows thinner or degenerates. I have found this classification of cataracts on the whole fairly accurate.

DISLOCATION AND MALPOSITION OF THE LENS.

Occasionally a dislocation of the lens occurs when the corneal incision is made or when the incision is not long enough and too much pressure is exerted in the center instead of in the lower third of the cornea, forcing the lens backward instead of tilting it forward. Sometimes a prolapse of vitreous takes place after the incision of the iris or after the laceration of the capsule. This is an evidence of a rupture of the zonule of Zinn and a partial dislocation of the lens. The speculum should be removed at once, the patient allowed to rest quietly for a few minutes, the eyelids then separated by a trustworthy assistant and the lens immediately extracted by means of a scoop (Waldau "Schuft," Critchett's, Bowman's or Levis's). If there is much loss of vitreous and the eyeball becomes flaccid, the eyelids are separated and the eyeball, through the anterior chamber, is filled with a tepid physiologic salt solution.

ECTOPIA LENTIS.

In rare instances we meet with a congenital displacement of the crystalline lens upward or downward to the nasal or temporal side. When we meet with cataracts of this character it would be unwise or dangerous to make a corneal incision and attempt to extract the lens through the opening with a scoop; the vitreous is fluid and would certainly escape in large quantities, causing a total collapse of the eyeball and consequent loss of vision. In such cases it is safer to follow the couching method, for it is almost impossible to extract the cataract by the ordinary method and at the same time preserve the integrity of the eyeball.

LENS IN ANTERIOR CHAMBER.

The crystalline lens may find lodgement in the anterior chamber and cause an irritation to the iris and ciliary body. I have found that when the dislocated lens remains in the anterior chamber for more than a year it solidifies and becomes a calcareous mass without an increase or loss in its size. It then becomes a serious menace to the eye by causing iritis or iridocyclitis, but the greater danger lies in its provoking sympathetic ophthalmia. To remove this foreign body I make an incision through the horizontal plane of the cornea. The puncture is made near the outer side of the cornea directly into the anterior chamber, the point of the knife is passed along until the foreign body is approached, then the point of the blade is passed over it and beyond to the point of counter puncture, thus making a long incision through the center of the cornea. The speculum is then removed and the anterior chamber opened by pressing the partially closed eyelids with the thumbs of the right and left hand. If the calcified lens can not be forced out in this manner a small hook may be passed through the incision back of the lens while the pressure is maintained with the thumb of the right hand above and the lens then drawn out. By this method I have successfully removed the lens in five cases.

LOSS OF VITREOUS.

Is the loss of vitreous, in large and small quantities, detrimental to the success of the operation? The surgeon of to-day looks on the loss of vitreous with great seriousness and aims to prevent it at all hazards. Some of the older authorities did not take the loss of vitreous with much distrust, for Lawrence says:

> The escape of vitreous humor is not to be regarded in itself as a very serious circumstance. The space which it before occupied is filled by aqueous secretion. There is no doubt that one-fourth or one-third, and perhaps even one-half, of the vitreous humor may be lost in this way without interfering with the result of the operation. In many instances it seems rather to contribute to success; it lessens the bulk of the globe, and thus prevents the tension which occasionally succeeds the operation. Sometimes there is a spasmodic action of the muscles, propelling the vitreous humor against the cornea and preventing the apposition of the flap. I have in such cases introduced the curette through the pupil and let out some of the vitreous humor purposely.

In my opinion it should be our aim to deliver the lens without loss of vitreous. I have had a few cases in which at least one-fourth of the vitreous was lost, but instead of allowing the globe to remain in the flaccid condition, which this loss of vitreous would entail, I have immediately filled the eyeball with a tepid saline solution (physiologic salt solution) and have had good recovery ensue. When this has not been done and the condition has been left to Nature, subacute glaucoma has almost invariably followed. It is only fair to state, however, that in these cases the tension was slightly above normal before operating and that glaucoma, in an insidious form, may have already existed. For a trifling loss of vitreous no heed need be paid other than a careful snipping of this bead from the lips of the wound and a gentle backward stroking of the edges of the incision. If at the end of twenty-four hours there be again a protrusion of vitreous it should be cut off and the lips of the wound touched with a 1 per cent. solution (5 grains to the ounce) of silver nitrate. When the vitreous humor has its normal consistency prolapsus rarely follows the first cleansing of the wound immediately after the operation. It is impossible to prevent prolapsus in those cases in which the vitreous has degenerated and become fluid. Here it may be necessary even to go so far as to stitch the opening with two stitches of silk thread to prevent leakage, as I have done on several occasions. If we could foresee this condition—but I know of no physical sign by which we can discover the fluid vitreous—no surgeon would follow the ordinary method of operating in such cases. If we could be sure of our premises the only justifiable operation here would be the couching method.

To-day the ophthalmic world is slowly turning toward the Orient and watching with interest the work done by Surgeon Major Henry Smith, I. M. S., in delivering the lens within the capsule. In such a prolific field as India, with its three hundred millions of inhabitants, an ophthalmic surgeon has unlimited opportunities to put into practice any method to which he aspires. If one surgeon can perform 2,616 extractions in one year, with the following results, iritis 0.3 per cent., escape of vitreous 6.8 per cent., capsule bursting 8 per cent., capsule left behind 4.28 per cent, first class results 99.28 per cent., second class results 0.3 per cent, failures 0.34 per cent., it must make the ophthalmic surgeons of Europe and America hesitate to give their results drawn from the meager field around them. My experience leads me to agree with Surgeon Major H. Herbert, I. M. S., of Bombay, who says: "Extraction within the capsule is, with us, commonly reserved for over-ripe cataracts in which the capsule is not only opaque, but also too tough to be torn by the cystitome." He further says: "I have been surprised and disappointed to find the average visual acuteness obtained by this operation, tested by spherical lenses on discharge from the hospital about a fortnight after the operation, to be certainly no better, and, perhaps, rather inferior to that obtained by the ordinary operation." In commenting on the work done by these two operators of equal ability in the same field, with the same race, we have diametrically opposite opinions as to the value of the operation of removing the lens within its capsule.

Meyer of Paris, one of the most skillful ophthalmic surgeons of his day, in speaking of this operation twenty-five years ago, said:

> Extraction of the lens in its capsule does not appear to be admissible as a general method applicable to all cases, but should be restricted to those in which it seems probable that the strength of the suspensory ligament is defective—for example, when the cataract is over-ripe, when the iris is tremulous, and in strongly myopic eyes in which a general distension of the globe exists.

Macnamara says:

> This is by no means a new method of extraction of the lens, having been practiced with varying success since 1775 and strongly advocated by Pagenstecher and M. Sperino. Having performed this operation extensively since 1864, I am convinced that if it were possible in every case in which we operate to remove the lens in the capsule without damaging the other structures of the eye, we should have reached perfection in the extraction of the cataract.

Dr. D. W. Green,[3] Dayton, Ohio, in a recent article, his given his experience in operating in twenty-four cases by the so-called "Indian method." He says:

> Is it an operation that ought generally to be adopted, as Smith contends it should be, by the average operator and in the average class of cases? I think not, for the following reasons: It is more difficult to deliver the lens in this way than with the capsulotomy, even if one be experienced with the method. The operator who only does ten or twelve operations a year or fewer can not from this small number acquire enough skill to do justice to the method himself.

In referring to Dr. Green's statistics his results were not encouraging.

> The lens was delivered entire in 55 per cent.; vitreous was lost in 35 per cent.; glaucoma followed in 15 per cent.; iritis in 20 per cent.; and an average of 20/70 vision was secured with correcting glasses.

WHAT METHOD SHOULD WE ADOPT?

From the recorded experiences of many ophthalmic surgeons no doubt the conservative instructors in ophthalmology would select the combined operation as the method to be taught in our schools of ophthalmology for the younger ophthalmologists to follow. The combined operation, in the hands of the majority of operators, good, bad and indifferent, the world over, gives a larger number of perfectly successful results, and cases of complete failures are less frequent than by any other.

PREPARATION OF INSTRUMENTS.

Formerly, I took all the precautions necessary for thorough sterilization by boiling in water and by dry heat in a sterilizer; these extra precautions I found resulted in destroying instruments and did not improve my statistics. I long ago (ten years) returned to cleansing my instruments in diluted alcohol (alcohol ℥i, aquæ destillata ℥iii); after immersing them in this solution for five minutes they are then carefully dried with sterilized gauze.

Here I wish to enter a protest against the introduction of metallic handles for knives and cystitomes as a substitute for ivory. An instrument having a metallic handle can not be held by fingers and thumb with the same lightness and delicacy of touch as one having an ivory handle. In an operation so important as the removal of cataract, what conscientious surgeon hesitates to obtain the best instruments of the choicest mechanical finish to aid him in making such operations a surgical success, especially since we have the means of making these refined instruments clean, preserving their cutting edge, and not destroying them by heat and chemicals before their work is accomplished?

Drs. Weeks and Landolt have called attention to the incision for the easy delivery of the cataract. I have described the accuracy of manipulation of the iris in securing the ideal keyhole iridectomy; the opening of the capsule, by many instruments devised for the purpose, vertical and horizontal crosses, peripheral incisions, and extracting the anterior leaf with capsular forceps; the delivery of the lens within its capsule and without, not even forgetting the flushing of the anterior chamber to clear this space of all cortical matter or filling the globe with a saline solution where much vitreous has been lost. All this should be done with a gentleness of touch and with delicate instruments "so that nothing be effected by force which can be accomplished by art."

[The other papers in this Symposium on Cataract will be published next week, and the discussion will follow.]

SUBSEQUENT HISTORIES OF ONE HUNDRED AND SIXTY "ARRESTED CASES" OF TUBERCULOSIS TREATED AT THE SHARON SANATORIUM, 1891-1906.[*]

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BOSTON.

With the Collaboration of Walter A. Griffin, M.D.
SHARON, MASS.

In offering you the results of work of over fifteen years at the Sharon Sanatorium, this time with the invaluable assistance of Dr. Griffin, neither he nor I offer any apology for what may seem an unnecessary harping on a subject which has become familiar in the past few years since the crusade against tuberculosis has assumed such great proportions.

It must be remembered that in certain respects, so far as climate, altitude and proximity to the sea and a large city are concerned, the Sharon Sanatorium was for several years unique. The results of treatment, therefore, should be kept before you that you may judge whether that which was begun sixteen years ago as an experiment has proved a success or otherwise.

As shown by the title of the paper, I still adhere to the term "arrested" in speaking of cases in which the most important symptoms (chiefly cough, expectoration and fever) have disappeared during a long or short stay at the sanatorium, the patient's general appearance being one of good health. This is chiefly done for the sake of uniformity with previous records given to this society,[1] although in the annual reports of the institution the nomenclature recommended by the National Association for the Study and Prevention of Tuberculosis has been added to the older method. A feeling of conservatism, moreover, and a desire to counteract the harmful effect of claiming too much at first in the treatment of a disease so uncertain and treacherous as tuberculosis, are additional reasons, I confess, for not having made use even of the term "apparently cured" when the patients leave the sanatorium, in spite of the fact that the subsequent histories in very many cases would seem amply to justify the less conservative term.

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[3] Ophthalmology, January, 1907.

[*] Read at a meeting of the American Climatological Association, at Washington, D. C., May, 1907.

[1] Subsequent Histories of Arrested Cases of Phthisis treated at the Sharon Sanatorium. Boston Med. and Surg. Jour., June 22, 1899; Trans. Amer. Climatological Assn., 1899. Subsequent Histories of Seventy-nine Arrested Cases of Phthisis treated at the Sharon Sanatorium from 1891 to 1902. The Journal A. M. A., Nov. 14, 1903; Trans. Amer. Climatological Assn., 1903.

Up to the autumn of 1900 there was a capacity of nine beds only, but since that time the addition of a large wing has increased the number of beds to twenty-two.

Since the opening of the institution in February, 1891, up to one year ago (January, 1906) we have discharged 362 patients, among whom 35 either remained too short a time (less than one month) or proved to be non-tuberculous, and so were not considered in the results. The remainder only (327) are taken into consideration. Of these, 160 were classed as "arrested" cases. In reporting the subsequent histories of these cases we have divided them into two series, viz., (1) those who were included in my last paper entitled "Histories of Seventy-nine Arrested Cases of Phthisis, etc., 1891 to 1902," the last one of these having been discharged in February, 1902, over five years ago; (2) those who have been discharged as "arrested" cases since that date up to one year ago (January, 1906).

In my last paper I gave brief subsequent histories of the arrested cases in patients who had died after varying periods of a cessation of all symptoms. It was interesting to note that a large percentage of these had signs of more or less advanced disease, in which arrest of the morbid process was hardly to have been expected. In others hard work and a return to unhygienic conditions of life seemed the chief reasons for their subsequent relapse after several years of good health. The details of these published cases can be easily referred to by those interested to know the exact facts.

Since the publication of my last paper in 1903, six more of the patients then reported have relapsed and died. I have tabulated them as follows:

Case 129 (L. B. W.)—Incipient. Death January, 1906, five and one-half years after discharge. In January, 1903, two years or more after discharge, at work in a factory and health reported "good."

Case 136 (F. A. L.)—Incipient, well marked. Death about five years after discharge; details unknown.

Case 149 (E. C. C.)—Advanced phthisis in both lungs. Death December, 1904, three and one-half years after discharge. Two and one-half years after discharge health reported "good."

Case 153 (A. J. F.)—Incipient. Death one and one-half years after discharge. No other details obtainable.

Case 174 (L. G. W.)—Incipient. Death one and one-half years after discharge. Left sanatorium against urgent advice after only seven weeks stay.

Case 181 (M. A. McK.)—Advanced phthisis. Death about three years after discharge.

In looking through these six reports it will be seen that two patients had advanced disease and arrest of the process was unexpected, and yet both lived three years after discharge. One entered a factory, the usual conditions of which we know to be unfavorable to health. One left the sanatorium far too early to accomplish the best results, and against advice. Of the other two, no satisfactory data can be learned as to the subsequent methods of life or cause of death. These six cases, added to the twelve recorded in my last paper, make eighteen patients who have died out of the first series, or the seventy-nine patients discharged as "arrested" up to 1902—25 per cent.

Three of the cases in the first series, of whom up to the time of writing no recent report could be obtained, are tabulated as follows:

Case 49 (H. Q.)—Discharged October, 1894. Perfectly well four years ago. In robust health, working as a domestic nine years after discharge. Although we have no present record we have no reason to believe her dead.[2]

Case 122 (A. D.)—Discharged October, 1900. Perfectly well at last report, about one year ago, six years after discharge. Working at curtain stitching.

Case 179 (L. C. K.)—Discharged December, 1901. "Health good" January, 1903. Not traced since.

SUMMARY OF THE FIRST SERIES.

Still living, most of them housekeepers or wage-earners and apparently in good health ....72.5 + %
Not heard of recently .... 2.5 + %
(Two at least of these cases when last heard of had been in robust health for several years after leaving the sanatorium.)
Died ....25 — %

SUMMARY OF THE SECOND SERIES.

Among the cases of the second series, which includes those discharged from April, 1902, to Jan. 1, 1906, we have the following record:

81 were discharged as "arrested." Of these
77 are alive and apparently well, most of them housekeepers or wage-earners, about........95 %
3 have died, about .... 3.7 %
1 has sent no recent report and thus far has not been traced, about .... 1.4 %

Of the three who have died, one was in an advanced stage, following a remarkable condition of arrest for some months, and finally succumbed after a return to hard work in a convent. One had incipient disease, but remained only one month at the sanatorium and died of "paralysis" at the Massachusetts General Hospital two years later; no mention was made of phthisis. The third was a patient with advanced disease who was discharged as "arrested," but after hard work relapsed and died.

TOTAL NUMBER OF ARRESTED CASES.

In summing up the total number of arrested cases, therefore, we have the following results:

FROM THE YEAR 1891 TO 1906.

Total number "arrested" 160
Number still living and well, most of them housekeepers or wage-earners........134 = 83 + %
Number who have not recently been heard of, but who at last accounts were doing well, many of them in robust health.. 5 = 3 + %
Number who have since relapsed and died 21 = 13 + %

Owing to the bulk of such material we have not attempted to print the tabulation of these cases in detail, as we did when we gave the last report. All were evidently of tubercular nature, as proved either by the presence of bacilli in the sputa, the tuberculin test, or such marked signs in the chest, combined with the history, as to make the diagnosis undoubted. It should be added that several patients were given the tuberculin test simply as a matter of corroboration of a previous diagnosis and as an additional means of convincing others who might be skeptical.

A few cases are appended as examples of the kind which are admitted to the sanatorium:

Case 207.—H. H. H., aged 31, housewife, incipient, arrested; length of stay, five and one-half months.

Family History.—No tuberculosis.

Personal History.—Frequent "colds" in last three years.

Present Illness.—Cough for four and one-half months; in bed two months. Tubercle bacilli twice found before entrance.

Physical Examination.—(April). Dulness in both tops with + respiration and tactile fremitus. Dulness in lower right back with bronchial respiration, bronchophony and numerous fine râles. No sputa after entrance. Patient was kept in bed for a week and then gradually allowed about. The chest condition steadily improved till in October nothing abnormal could be found. No cough. Keeping house and indoors from 8 to 9 hours a day; windows open at night.

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[2] Since time of writing, this patient has been seen and is in perfect health, which alters the percentages somewhat.

Case 265.—E. M. S., aged 30, housewife, advanced, arrested; length of stay, five months.

Family History.—Mother's mother died of consumption.

Personal History.—"Catarrhal trouble" several years.

Present Illness.—Run down eight months, cough four months.

Physical Examination.—Dulness in both tops, but especially in the left. Respiration broncho-vesicular in right top and + in left top. Numerous fine râles in upper two-thirds of left lung. Cough and sputa rapidly stopped. Tubercle bacilli were found on two occasions. Chest signs improved much in degree, although about same areas involved. Now, three years after discharge, has no cough. Is keeping house and stays indoors most of the time.

Case 270.—M. E. McG., aged 24, incipient, arrested; length of stay, three months.

Family History.—One sister died of phthisis.

Personal History.—Typhoid eight years before.

Present Illness.—"Bronchitis" eighteen months before and some cough since.

Physical Examination.—Slight dulness in both tops with + voice and fine râles on both sides at apices front and back. Tubercle bacilli found in sputa. Signs nearly all cleared up; very little at apices in back. No cough, no sputa at discharge. Has continued in good health three years and has had two children.

Case 319.—A. D. P., aged 25, shoe factory worker, advanced, arrested; length of stay, six months. Family and personal history negative.

Present Illness.—Cough for two months.

Physical Examination.—Thin, pale, temperature up to 102 and 103 (gradually coming to normal after a month). Marked dulness in right top with harsh respiration and fine râles in back; also dulness in lower right back with rather coarser râles. Little dulness left top with broncho-vesicular respiration and fine râles in back. Numerous tubercle bacilli. Patient was kept in bed and not allowed company for weeks; but during six months' stay she gained 39 pounds, lost all cough and showed in the chest only very slight signs at right base. Feels perfectly well after two years. No cough.

Here I feel that I should state my own opinion, which I know is shared by many, that the presence of tubercle bacilli in the sputa is the only absolute test of the presence of pulmonary tuberculosis, although I believe that many cases can be diagnosed without even the presence of bacilli. The tuberculin test, although I believe it to be helpful often as an adjunct in determining the true nature of a case, I can not regard as infallible and I deprecate absolute reliance on it. I should add also that I have never seen a case which I thought harmed by its judicious use, although it is not a thing to be employed indiscriminately or carelessly.

A few words should be said about our experience at Sharon with tuberculin used therapeutically. Having been very conservative in its adoption, we have, finally, during the past few years, carefully used it in selected cases when we had found that the ordinary hygienic methods, faithfully tried for a period of weeks or months, had failed to arrest the disease and the patients remained in *statu quo*. Recently we have been encouraged to begin its use earlier during the patient's stay. Through the courtesy and kindness of those in control of the Saranac Laboratory, chiefly Dr. Trudeau and Dr. E. R. Baldwin, in supplying us, we have the advantage of using a tuberculin from a reliable source and have confined ourselves almost entirely to their products. The cases are necessarily but few in number, and it would be impossible for us to make absolute statements as to the efficacy of this specific treatment. That we have been impressed by the results in certain cases in which the disease before had seemed to remain practically unchanged is perfectly true, for some of the patients have been discharged after a treatment of several months without cough or sputa and have continued, at last accounts, to do well in their homes, this having been accomplished after a period of discouragement with the ordinary sanatorium methods. Our experience has led us to test the treatment carefully still further without fear of possible injury. So far, barring an occasional rise of temperature after a somewhat larger dose than usual, no lasting ill effects have been noticed. In one case only have we discontinued the treatment because of the apparently unfavorable effect on the patient. Whether this is to be the method of the future, time and study of many cases alone can tell. At present our position is that of one who is impressed, if not absolutely convinced, of its efficacy. We still believe that in the majority of cases the fresh air treatment is the chief factor in restoring people to health.

Reports of two patients who were treated with tuberculin and afterward discharged as "arrested" are hereby appended, as reported by Dr. Griffin in a paper read by him in 1906:[3]

Case 243.—A woman was admitted first April 20, 1903. There were well-marked signs all over the left side of the chest and at the top of the right. The sputa contained many tubercle bacilli. With ordinary sanatorium treatment the cough and expectoration ceased and the weight increased 42 pounds. She was discharged at the end of eight months. June 11, 1904, she was readmitted for renewed cough and expectoration. For five months the physical signs and general condition remained about the same. Bacilli could be demonstrated in the sputa at any time. Finally, since there had been no appreciable change since entrance, Dr. Bowditch decided to try tuberculin. Twenty-seven injections were given over a period of five months, ranging from 0.0005 gm. to 0.600 gm. In all 2.1 gm. were given. Soon after the treatment was begun the cough increased, and at this time the bacilli were more numerous in the sputum in this case than in that of any other patient in the sanatorium; but this condition rapidly improved, and for more than a month before discharge the cough and expectoration were *nil*, while the signs in the chest were likewise much improved, and I understand that she has remained in good health since. (April, 1907.)

Case 342.—This patient came with a history of a cough for five months. There were well-marked signs over the upper two-thirds of the left chest, and tubercle bacilli were present in the sputum. Soon after the cough and expectoration increased and there were slight rise in temperature in the afternoon. From this time there were numerous upsets and after the patient had been in the sanatorium three and a half months the signs had increased so as to be nearly all over the left side and with slight signs on the right. The voice was also husky and the larynx showed redness and swelling about the arytenoids and redness of the vocal bands. At this time treatment was begun with tuberculin. At first there was a little fever after nearly every injection. The cough increased also and there were more bacilli in the sputum. Gradually all the signs and symptoms improved until at discharge there had been no cough or expectoration for some time, and the signs in the chest had cleared up to a marked degree. Treatment was continued for a period of seven and one-half months. In all there were 58 injections, the last one being .580 gm. By a recent report (January, 1907), the cough and expectoration had not returned and the patient was feeling well.

In giving these results both Dr. Griffin and I feel that we have been conservative in our claims, many cases having been put aside as non-tuberculous or only as suspected cases in which further symptoms did not develop when under close observation. Moreover, we have not placed in the list of arrested cases certain patients who were discharged only as "much improved" and have since apparently ceased to have abnormal symptoms under favorable conditions. Neither have we touched on the fact that many patients who have been discharged as "improved" merely, have returned to their homes well enough to be able to resume home duties while keeping up the treatment of which they have learned by experience to know the value, at the same time acting as missionaries in the communities in which they live.

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[3] "Tuberculin in Treatment of Pulmonary Tuberculosis." Boston Med. and Surg. Jour., July 5, 1906, p. 6-8.

When one looks back not more than twenty years and remembers the hopelessness we felt in our endeavors to check the disease by ordinary methods, surely we can say that we were justified in our hopes that much more could be done than was formerly thought possible in the treatment of consumption. Unfortunately the extraordinary and oftentimes ill-judged enthusiasm which has spread of late years so rapidly through the medical profession and the laity has had a slight reaction recently, simply because too much was claimed by the overzealous in many cases. Those who have been more cautious in making claims have viewed this extravagance with regret, knowing that it would bring harm to the cause for which they were working. I believe that we are now entering a healthier phase of the question, however, and that while we know that we have not yet found the panacea for the cure of consumption, we can at least claim that a great step forward has been made, with still greater hope for the future.

Too much can not be said of the educational effect of these institutions, which not only help the individuals afflicted but teach others how to resist disease and to keep well. If nothing more than this were accomplished it would be of infinite service to future generations and well worth the time and money expended. The more recent movements for home treatment through dispensaries or otherwise, the establishment of hospitals for the hopelessly ill, have all their important place and mark still another important step toward controlling the ravages of this dreadful disease.

In conclusion, it may be well for me to express my opinion as to the relative value of the so-called "home" and "climatic" treatment. Briefly stated, it is this: We know now that an immense deal of good has been and still can be accomplished by the methods which are being adopted more and more near the homes of patients suffering from tuberculosis. It has been satisfactorily proved that much more has been done in these ways than was thought possible fifteen years or even a decade ago. I can not sympathize, however, with what I feel to be the extreme views of some observers who, because of the success of these less radical measures in a large number of cases, maintain the opinion that there is not the slightest use in ever sending a phthisical patient away from home to a distant climate. Such an opinion is inconsistent with my own experience in certain patients whom I have seen improve by such a change after a discouraging attempt to improve near home.

The relapse of certain patients on a return to these regions after a successful sojourn elsewhere is another proof to me of the incorrectness of view of those who argue against the necessity of radical change in any case. When we know from experience the tonic effect on ourselves, even when in health, of a change to a mountainous region or to a different ocean climate, how can we deny the possibility of an equally beneficial effect on a tuberculous patient, a change which may be a marked factor in his improvement and his power to resist the disease?

That certain patients, however, do better in their home climate than elsewhere is also to be noted. In advocating the wisdom of a radical change for some patients it would seem almost unnecessary to add that I refer only to those who can adopt such measures with comparative ease, when pecuniary considerations need not be weighed, and when the attitude of mind is favorable. I also strongly deprecate the not infrequent instances of urging patients with far-advanced disease to leave their homes in search of health. To judge of these conditions and make the final decision in each case is the crucial test of the skill of the physician in charge.

THE WORK OF A CHRONIC TYPHOID GERM DISTRIBUTOR.*

GEORGE A SOPER, Ph.D
NEW YORK CITY.

In the winter of 1906 I was called on to investigate a household epidemic of typhoid fever which had broken out in the latter part of August at Oyster Bay, N. Y. The epidemic had been studied carefully immediately after it took place, but its cause had not been ascertained with as much certainty as seemed desirable to the owner of the property.

The essential facts concerning the investigation follow:

THE OYSTER BAY OUTBREAK.

At Oyster Bay in the summer of 1906 six persons in a household of eleven were attacked with typhoid fever. The house was large, surrounded with ample grounds, in a desirable part of the village, and had been rented for the summer by a New York banker.

The first person was taken sick on August 27 and the last on September 3. The diagnosis of typhoid was positive. Two of the patients were sent to the Nassau Hospital at Mineola. The others were attended by capable physicians at Oyster Bay. None of the subsequent cases apparently resulted from the first, although the interval from the first to the last might permit of this assumption. But whether the disease was transmitted from one person to another after the first case occurred was not a matter of great consequence. The most important question was how the first case occurred.

Typhoid fever is an unusual disease in Oyster Bay, according to the three physicians who share the medical practice there. At the time of the outbreak no other case was known. None followed.

The milk supply of this house was the same as used by most of the other persons in the village, all of whom remained well. The cream also was from a source which supplied several other families in the vicinity.

To the first investigators it seemed that the water must have been contaminated. They were unable to ascribe the fever to food, flies or milk, whereas if they could discover that the water had been contaminated they would be able to account for the epidemic.

The water supply for the house was from a driven well said to be 167 feet deep. The well was at a distance of 210 feet from the house, within 60 feet of a stable drain, 115 feet from a privy behind the stable, and 224 feet from two cesspools which received the drainage of the house. The cesspools and privy had been cleaned out in April. The house was provided with one water closet, situated on the second floor. This was used by the family. The six servants used the privy. The sewage from the house was carried by a tile pipe to the two cesspools just referred to. The soil is sandy and gravelly throughout this region.

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* Read before the Biological Society of Washington, D. C., April 6, 1907.

The water was pumped from the well by a gas engine to a covered wooden tank situated 186 feet from the stable and 320 feet from the house. Water ran from this outside tank to an open tank in the attic of the house, removed from the nearest living rooms by a steep and narrow ladder.

Samples of the water were taken and subjected to careful chemical and bacteriologic analysis. They were collected direct from the pump, from the outside tank and from a faucet in the house. There were five samples taken in all. Four were examined by E. E. Smith, M.D., Ph.D., the well-known analytic expert, and the other by D. D. Jackson, Ph.D., director of the laboratories of the New York City Department of Water Supply, Gas and Electricity.

The essential facts concerning these analyses, including condensed statements of the resulting opinions, follow:

ANALYSES OF WATER FROM OYSTER BAY.

1906.	SOURCE OF SAMPLE.	OPINION OF ANALYST.
Sept. 12.	—Faucet in house	"Sanitarily pure."—Dr. Smith.
Sept. 12.	—Outside tank	"Probably safe."—Dr. Smith.
Sept. 13.	—Pump over well	"No evidence of pollution."—Dr. Smith.
Sept. 27.	—Outside tank	"Typhoid from this source impossible.—Dr. Jackson.
Sept. 29.	—Outside tank	"Evidence does not show pollution."—Dr. Smith.

In addition to these examinations, an experimental study was made of the possibility that the typhoid germs might have percolated through the ground to the well from some receptacle of excrement. On September 29 Dr. Smith put fluorescin in the bowl of the water closet in the house, in the cesspools, in the stable manure vault, in the privy vault on this property and in another on adjacent property and in the bowl of the water closet in a neighboring house. He looked for traces of this fluorescin in water from the well, obtained after much pumping, two days and five days later. Six samples of water were collected during this test. They entirely failed to reveal pollution.

Even this thorough work on the water supply did not entirely destroy local confidence in the theory that the water had been the cause of the outbreak. A contamination of the outside covered tank of such nature as to escape detection by analysis was suspected as offering a possible explanation of the trouble. According to this idea the tank, which had been cleaned early in the spring, might have received typhoid bacilli from the cleaners who, perhaps, carried typhoid excreta on their boots. It was supposed that a gradual accumulation of organic matter from the water and dust from the air, aided by the continued warmth of the summer sun, might have led these germs to multiply until at last they escaped to the water and infected the household.

It did not seem to me that the water theory was tenable. The analyses proved that the well was not continuously polluted. The fluorescin tests showed that occasional contamination was not likely. An inspection of the premises and inquiries concerning the way the outside tank was cleaned made it seem unlikely that this tank became infested in the way supposed.

It would have been more probable to suppose that the tank in the house, which was without a cover and accessible to occupants of the house, had become polluted. Such contamination was not without precedent. Had typhoid existed in the house at the time, it was possible that the tank could have become contaminated in this way. But there had been no case. Moreover, inquiry made it seem unlikely that the tank had been visited all summer. It was much more convenient for persons to get water otherwise than by climbing the narrow ladder to the attic. It seemed more probable that the infectious material had been carried to the house by some person or some article of food.

I was led from the proper track for a time by being assured that no person who had had typhoid, at least within many months, had lived in the house or visited it during the whole summer, and by discovering that the family was extremely fond of soft clams. My suspicion for a time attached to clams. It was found that soft clams had frequently been obtained in the summer from an old Indian woman who lived in a tent on the beach not far from the house. It was impossible to find this woman, but I made inspections of the sources of soft clams at Oyster Bay, which showed that they were sometimes taken from places where they were polluted with sewage.

But if clams had been responsible for the outbreak it did not seem clear why the fever should have been confined to this house. Soft clams form a very common article of diet among the native inhabitants of Oyster Bay. On inquiring closely into the question of the food eaten before the outbreak it was eventually found that no clams had been eaten subsequent to July 15. This removed the possibility that the epidemic had been caused by clams. From July 15 to August 27, six weeks, was too long a period for an outbreak of this character to remain undeveloped. The infectious matter which produced the epidemic had been taken with food or drink, in my opinion, on or before August 20.

The supplies of vegetables and fruit were next considered. It was found that the persons attacked had not eaten any raw fruit or vegetables which had not also been eaten by many persons who escaped the fever.

The history of the house with regard to typhoid was inquired into. It was found that but one case of typhoid had occurred on the premises or been nursed there in thirteen years. This case occurred in 1901. Care seemed to have been taken to destroy the infectious nature of the discharges. The case produced no secondary cases at the time. The house had been occupied every summer since without typhoid.

Attention was now concentrated for a time on the first cases to determine whether the infection could have occurred during a temporary absence from Oyster Bay. It was found that those persons who were taken sick at the outset had not been on a visit, or picnic, or, in fact, away from Oyster Bay on any account for several weeks prior to the onset of the illness.

The social position of the persons attacked differed decidedly. Among the first to be taken sick were a daughter of the head of the family and two maid servants, one of which was colored. Following in quick succession were the wife and then another daughter of the tenant and, finally, the gardener who lived permanently at Oyster Bay and had worked on the place for years.

Believing that some peculiar event might have occurred in the family on or shortly before August 20 which, if studied, might give the necessary clue to the cause of the epidemic, careful inquiry was made into the immediate history of the household at this time. The key of the situation was thus discovered.

It was found that the family had changed cooks on August 4. This was about three weeks before the typhoid epidemic broke out. A cook who had been with the family several years had been discharged and a new one employed. Little was known about the new cook's history. She had been engaged at an employment bureau which gave her an excellent recommendation. She remained in the family only a short time, leaving about three weeks after the outbreak of typhoid occurred. Her present whereabouts were unknown. The cook was described as an Irish woman about 40 years of age, tall, heavy, single. She seemed to be in perfect health.

Here was by all means the most important possibility in the way of a clue which had come to my notice. If this woman could be found and questioned, it seemed likely that she could give facts from which the cause of the epidemic could be ascertained.

When, after much difficulty, she was found, this hope was destroyed. No information of value was obtainable from her. She refused to speak to me or any one about herself or her history except on matters which she knew were already well known.

It became necessary to work out the cook's history without her help. This effort has been only partially satisfactory. Her whereabouts for only a part of the time in the last ten years have been ascertained. About two years of time among the last five years remain unaccounted for. In the last ten years she has worked for eight families to my positive knowledge; in seven of these typhoid has followed her. She has always escaped in the epidemics with which she has been connected.

The most interesting features of the other outbreaks of typhoid with which this cook has been connected follow:

EPIDEMIC AT SANDS POINT IN 1904.

In 1904 a well-known New York family on moving to Sands Point, L. I., to spend the summer experienced an epidemic of typhoid which attracted a considerable amount of attention at the time. The household consisted of eleven persons, seven of whom were servants. The household arrived on June 1. On June 8, or about one week later, typhoid began to appear.

The first person to be taken sick was the laundress. She had entered the employ of this family ten days before for the summer season. Following this case in irregular succession three other persons were taken sick. Within three weeks after arrival, there were four persons, in all, attacked.

None of the family itself was taken sick. No person was attacked who had been long with the family. The new laundress fell ill first, then the gardener who had not come from the city with the family, but worked on the place the year round, then the butler's wife, and finally the butler's wife's sister. The latter was not in the family service, but lived with the other servants in a little house separate from the main dwelling.

The cook had been in the family nine months, seemingly without suffering from typhoid fever or producing typhoid.

The Sands Point epidemic was confined to the house where the servants lived. There were no other cases in the vicinity. None preceded this outbreak and none followed at Sands Point. No doubt could be placed on the diagnosis. One of the cases, that of the laundress, was long and severe. There was no death.

The outbreak was studied by several persons. Finally, Dr. R. L. Wilson of the New York City Department of Health was called as expert to investigate it. Dr. Wilson examined the water supply, drainage and other sanitary conditions. He caused an analysis of the water to be made by Dr. Jeffreys of the New York Polyclinic. It is unnecessary to describe this analysis or the details of Dr. Wilson's careful investigation.

Dr. Wilson's conclusion was that the epidemic must have been caused by the laundress. In his opinion, she had probably been infected before entering this employment. Her case, he thought, gave rise to the others. Dr. Wilson tried to find how the laundress became infected before joining this family, but was unsuccessful.

EPIDEMIC AT DARK HARBOR, MAINE, IN 1902.

In 1902 a severe outbreak of typhoid occurred in the family of a prominent New York lawyer who had just taken his household, consisting of four in family and five servants, to Dark Harbor, Maine, to spend the summer. Seven members of this household of nine were soon ill of typhoid. In addition, a trained nurse was attacked, as, it is said, was a woman who was employed to work by the day.

The first case occurred two weeks after the arrival at Dark Harbor, on June 17. The onset of this case was sudden. In just one week another case occurred. Two days later there was a third. The remainder followed rapidly. The only persons who escaped were the cook and the head of the family; he had had an attack of typhoid fever some years before.

All the servants, except the cook, had been employed in this family for one month or more in New York. The cook had been engaged especially for the summer and had joined the family three weeks before it left New York.

The outbreak at Dark Harbor was studied by a number of persons and especially by Dr. E. A. Daniels of Boston and Dr. Louis Starr of Philadelphia. The house was new, never having been occupied before. It has been impossible to rent it since.

Because of its newness, the water supply of the house was not in every way satisfactory. A tank on the top floor of the house had not been cleaned since it was set in place. Until this cleaning was accomplished drinking water was obtained from a spring.

Water was never believed to have been the original cause of the outbreak. Two analyses of the water were made: one at the Massachusetts Institute of Technology in Boston and one in New York. They confirmed the opinion that the water was safe.

It was suspected that the household supply later became contaminated. A pitcher from a room in which the first typhoid case was nursed was supposed to have been filled at an open tank on the same floor, thus infecting the household supply. But the epidemic had already broken out when this event was believed to have occurred. Typhoid fever was scarcely known in Dark Harbor at the time of this outbreak and has been exceedingly rare since. No case immediately preceded or succeeded it.

It was believed by some that the original cause of the epidemic was the sickness of a footman—the first case. The theory was that the footman contracted his illness before going to Dark Harbor, either in New York or on the way. Dr. Daniels was of opinion that the first three cases received their infection in this way at the same time and place.

On making a careful study of the facts, both views seem to me untenable. The period of time which elapsed from the first to the second case was too short to agree with the theory that the first case led to the others. The incubation period required to be covered in the event that the first three cases were infected before reaching Dark Harbor was too long. Beside, for the most part, these three persons had not shared the same food for a long time.

OUTBREAK IN NEW YORK IN 1901.

The history of the cook before going to Dark Harbor is not entirely clear. In 1901-2 she lived about eleven months in one family. Here a laundress was taken ill and removed to Roosevelt Hospital, Dec. 9, 1901, one month after the cook's arrival. This case was seen by Dr. R. J. Carlisle of New York. The diagnosis was positive. The cause of the attack was not, apparently, investigated at the time, and fuller information concerning it has so far been difficult to obtain.

OUTBREAK AT MAMARONECK IN 1900.

My earliest record of the cook's employment is in a New York family which has a summer residence at Mamaroneck, N. Y. In this instance, a young man who made a visit to the family was attacked, his illness dating from Sept. 4, 1900. The circumstances in this case were such as to lead to the impression at the time that the infection occurred on Long Island. He had spent two weeks at East Hampton within a few miles of a fever-ridden camp occupied by U. S. soldiers at Montauk Point. It was thought that he might have been infected from water or by drinking from a cup used by some typhoid patient, or in some other way not known.

Inasmuch as the patient lived in the Mamaroneck household for at least ten days before the onset of his illness and, as his supposed exposure to typhoid on Long Island was by no means reasonably clear, it seems to me probable that he was infected by the cook. The cook left within a few days after the onset of this illness. She had been in the family for three years without, apparently, being connected in any way with typhoid.

OUTBREAK IN TUXEDO, N. Y., IN 1906.

Subsequent to her employment at Oyster Bay, the cook went to live in a family at Tuxedo Park, N. Y. She remained there from Sept. 21 to Oct. 27, 1906. On October 5, fourteen days after her arrival, a laundress was taken sick with typhoid fever and removed to St. Joseph's Hospital, Paterson, N. J.

According to Dr. E. C. Rushmore, who saw this case, no other case of typhoid had been known in Tuxedo for several years. Excepting the cook, all the servants had been in the family for two months or more. The cause of the laundress' illness was not made clear at the time.

FINAL OUTBREAK IN NEW YORK IN 1907.

When, at last, the cook's final whereabouts were ascertained, it was found that two cases of typhoid fever had broken out in the household where she was employed. These occurred a few weeks after her arrival. One patient, a chambermaid, was taken sick Jan. 23, 1907, and removed on January 29 to the Presbyterian Hospital, New York. The doctor was first called to see the other patient, a daughter of the owner of the house, on February 8. This second case resulted fatally on Feb. 23, 1907, the only fatal case in this whole record.

A period of two months elapsed between the beginning of the employment of the cook and the beginning of the first case of illness in this household. The New York City Department of Health officially investigated the first of these two cases at the time it was reported by the attending physician and, in the absence of evidence to the contrary, ascribed it to the public water supply.

The foregoing records by no means all the cases with which this cook may have been associated. As already mentioned, I have been able to trace but fragments of her history through the last ten years.

There is a remarkable resemblance between these seven fragments. In each instance one or more cases of typhoid have occurred in households from ten days to a few weeks after the cook has arrived or among people who have, within that period, come to live near her and eaten the food which she has prepared.

In every instance the families have been of ample means and accustomed to living well. In each household there have been four or five in the family and from five to seven servants. Four of the persons attacked have been laundresses. Two have been gardeners, permanently attached to the country places where the typhoid has broken out. All but two of the outbreaks have occurred in the country.

The cook has escaped sickness in every instance. In only one instance is it known that she has worked in a family where no typhoid has occurred. This family consisted of two people of advanced age and one old servant.

In all there have been twenty-six cases and one death. Twenty-four of these cases have occurred within the last five years.

ACTION OF NEW YORK CITY DEPARTMENT OF HEALTH.

Believing that sufficient had been learned concerning her history to show that the cook was a competent cause of typhoid and a menace to the public health, I laid the facts concerning the four principal epidemics here described before Dr. Herman M. Biggs, medical officer of health of the New York City Department of Health on March 11, 1907, with the suggestion that the woman be taken into custody by the department and her excretions made the subject of careful bacteriological examination. I had been unable to obtain her consent to any examination.

The department acted favorably on the suggestion and caused the cook to be removed to the Detention Hospital. She reached there March 19, 1907, after a severe struggle in which she showed remarkable bodily strength and agility. At the hospital the cook was placed in charge of Dr. Robert J. Wilson, superintendent of the department of hospitals, and Dr. William H. Park, chief of the bacteriological laboratories of the Department of Health.

Dr. M. Goodwin did the bacteriological work under Dr. Park's direction. It was expected by me that germs might be found in the urine, but more probably in the stools. None was found in the urine. The stools contained the germs in great numbers. Daily examinations made for over two weeks have failed only twice to reveal the presence of the *Bacillus typhosus*, and on these occasions the sample taken was perhaps too small to reveal them. The blood gave a positive Widal reaction. The cook appeared to be in perfect health.

We have here, in my judgment, a case of a chronic typhoid germ distributor, or, as the Germans say, a "typhusbazillenträgerin."

THE MEDICINE AND SURGERY OF THREE GASTROINTESTINAL CASES.

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In view of the fact that the medical phase of certain gastrointestinal lesions wherein adhesions and partial obstruction or traction play a prominent part are so erratic symptomatically, these three cases are offered with the hope that some light may be thrown on the diagnosis and other pertinent factors:

Case 1.—*History.*—Miss X., aged 43, gave no history of any illness that in any causative way was associated with eighteen years of intermittent gastrointestinal disturbances. The latter began with severe acute epigastric pain, no vomiting or nausea, but constant gaseous distension. Constipation was present both before and during these attacks, and in the course of ten days the skin would assume a dark, dirty yellowish hue, which phase of the illness would not disappear until free and daily purgation was produced. Opiates had but little subduing effect on the pains. After two or three weeks, complete relief would follow and a recurrence take place in about two or three months. The history clearly sets forth that diet had little or no effect either in a causative or therapeutic way. Once rectal feeding was used without obtaining the slightest relief. In view of the clinical symptoms, Dr. Francis Sherwood performed cholecystenterostomy about six years ago; no gallstones were found. For several months there was relief.

The recurrences became more frequent during the last two years. About six months ago Doctor Sherwood kindly asked me to see the patient and assume charge of the case.

Examination.—Briefly, the following facts were noted: General nutrition fair, complexion rather muddy, hemoglobin 85 per cent., appetite normal, no lesions discoverable other than the following findings, which did not vary much during the frequent examinations, and gastric analyses. In the gastric contents the total acidity varied from 80 to 110; no lactic acid; pepsin and rennin both present; hydrochloric acid from 35 to 40; eight-hour motility test gave normal results; bowels constipated. No relation between the gastric symptoms and the eating of a special food. Weight slightly diminished recently. Further examination gave the following results: Artificial distension of the stomach with gas made it clear that aside from being dilated it was also displaced; thus, the left margin corresponded to the left anterior axillary line, the lower margin descended from the left, passed about three inches below the umbilicus and terminated abruptly in the right iliac region near McBurney's point, and then ascended to the tenth right costal cartilage. The upper margin blended with the liver dulness. The semilunar space, aside from being shorter than normal, presented nothing unusual. The colon was artificially distended at the same time, and aside from clearly defining the location of the descending portion up to the splenic flexure, the transverse portion could not be located, and only remotely justified the assumption that it was displaced down, below the lower margin of the stomach. Further attempts to locate the stomach and colon always gave the above results. Once the stomach was filled with two liters of water, all it could hold. There was no call for the use of the gastric bag or the bismuth Roentgen ray method.

It was clear that there were well-defined departures from the normal. It was hard to reconcile the gastric dilatation with normal motility and hyperacidity, and equally as great a problem was offered when these were considered in connection with pyloric stenosis. How were the cycles of disturbances related to the physical findings? Add to these the presence of coprostasis and the pigmentation of the skin, which is so peculiar to the former disturbance, and the problem becomes more complicated. The findings pointed to adhesions that were exerting traction on the stomach and partially obstructing the colon.

Operation.—Dr. Sherwood operated on the patient, and found the middle portion of the transverse colon dragged down behind the cecum and firmly adherent to its posterior wall; the same adhesions had also bound down the pyloric portion of the stomach. All these were cautiously loosened.

Postoperative History.—Three months after the operation the conditions were as follows: Total acidity of gastric contents, 75; occasionally the epigastric pains reappear, but subside in the course of a few days, after dietetic and purgative medication. General nutrition good.

Case 2.—*History.*—Male, aged 42; about fifteen years previously had typhoid fever; during convalescence he overindulged in food and had a relapse. Beginning several months after complete recovery from the fever he had gastric disturbances every three or four weeks. The attacks were ushered in with acute gaseous distension, nausea and vomiting of large quantities of watery acid fluid; the quantity so vomited exceeded, he thought, the fluid he had drunk. These disturbances subsided in about seven or ten days, under restricted diet and rest in bed. It was possible to induce the attacks by careless eating of foods; however, there was no time when he rated his stomach as equal to the normal. In the course of the next fourteen years he passed through a multitude of experiences in the use of stomach tonics and cures. About one year before the present illness he came under observation when in the midst of an attack. He had just vomited three quarts of fairly clear fluid, which gave a reaction for free HCl. The usual methods brought out the fact that the stomach was dilated. He could not trace any of the attacks to faulty dietetics or his occupation. The symptom syndrome suggested acute dilatation of the stomach of unknown origin. Under ten days of rectal feeding he recovered and passed out of notice. Recently he returned, still afflicted with the cycles of acute vomiting of large quantities of acid fluid, and he thought his condition had become much worse during the past year.

Examination.—The findings were as follows: Total acidity, 105; free HCl, 65; rennin and pepsin present; no lactic acid; motility normal or nearly so. Artificial distension of the stomach in all respects resembled the first case. Note the intermittent cycles of disturbance, the hyperacidity, etc. The diagnosis again was in favor of adhesions, and in keeping with this view operation was urged and promptly agreed to.

Operation.—Dr. M. L. Harris discovered adhesions in the right iliac region that aside from involving the ileum and cecum also exerted traction on the mesentery of the stomach, and thus accounted for the downward displacement; the stomach was perceptibly dilated.

Postoperative History.—Six weeks after operation the stomach occupied its normal place and the gastric chemistry was normal. The patient was able to partake of all ordinary foods. Four months after the operation he was able to enjoy all ordinary articles of diet without distress following. A recent gastric analysis still points to hyperacidity. He is perfectly satisfied with the results, and adds that only ordinary care in eating is necessary.

Case 3.—*History.*—Male, aged 52, gave the following history: During boyhood he was severely burned (second degree); recalls that some weeks passed before he was able to leave his bed. Not long after that event he was struck on the abdomen with a slate, and asserts that the blow caused pain for several days. Later on he was kicked on the abdomen by a horse, but no serious results followed. When engaged in restraining a maniacal man, about two years before I saw him, he was again kicked on the abdomen, with no after-effects other than a local tenderness of two days' duration. Aside from these events his physical condition was disturbed during early manhood, and up to the present time by cycles of gastrointestinal disturbances, such as gaseous distension beginning about one hour after a meal and lasting four or five hours; nausea with much gastric distress, but not with acute pain; eructation of an acid sour fluid for hours after eating; daily loss of weight; moderate constipation and loss of appetite. These symptoms often followed dietetic indiscretions, but occurred equally as often without that cause. When he took salines and limited his diet to milk for several days he obtained relief. These cycles usually occurred eight or ten times a year and lasted from a few days to several weeks. Like the preceding patient, he tried a multitude of remedies, and finally used the stomach tube quite often.

Examination.—When he came under observation the following objective symptoms were noted: Total acidity of gastric contents, 110; aside from the hyperacidity there was no departure from the normal. All the gastric juice analyses gave hyperacidity and, I presume, hypersecretion, though the latter phase is based on conjecture purely. The distended stomach clearly pointed to dilatation of that organ; however, there was no abnormal anatomic position. The lower stomach margin extended fully 10 cm. below the umbilicus. A bismuth Roentgen ray picture fully verified these latter findings. Palpation was negative with regard both to enlargement and tenderness. Note that in this case there apparently was normal motility, a dilated stomach and, to a moderate degree, the symptoms of a pyloric stenosis; that the lesion had practically existed over thirty years; that he had distinct cycles; that diet clearly was associated with the gastric symptoms, and that he had hyperacidity almost constantly. The diagnosis was healed ulcer in the pylorus with partial obstruction.

Operation.—Dr. M. L. Harris operated on this patient and found a healed duodenal ulcer and a well-defined incomplete stenosis. A gastroenterostomy completed the operation. His condition two months after operation was as follows: Gastric juice still showed high total acidity; weight increased; gastric symptoms had nearly disappeared; stomach was still dilated, though less than formerly. He had found it necessary to exclude ordinary indigestible foods, but had resumed work.

CONCLUSIONS.

History of traumatism, burns, acute abdominal inflammatory lesions, gastric ulcer, infectious diseases such as typhoid fever and dysentery and pelvic lesions.

Gastrointestinal disturbances distinctly remittent, the intervening periods of slight departure from the normal varying in duration from a few weeks to as many months. The cycles of pronounced distress sometimes due to a fault in dietetics and equally as often without apparent cause.

Chronic gastric dilation with displacement of the stomach and portions of the intestine. Hyperacidity and fairly normal motility; this, however, would vary in different cases and in an individual case, leaving the question open. A lesion may be situated in the intestinal tract and give rise almost wholly to purely gastric disturbances. Constipation was a constant accompaniment.

Medical and dietetic treatment will give only temporary relief. The diagnosis of gastric neuroses and chronic gastric catarrhs will become less frequent when surgery is resorted to and reveals adhesions, etc. The surgical treatment may give absolute relief promptly, though usually the long-continued disturbances have caused changes in the musculature and glands of the stomach to such an extent that months and years may elapse before the individual rates himself as normal. In one case, six months after operation, the gastric juice gave a total acidity of 105 and yet the patient complained of no distress and could comfortably digest any ordinary meal.

The differential diagnosis calls for much attention regarding gastric ulcer, chronic cholecystitis, gallstones and gastroptosis. The proper surgical interference gives better results than long-continued purely medicinal treatment. The usual secondary symptoms of faulty gastrointestinal chemistry included under autointoxications should not be overlooked.

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REMOTE EFFECTS OF TONSILLAR INFECTION.

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However much may be said of the tonsils as part of the system of the body's defense against bacterial invasion, the fact remains that this defensive function is easily overcome, especially in childhood, and once seriously interfered with it frequently does not regain its normal condition. Thenceforth it may be a positive menace to the body through its ready susceptibility to infection, or by the ease with which bacteria pass through its covering into the lymphatic channels beyond without marked reaction on the part of the organ. It is not my purpose to discuss whether the hypertrophied tonsil is a pathologic or physiologic result, whether it is Nature's method of increasing the defensive process or whether it is a pathologic hyperplasia from chronic and low-grade inflammation. It will be necessary to know far more about the function of the tonsil than we do now before these things can be decided. We do know that the tendency to alterations in the tonsils and to infections in them is greater in childhood than in adult life, and with this may be associated the peculiar susceptibility of children to air-borne infectious diseases. Certain it is that there is growing clinical and experimental evidence that the tonsils are the portals of entry for the infectious material in a wide range of diseases, among which are pericarditis, myocarditis, endocarditis, arthritis, chorea, neuritis, adenitis, glandular fever, nephritis, pleurisy, tuberculosis, iritis, phlebitis, osteomyelitis, various other streptococcus and staphylococcus septicemias, Hodgkin's disease, and possibly even certain forms of leukemia.

Packard has shown how difficult it is to estimate at all accurately the percentage of cases of heart disease due to tonsillar infection, but small groups of cases have been so frequently reported that the importance of this avenue of infection has been thoroughly exploited. Four years ago I reported[1] some typical cases illustrating this connection and reviewed the literature. In following the condition closely since then I have noted recurrent endocarditis following tonsillar infection in several of the old cases and two attacks of chorea following it in another. In still another both muscular rheumatism and joint involvement have become almost chronic after five years of repeated tonsillar attacks with and without heart recurrences. A curious systemic infection of tonsillar origin in which the heart was involved in a pericarditis is the following:

History.—J. M., aged 48, complained of bad sore throat, which showed small white spots. His temperature was normal. Twenty hours later pains began in hips, back and calves. They grew worse during that night, and the patient had chills all night. The following morning his temperature was 104 F., pulse 90, and respiration 28. No lung dulness, but a friction rub in the right axilla and catchy breathing. Nausea was marked. Consolidation of the right lower lobe next day and the upper lobe five days later. No crisis and gradual lysis. Temperature was normal on fourteenth day, a pericarditis was developed on the twenty-first day, and a pneumonia of the right middle lobe on twenty-fifth day. Abscess of the upper lobe on twenty-sixth day, which discharged freely five days later. Patient had asthmatic attacks on thirtieth day. Final recovery.

Following tonsillar infection an endocarditis with 1 to 3 degrees of fever continuing for months and even years has been a complication of a number of cases under my observation. This condition is so common an incident in this city, where tonsillar infections are so frequent, that I am inclined to believe it one of the commonest causes of continued slight fever in children.

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[1] American Laryngological Society, San Francisco meeting, 1903.

Nephritis after tonsillitis without rheumatism is a commoner complication than is generally supposed and has occurred four times in my cases. Morse reports it four times after brief observation, and concludes in consequence that it must be very frequent. A curious and complicated case illustrating this complication is worth recording:

History.—G. B. S., aged 50, had a severe sore throat March 2, 1906; pain all over the body; temperature ranged from 101 F. to 102 F. Urine examined that night showed a heavy cloud of albumin, 1013 specific gravity, 1 per cent. of sugar, no diacetic acid. The sediment contained a great many casts—hyaline, granular, epithelial and blood; many mucous cylindroids. There were also a great many red blood cells. There had never been sugar in the urine before nor was it found again. The patient progressed toward a definite acute nephritis. The case was further complicated by two weeks of acute mania toward the end of the nephritis.

General septicemia of tonsillar origin is, of course, uncommon, but its occurrence, even occasionally, is significant. In Senator's first reported case of acute phlegmon of the pharynx the infection was tonsillar and staphylococcic in nature. Since then attention has been called to the severity of staphylococcic infections through the tonsils, and one of my cases illustrates this:

History.—M. T., female, aged 38, had an acute angina three weeks after a slight plastic operation. So severe was the local infection and the constitutional manifestations that the matter was considered grave, and several physicians saw the patient daily. The course was rapid and death occurred on the sixth day from edema of the glottis. The blood condition early indicated a bad prognosis, for there was a rapidly increasing leucopenia reaching the low number of 149 on the day before death. This case was reported in full elsewhere. Autopsy showed general staphylococcus septicemia from abscess at the base of the left tonsil.

Streptococcic angina with marked cellulitis is fortunately also uncommon, and strangely enough not so serious in my experience as marked staphylococcic infection. The literature, however, contains many examples of systemic infection from it, and doubtless corroborative autopsy reports could be had more commonly if the subject were more carefully investigated.

Recently a few cases of leukemia have been reported where a tonsillar infection seemed probable. The uncertain nature of this infection makes it impossible to speak with certainty, but I am adding the history of a case to show how strong the presumptive evidence is. I am well aware also that clinical experience is often at variance with autopsy findings, and without autopsy it is unsafe to draw too many conclusions. In leukemia, however, we are not helped much by autopsy.

History.—I. N., male, aged 51, gave a history of frequent nosebleed for years and of severe sore throats. After one of these latter attacks a year previously, the glands in the cervical region began to enlarge and one suppurated and was operated on; a diagnosis of leukemia was made at the time. There was no marked change in his condition for a year, when suddenly he grew weak, developed a fever, and died in three weeks. I saw him twenty-four hours before death, at which time the tonsils were enormously enlarged and the cervical glands as big as walnuts. The tonsils so filled the back of the mouth as to impede breathing and swallowing. The sublingual glands were the size of chestnuts. The glands elsewhere in the body were the size of beans and not tender.

The most interesting recent development in our study of tonsillar infection lies in the frequency of its being the seat of a tubercular process, and the connection between tubercular tonsils and adenoids, and glandular and systemic involvement. Harbitz, in an extensive monograph on lymph node tuberculosis during childhood, refers to the striking oversight of this source of tubercular infection and admits that the percentage of cases so infected is 4 or 5. He states that this route of infection would assume relatively greater importance if the tonsils and cervical nodes were systematically examined by microscopic and inoculation methods. This is a fair and conservative statement of the situation, which, by reason of our indefinite knowledge of the tonsillar function, admits of speculation as to the value of the conclusions from investigations along this line. I refer particularly to the tonsillar absorption and injection experiments of Goodale, Kayser, Hendelsohn, Piera, Lexer, Grober and others. This work covers the following points convincingly:

1. Minute particles of foreign matter, dust, carmin and other pigment, when locally applied, are rapidly absorbed by the tonsils from the crypts, and are found easily in sections of tonsils removed as early as fifteen minutes afterward.

2. Bacteria do not pass so rapidly and are rarely recoverable in the tissue under ordinary circumstances.

3. Ordinary organisms are probably absorbed less rapidly partly on account of their mucous protection. They are promptly destroyed as soon as they enter the tonsillar parenchyma, unless able to resist this power of the tonsil. It is probable even in this case that their virulence is somewhat altered.

4. Virulent organisms follow the same course that dust particles and non-pathogenic or mildly pathogenic bacteria do and may cause local lesions, lymphatic involvment and lesions in any part of the body.

5. Tubercle bacilli may lodge and remain indefinitely in the crypts ready to be absorbed at any time. They are a constant source of danger, even though not involving the tonsil in actual disease.

Following on this is the hypothesis of Grober from work published in 1902, based on three experiments selected from a series of twenty-eight performed on animals. Under anesthesia china black in sterile emulsion was injected into the tonsils. At a later period, from a day to three weeks, the animals were killed and examined.

CASE 1.—A rabbit, killed a week after injection in one tonsil; black pigment found in the blood, behind the tonsil, and in the lymph glands on that side as far as the thyroid cartilage. The leucocytes in the lymph vessels contained pigment, but beyond the zone of the lymph vessels very little pigment was found.

CASE 2.—A dog, exsanguinated shortly after injection of 6.5 c.c. of sterilized emulsion of china black. The autopsy showed very little coloring matter in the leucocytes, none being found free in the blood. The tonsil and the loose connective tissue containing the afferent lymphatic vessels of the tonsil were of a deep black color. Along the muscles of the neck, as far as the hyoid bone, and to the median line, there were streaks of pigment. The pigmented area also spread downward below the hyoid bone, where it extended 1 cm. beyond the median line. The coloring matter was traced to the bony opening of the thorax and to the parietal pleura, which, when stripped off and examined by transmitted light, showed the black pigmentation. The lymph vessels of the paratracheal connective tissue and of the esophagus, as far as two or three cm. above the bifurcation of the trachea, were also colored; whereas, on the left or uninjected side no such phenomenon was found. All the lymph glands on the lateral wall of the pharynx, hyoid bone, larynx, along the deep vessels of the neck and supraclavicular fossa on the right side, were black. The parietal pleura at the apex showed an exudate, but no adhesion to the visceral pleura. The microscope showed that in all the above-mentioned positions there were no other changes present. In the glands the coloring matter occupied the paravascular spaces. In the lymph vessels between the supraclavicular glands and the parietal pleura of the apex, there were a large number of leucocytes filled with coloring matter. Free coloring matter was also present in this region. In the apex of the lungs there were no signs of an inflammatory reaction. The coloring matter here seemed to be freely deposited within the connective tissue. In the above-mentioned exudate at the apex there was coloring matter in the leucocytes.

CASE 3.—A small dog was placed under morphin narcosis and 5 c.c. of coloring matter injected into the tonsil (April 2, 1903). April 13 the same experiment was performed on the opposite side. May 10, the autopsy, after exsanguination, showed a large amount of coloring matter free in the blood, the leucocytes, the tonsil and connective tissue. The connective tissue of the neck on both sides along the larynx to the aperture of the thorax was colored symmetrically. The lymphatic chains along the large blood vessels, as well as those in the supraclavicular region, were deeply stained. The coloring matter was also found within the lymphatic vessel and in the paravascular spaces. A fibrous exudate was found at the apices of both lungs, thus forming a bridge of inflammatory material from the parietal to the visceral pleura. The coloring matter was also present in the exudate. The microscopic appearance of the apices presented a light grayish coloration. The glands of the mediastinum were stained on the left side, as were also the bronchial glands. In the left lung there were three other fibrinous exudates in which the coloring matter was present.

No confirmation of the findings in Cases 2 and 3 seems to have been made, nor, as far as I can find out, have they been attempted. The theory of apical infection by this route is certainly interesting, but seems improbable. The theory of direct respiratory infection of this less used and relatively unmoved part of the lung is certainly without proof and not very satisfying.[2]

Harbitz shows that the consensus of opinion in investigations of fifteen to twenty men, covering several thousand cases and corroborated by his own work, is that the respiratory tract is the seat of primary infection in two-thirds of the cases of tuberculosis under 15 years of age. The tonsil and cervical glands are either not considered or are classed with the digestive tract. The glands at the hilus and trachea are most commonly the seat of the primary infection, then the bronchial glands. The lungs themselves are infected secondarily in practically all cases and in the following ways:

1. Bronchial nodes rupture into a bronchus and a secondary caseous broncho-pneumonia is set up in the area of distribution of this bronchus.

2. Retrograde lymphogenic infection of lungs, invasion taking place from the hilus and proceeding along the lymph channels accompanying the bronchi, the intra-alveolar connective tissue becoming thus involved. Geill and others report ascending infection of cervical nodes.

3. Through the blood stream from lymph nodes in the chest or elsewhere.

4. Direct extension from infected lymph nodes which have broken down, and even when they are apparently intact.

It is only in adult life that one finds the less marked evidences of primary lymph node infections and apparent primary infection of the lung. Before considering the place which the tonsil may occupy in these glandular infections in the light of recent clinical and experimental investigation, I want to call attention to the fact that, as the tracheal and hilus glands are more frequently involved primarily than are the bronchial glands, there is a strong suggestive possibility that these infections may not be directly respiratory, but may be descending from the tonsils and cervical glands or ascending from the mesenteric glands. Autopsy records frequently point directly to this possibility, and the well-established latent character of the tubercular processes in cervical and mesenteric glands leads one to consider seriously this possibility in explaining a good deal of the adult tuberculosis. Autopsy records rarely include extensive investigation into the condition of the tonsil and cervical glands, which latter are shown to be involved many times more frequently than the mesenteric where comparative studies have been made (13 to 1 being the proportion Harbitz found in guinea-pig inoculations in his series). This fact leaves us in the dark about the point, but the evidence which I have mentioned and the experiments thus far recorded go to show that more and more connection is being established between this tonsillar-cervical route and lung tuberculosis. Brief reports of cases by Harbitz and Goodale will serve to illustrate.

History.—(Harbitz's case).—Girl, aged 13½, died of suppurative meningitis. Autopsy showed both tonsils and the cervical nodes enlarged and containing numerous tubercles. In the ilium and mesenteric nodes there were also groups of tubercles. The bronchial nodes were scarcely swollen. Miliary tubercles in the various internal organs.

History.—(Goodale's case).—Boy, aged 5, had shown one year previously enlargement of the cervical nodes on the left side, subsequently diminishing. During the month previous to consultation several of the nodes again became enlarged on the same side, the largest reaching the size of a hickory nut.

Examination.—This showed tonsils of normal contour and color, not enlarged or adherent to the pillars. The crypts presented no dilatation, and showed no evidence of retention of contents. A small, non-obstructive, pharyngeal tonsil was present. Under ether both tonsils and the adenoid were removed. The left tonsil on incision showed a central collection of puriform material in a cyst-like cavity. Within a few days the cervical glands on the left side became larger and were removed. The adenoid and left tonsil were examined microscopically by Dr. J. H. Wright, and inoculation made into guinea-pigs. The adenoid showed no evidence of tuberculosis either microscopically or by inoculation. The tonsil showed giant cells and tubercles microscopically. Inoculation into a guinea-pig was followed by tuberculosis of the spleen and lymphatic glands in the animal. Nearly two years later, the child was again seen. Since the operation he had been perfectly well, without a return of the cervical adenitis until three weeks previous to this second consultation. At this time a small mass appeared near the scar on the left, soft and elastic. Examination of the throat showed no sign of the left tonsil. Some small granules were visible on the posterior pharyngeal wall, and a certain amount of lymphoid tissue was found at the site of the right tonsil. The cervical nodes on the left were removed and found to be tubercular.

Of nine cases reported by Goodale in this short series of systemic infections through the tonsils, six showed tuberculosis of the tonsils and cervical glands. Wood[3] reviewed the literature of tuberculosis of the pharyngeal and faucial tonsils and emphasizes this portal of entry of tubercular infection. The 1,671 cases which he collected showed that 88 or 5.2 per cent. were tuberculous. The variety of methods used in making the examinations destroys the value of these figures, as is shown distinctly by Lartigau's thorough review of the subject in 1902, and Goodale's report of his experiences in 1906, already referred to. Both authors show that histologic studies alone are incomplete, and that the percentage is more than doubled if systematic inoculation tests are made. Lartigau's painstaking and complete monograph makes plain the difficulty in an histologic examination, upward of 135 sections being examined in two cases before tubercle bacilli were found, and then only in small numbers. Twelve of his seventy-five cases gave positive results to animal inoculation, and it is fair to assume from the thoroughness of his work that this 16 per cent. of tubercular involvement of the pharyngeal tonsil represents the true condition more nearly than indicated by Wood's figures.

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[2] Since writing this article I learned of the careful investigation of the possibility of apical infection from the tonsil which is being carried on at the Phipps Institute in Philadelphia, on autopsy material. There seems to be increasing evidence of this manner of lung infection.

[3] THE JOURNAL A. M. A., May 6, 1905.

In the study of portals of entry of disease into the human body, the pharyngeal and especially the faucial tonsils have an importance not well enough recognized or understood, but increasingly appreciated in the light of each new clinical or experimental study.

Clinical Notes

ASIATIC CHOLERA, ITS PREVENTION AND TREATMENT.

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BANGKOK, SIAM.

The following observations concerning the prevention and treatment of this dreaded and terrible disease are founded on practical experience and clinical work of Dr. H. Adamson, late inspector general of hospitals, and myself, in fighting this fatal disorder. There are few physicians outside of a limited number in India or Japan who have had the opportunity which we have enjoyed of studying this disease at close quarters for many years and in an enormous number of cases.

As a result of our experience we have learned that prophylaxis is sure and certain if proper measures are adopted and enforced. When we can control the food and water supply and secure reasonable sanitary conditions, wonderful results as to prevention are obtained. In my opinion, we need not fear a world epidemic of Asiatic cholera so long as we have competent medical men on guard to enforce quarantine regulations and to insist on sanitary precautions. We need not fear cholera so much as bubonic plague, since the prevention of the latter disease is far more difficult to attain.

Cholera of a severe type causes death very quickly, often within one or two hours after seizure. In milder cases death may result in from ten to thirty-six hours. Prompt treatment to overcome the following conditions is vital to success, namely, the profound toxemia, the dehydration of the body by loss of watery constituents of the blood, and the uremia from which a large proportion of the patients die.

One of the most important things in the treatment is to keep the blood serum where it belongs, namely, in the blood vessels. The method which we have successfully employed to that end will be referred to later.

In a large proportion of the severe cases shock and heart failure cause death, as in poisoning from cobra bite. Sometimes there is no bowel movement before death. Second in importance as the cause of death is the dehydration of the body already referred to. Third in importance after the shock is over is uremia, to overcome which proper methods must be employed.

The results which we have obtained by our treatment have proved so remarkable that we have received the thanks of many whose lives have been saved and who are now living and speaking testimonials of its efficacy. Some of the proudest moments of my life have been those in which I have received the expressions of sincere gratitude from patients whose lives have been saved.

The patient first receives from four to six tablets of the following formula:

Cocain hydrochlorid	1/20 gr.	003
Creosote	1/8 min.	0075
Cerium oxalate	2 gr.	13
Pepsin	1/4 gr.	016
Tincture of nux vomica	3/8 min.	022

This cocain combination, which is listed in the catalogues of the American manufacturing pharmaceutical houses as "Creosote Comp.," absolutely controls the vomiting in the larger proportion of cases. As just stated, from four to six of these tablets are given at once. The patient is instructed to chew them up thoroughly before swallowing.

Before going further I wish to say that all preconceived ideas of dosage must be abandoned in the active treatment of Asiatic cholera. Doses that would be prohibitory in the treatment of ordinary ailments must be given, and given promptly, for death is so inevitable, so sure, so quick and so frightful, that the question of life or death depends on the work of minutes, or in some instances on the work of seconds. The serum of the blood is being poured out into the stomach and intestines, and consequently to save life enormous doses must be given and given promptly.

From three to five minutes after the cocain compound, just referred to, one or two tablets of the following formula are employed:

Morphin sulphate	1/6 gr.	01
Hyoscyamus	1/8 gr.	008
Nitroglycerin	1/100 gr.	0006
Citrated caffein	1/2 gr.	032
Capsicum		
Camphor	of each 1/4 gr.	016
Ticture of digitalis	5 drops	3

The patient is directed to chew these tablets before swallowing them.

Every few minutes, until the pulse can be felt at the wrist, the tablet of nitroglycerin 1/100 minim with 2 minims of the tincture of digitalis is given.

As soon as the pulse is felt at the wrist, no matter how feebly, the prognosis becomes more favorable. Now is the critical time in the case, and he who hesitates is not lost, but he will certainly lose his patient unless he gives nitroglycerin and digitalis for effect. I have given as high as twenty or thirty tablets in the course of a few hours with splendid results.

In the meantime, the patient is given the following mixture:

Tincture of eucalyptus	4 fluidounces	120
Spirit of camphor	2 fluidrams	8
Tincture of capsicum	30 minims	1

This mixture is taken at one dose diluted with an equal quantity of water, and from teaspoonful to tablespoonful doses of tincture of eucalyptus are given concurrently with the other medicine every hour until reaction sets in. Mustard plasters and the application of heat to the body are not neglected.

These remedies stop the vomiting, produce reaction and aid in overcoming the toxemia. By stopping the vomiting the loss of serum by emesis is checked, but it is necessary also to check the enormous loss occurring from diarrhea.

To keep the blood serum where it belongs in the blood vessels of the body and thus prevent shock and dehydration, I used large quantities of tannic acid in a modified form. I used heroic doses and have given the equivalent of 120 grains (7.8 gm.) of pure tannic acid in twenty-four hours with the happiest results, giving it in 10 grain (0.65 gm.) doses after every bowel movement, or, oftener, 20 grains (1.3 gm.) every hour irrespective of bowel movement.

By stopping the loss of blood serum I control the shock which, in my opinion, is due in part to this loss. In fact, the patient is bleeding to death, not slowly but rapidly; and, in addition, is also experiencing the terrible shock of the toxemia.

A great many patients promptly react as a result of this treatment and then are attacked by suppression of urine which often occurs at this time. To fight this we employ the tincture of eucalyptus in addition to the digitalis and citrated caffein, which also act as diuretics.

The most vital thing in the treatment at this point is the absolute prohibition of food for thirty-six hours or longer. This prohibition must be absolute. I have known a relapse to occur after eating a slice of orange or a teaspoonful of soft-boiled rice. Why this should occur I do not know, but it is so. Vomiting and diarrhea at once recur and the patient dies quickly. Many deaths occur at this stage, especially among the Siamese, who can not be brought to understand that the symptoms will return if the smallest amount of food is taken.

The recovery is rapid unless complications occur. I have known cases in which the family informed me on arrival at the house that the patient was dead. Inside of a week the patient would be walking around, although very thin and feeble.

During the recent epidemic in the Malay Peninsula I attended hundreds of cases and met with the most gratifying results from the above treatment. The epidemic is now over, and my official returns show a death list of two thousand occurring within the past two months. Many of these patients might have been saved if they had been placed under the treatment which proved so efficacious in our hands. The treatment by saline transfusion has not proved satisfactory in this country. Many other forms of treatment have been tried without success. Opium is never given by us in the late stages unless it is accompanied by powerful cardiac stimulants.

Every year during the dry season we look for a limited number of cases of Asiatic cholera, but now that we have adopted proper precautionary measures we hope never again to have an epidemic.

In four and one-half years residence in Bangkok every European, man, woman or child, who was attacked by cholera and was treated by all other methods by the physicians of the city promptly died; a mortality of 100 per cent., not one recovered. When I showed my professional brothers that my patients, both European and native, did recover in a fair proportion I was curtly told that my patients "did not have cholera."

PERFORATION OF ILEUM BY WIRE SPIKE.

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MINNEAPOLIS.

The following case, which is of unusual interest in some respects, came into my service at the City Hospital.

This patient was operated on in June, 1906, by my colleague, Dr. A. E. Benjamin, who reported the case in the *Annals of Surgery*, February, 1907. At this time were removed from the stomach fifty-two nails and some glass pieces, the photo of which is here reproduced. His history, in brief, up to that time is as follows:

Patient.—E. W., aged 47, has been a professional nail and glass eater for twenty years without suffering serious inconvenience until February, 1906.

History.—Four years ago he had a moderately severe gastric hemorrhage, and for the past four months he has vomited considerable blackish fluid, and his stools have been black at times. He has lost 23 pounds and feels weak. Examination at this time showed marked dilatation of the stomach, the greater curvature being one and a half inches below the umbilicus, with marked tenderness in the epigastric region. A posterior gastroenterostomy was done and the nails, etc., removed (Fig. 1). The stomach was found indurated, especially at and near the pylorus, and there were multiple small scattered ulcers. Since this operation the patient has returned to his evil tastes, and has on various occasions swallowed nails and other foreign bodies, and thinks that seven nails in all have been swallowed and none passed *per anum*. For the past three weeks he has had much pain in the lower part of his abdomen, and lately also tenderness low down in the middle line over the bladder.

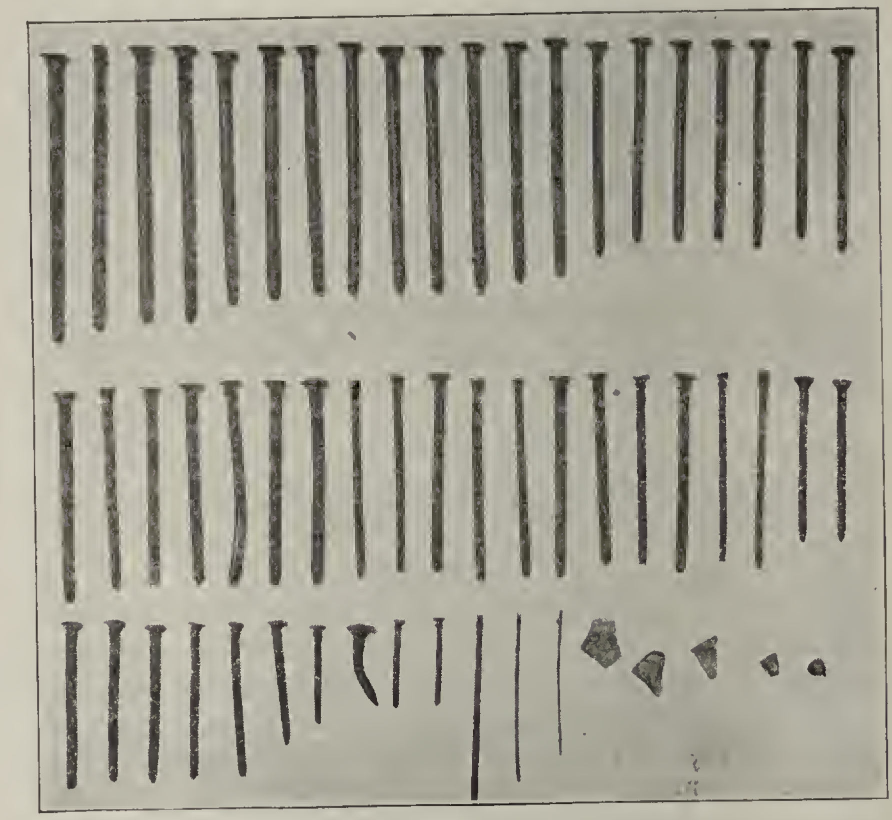

Fig. 1.—Nails and glass removed at the first operation.

Examination.—This shows a tender induration in the middle line about three inches above the pubes. Temperature ranges from 99 to 100.5; pulse normal; urine normal. A skiagram shows two nails running vertically across the pelvis with the heads posterior (Fig. 2). No other foreign bodies can be located by the plate which covers the whole abdomen.

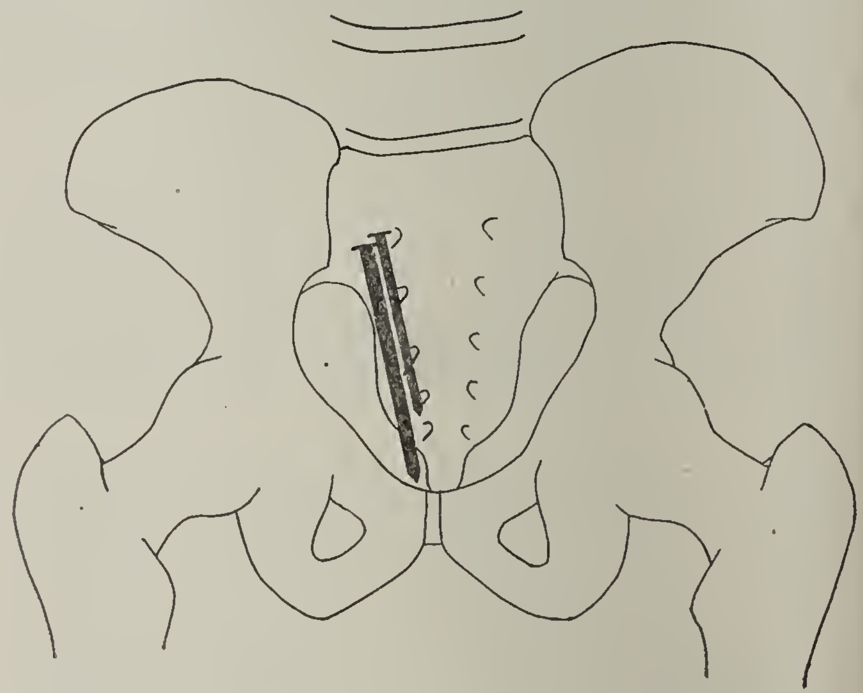

Fig. 2.—Tracing from x-ray plate showing apparent position of nails. Only the pelvic portion of the plate is shown.

Operation.—Feb. 21, 1907. A low median incision showed the peritoneal cavity to be free from adhesions except low down near the bladder, where the small bowel, three feet from the cecum, was adherent to the anterior abdominal wall. Within this adherent bowel the nails could be felt running forward to the abdominal wall and firmly fixed thereto. On breaking up the adhesions the larger nail was left behind firmly fastened in the abdominal wall by its point, while its head was still within the gut. This nail was pushed back, loosened and removed, and the opening in the gut sutured. The other nail had been displaced some eight inches toward the cecum, but was easily found and removed (Fig. 3). The whole abdomen was explored by the introduced hand, and no other foreign bodies could be found. The stomach was examined with special care, and no evidences of induration or dilatation were discovered.

Postoperative History.—Recovery was uneventful except for a colon bacillus abscess which developed on the sixth day and opened through the lower corner of the incision, apparently arising from the abdominal wall at the site of the nail puncture.

The nails removed were not corroded like those previously removed from the stomach, showing that they had undoubtedly passed directly by gravity through the gastroenterostomy into the gut.

The points of interest in this case are:

1. The rarity of the localization of such foreign bodies in the ileum, they generally lodging in the stomach or passing therefrom directly to the cecum, or later into the sigmoid flexure or rectum.

2. The unique feature of the passage of the rather blunt nail through the gut wall and at least half an inch into the abdominal wall without causing peritonitis or even local abscess after remaining *in situ* for at least ten days.

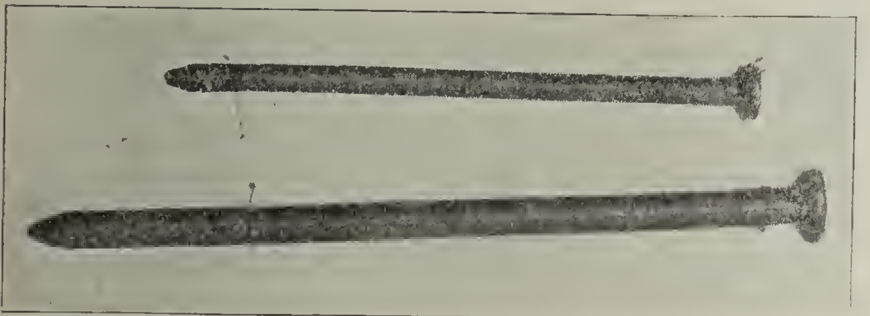

Fig. 3.—Nails removed from ileum, three-fourths natural size.

3. The action of the gastroenterostomy in refusing harbor within the stomach to these nails, while before this operation all nails seemed to have been either retained or passed *per anum.*

Since writing the above report the patient, who had passed into the hands of my successor at the City Hospital, Dr. J. W. Little, showed some symptoms of intestinal obstruction.

Third Operation.—For this a third laparotomy was done above the umbilicus, and as adhesions were numerous and the conditions present obscure, a very long incision was finally made. No actual obstruction was found, but during the thorough examination a mass was discovered behind the stomach, apparently in the lesser peritoneal cavity and immediately in front of and adherent to the great vessels. This was carefully dissected down on, and twenty-eight corroded nails were found imbedded in inflammatory tissue.

These nails had apparently escaped from the stomach by perforation, probably before the first operation, as there were no evidences at the later operations or in the history, of recent stomach disturbances. Also the patient is certain that but seven nails have been swallowed since the first operation. It is now thought that the abdomen, at least, is free from nails and other foreign bodies.

A CASE OF ACTINOMYCOSIS OF THE PELVIS.*

FRANK McMORROW, M.D.
SYRACUSE, N. Y.

Actinomycosis is a rare disease in this country, and the following case will be of interest. It presents all the salient features of this disease:

History.—Mrs. S. of East Syracuse, born of American parents; had always lived in the city where her parents died at the ages of 75 and 78; one sister died during childbirth and one is living; three brothers are living, two have died, one as the result of an accident, the other of Bright's disease. She had always been strong and healthy up to the time of this sickness; usual weight 142 pounds. She was the mother of three healthy children, the youngest being five months old when she was first taken sick. Her food was that usual in the families of working people. About the middle of October, 1905, while ironing, she was seized with cramps in the abdomen. She sent for the family physician and after being in bed for a day was able to be about her work again. She had eaten some grapes that day and attributed her seizure in the abdomen to the fruit she had taken: but from this time on she noticed her health began to fail. She had occasional attacks of vomiting which left her weaker each time; nothing that was done could check the progress of her malady. About the first of December she was confined to the bed continuously with constant vomiting and general prostration. I saw her first December 26. She was much reduced in flesh with a marked cachexia. I called her attention to a lump in her side; she said that she had felt it but as it gave her no pain or did not inconvenience her in any way she thought no more about it.

Examination.—On December 29, 1905, she was admitted to St. Joseph's Hospital, of this city in a toxic condition. Dr. A. B. Miller saw her in consultation with me. Her temperature was 101 F., pulse 120 and she was very much prostrated and emaciated, the vomiting still continued and the bowels were very loose. At times she was able to retain small amounts of animal broths and albumin water. Physical examination showed that she was poorly nourished with cheeks sunken, complexion sallow and some abdominal tenderness. One mass was plainly discernible just to the left of the umbilicus and another in the left iliac fossa with areas which fluctuated on palpation. The liver and spleen were slightly enlarged. On vaginal examination a large tumefaction was felt, the physical signs of which denoted a pelvic abscess. The blood was examined; the red cells numbered 3,870,000, the white cells 4350. Hemoglobin was 37 per cent. The urine showed a specific gravity of 1.010 a trace of albumin, pus and a few round epithelial cells.

The patient's condition remained the same for three or four days; her temperature fluctuating between 99 F. and 101.6 F. The vomiting still persisted and there were from six to eight watery stools in 24 hours. On January 6, her condition not having improved, Dr. Miller opened the vaginal cul-de-sac and removed a large amount of fetid pus containing minute yellowish granules, a culture of which was sent to Dr. H. S. Steensland who promptly reported the inflammatory exudate taken from the cul-de-sac to contain *Actinomyces.*

The day following her temperature reached 102.6 F. and her pulse 120; the vomiting ceased. In a few days the vomiting returned, less marked at first. She continued gradually to fail, growing weaker and being unable to retain any nourishment by the stomach she finally passed into a comatose condition, her temperature reaching 103.6 F. She died on the twenty-ninth day after entering the hospital.

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* Read before the Syracuse Academy of Medicine, April 7, 1907.

Hunger Days in Diabetes.—Naunyn and Tyson (*Progressive Medicine*) recommend "hunger days" for diabetics. The occasional interposition of a day during which nothing but tea and bouillon are allowed is very wholesome. When the sugar in the urine has been reduced to a minimum, this practice not only causes the sugar to disappear, but increases the limits of tolerance thereafter.

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[*For other information see second page following reading matter.*]

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To give our readers a full report of the legislative proceedings of the annual session, we omit some of our regular departments and curtail the space usually given to others.

THE PRESENT STATUS OF CANCER RESEARCH.

A few years ago, when the malignant growths had been worked over from every standpoint possible to the anatomist, research in tumor pathology seemed to have reached a standstill. To be sure, individual efforts were being made here and there to establish some parasite or other as the cause of cancer, but these were for the most part made under unfavorable auspices and with dubious results, the great majority of trained pathologists looking askance at all such proceedings and taking only sufficient interest to point out damnatory errors and to condemn the entire subject. But an entirely new aspect has been assumed within the past few years, and there is scarcely a single field of pathology being more generally investigated at the present day than the biology of cancer. This change in attitude is due chiefly to the demonstration of the possibility of transplanting malignant growths from one animal to another of the same species, a process which brings the subject of tumor biology into the limits of exact research by methods capable of control, and permits the study of the etiology of cancer by men who are free from a preconceived opinion as to its parasitic or non-parasitic nature.

A pithy review of the subject of experimental study of cancer has recently been prepared by A. Dietrich,[1] which covers the entire subject in a judicious manner. Dietrich seems to see no reason for paying attention to any of the claims as yet put forth for a specific cancer parasite; the blastomyces of Sanfelice, the *Plasmodiophora brassicæ* of Podwyssotzky, the *Micrococcus neoformans* of Doyen, and all the rest, in his opinion, can be assigned to the scientific waste-basket as worthless rubbish. Kelling's notion that hen's eggs eaten raw furnish embryonic cells from which malignant growths arise, hardly needed the annihilation it received at the hands of the critics, even though its author did claim to find in tumors substances reacting with the specific precipitins for poultry proteins. Of more scientific value are the numerous attempts that have been made to produce tumors by the injection of embryonic cells and tissues, in investigation of the validity of Cohnheim's theory; but as yet no malignant growths have ever been produced by this means, although local teratoid masses have sometimes formed. B. Fischer's success in causing epithelium to grow in a striking epithelioma-like manner, in response to the stimulus of fat stained with scarlet R, has been mentioned previously in these columns. It may be granted that Fischer's results are the nearest reproduction of the genesis of carcinoma yet obtained by experimental means, but the growth thus formed ceases as soon as the limits of the stimulating substance are reached, and the epithelial cells never show the power of independent growth which is the essential characteristic of malignancy.

By far the most fruitful investigations of cancer yet made consist in the transplantation experiments with tumors primary in the domestic mammals, and with these our readers are familiar. The chief results so far obtained by these experiments are the following: Tumors arising in one species of animals can be implanted only into animals of the same species and not into other, even closely related species (e. g., mouse and rat). The most successfully transplanted tumors (mice cancers and lymphosarcoma of dogs) do not agree in all their features with typical malignant growths as they occur in man; nevertheless, it is generally conceded by all those who have made a study of these tumors that they are true malignant neoplasms. Although only a small proportion of tumors arising spontaneously in lower animals can be successfully transplanted, yet once transplantation is accomplished the virulence of the cells is usually increased by repeated passages, until nearly 100 per cent. of successful inoculations may be obtained. In all these experiments it has been found that living cancer cells must be transplanted to secure growths; ground cells, expressed juice and heated cells will not produce tumors; hence the process is actually a transplantation, or a metastasis from one animal to another, not an infection by some constituent of the cancer independent of the cells. All new growths produced by transplantation arise from the transplanted cells themselves, not from the cells of the host; the stroma of the implanted tumor tissue, however, dies out, and the stroma of the new growth comes from the connective tissue of the host. Under certain conditions the connective tissue stroma itself may assume malignancy, and so from implantation of carcinoma a mixed sarco-carcinoma, or eventually a pure sarcoma, may be obtained. Animals that have successfully resisted inoculation with tumors are generally immune to further attempts at inoculation, and their blood serum may be able to confer passive immunity to other animals;[2] furthermore, immunization against mouse blood or mouse embryos may protect against mouse cancers.

From this review of the work so far recorded, Dietrich finds no good evidence for the view that cancers, even those most easily transmitted from animal to animal, are due to parasitic invasion, a conclusion with which the majority of workers in this field seem to be in accord. The recent observation of spirochetal forms in transplantable mouse tumors, by Gaylord, does not seem to weigh against this conclusion, for Tyzzer has found similar structures in mice without cancers. The view urged so strongly by Ribbert, that the cancer cell itself is the parasite of cancer, seems to be almost beyond challenge in the light of the results of animal experimentation.

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[1] Deutsch. med. Wochschr., March 28, 1907, p. 495.

[2] Clower: Brit. Med. Jour., Dec. 1, 1906, p. 1543.

A CHRONIC TYPHOID FEVER PRODUCER.

An interesting and detailed account of an extensive investigation into the sources of a household epidemic of typhoid fever is given in The Journal this week by George A. Soper,[1] New York. Of eleven persons six developed typhoid fever between August 27 and September 3. Careful examination excluded the water, milk, vegetables, fruit and soft clams as possible sources. There were no cases in the town immediately preceding or following those studied and none of the patients had been away for several weeks before they fell sick, so that there could be no question but that the disease had been acquired on the premises, which, however, were found in a thoroughly hygienic condition. On August 4 a change of cooks had taken place and the new cook remained with the family for three weeks before and three weeks after the outbreak. An investigation of her previous career showed that, although the record for nearly two of the past five years has not yet been completed, twenty-six cases of typhoid, including one death, were associated with her services in seven families during this time. Indirect information indicated that she herself had had a mild attack. On March 11, 1907, the cook, who was a large healthy Irish woman, 40 years of age, was taken in charge by the Department of Health of New York City. The urine was found free from typhoid bacilli, but the stools showed great numbers practically every day for several weeks, and the blood gave a positive agglutination reaction.

Here we have a striking and instructive instance of the part a healthy, vigorous person may play as a chronic typhoid fever producer. The case also illustrates admirably the care and thoroughness necessary in order to discover the results traceable to bacillus carriers, whose rôle in the dissemination of typhoid fever must always enter into consideration now wherever the source of an outbreak is in any way obscure. Naturally such a person, especially if of unclean habits, can furnish rich opportunities for the transmission of the infection by the house fly and other more or less direct means.

It seems that of 1,700 persons examined at three laboratory stations in Germany, 3 per cent. were found to be chronic carriers. In the family infected by the cook in Dr. Soper's case the disease was confined mostly to servants, probably because other members of the family were protected in a large measure by the sterilizing effect of cooking, the food after that being handled by others than the cook.

Hand infection is important, of course, and scrupulous cleanliness clearly becomes an important safeguard against typhoid fever. Increased knowledge in regard to bacillus carriers is desirable because it is only through an acquaintance with the actual facts that we can determine on preventive measures that can be applied effectively.

THE PRESIDENT-ELECT.

The sturdy fidelity of New England to the best interests of the profession and its manifold contributions to the science of medicine and surgery are fittingly recognized in the election of one of its brilliant sons to the presidency of the American Medical Association. True to heredity and tradition, the sons of New England have not hesitated to be pioneers in medical fields and many a new trail has been blazed by them. They have always been ready to give their best effort and to make sacrifices for the realization of ideals, for the elevation of standards and for the equalization of privileges. Any fit representative of such a noble section of our country must stand high in ideals, ability and attainments. Such a man is Herbert Leslie Burrell, President-Elect of the American Medical Association. Imbued with high ideals for the usefulness of the profession to the public, of notable ability tested in many a trying situation, and with a magnificent record of achievements behind him, Dr. Burrell well represents his part of the United States, and his position will emphasize to the New England men their recognized part in shaping the medical affairs of this nation.

Dr. Burrell has lived in Boston all his life, being born there April 27, 1856. He was educated in the schools of that city and was graduated from the Medical Department of Harvard University in 1879. After a few years in practice, desiring to take up the teaching of others in the principles and details which he had mastered, he became, in 1886, a demonstrator of surgical technic in Harvard University. He soon proved that his liking for this field of work was founded on a fitness and thorough preparedness for it, and he advanced in the faculty until he now holds a full professorship in clinical surgery, which at Harvard is a life position. In addition, he has given the systematic course lectures in surgery for many years. He is now senior visiting surgeon to the Boston City Hospital and surgeon to the Children's Hospital, as well as consulting surgeon to the Carney Hospital. For a number of years he was secretary of the American Surgical Association and is still a member of that body, as well as of the American Society of Clinical Surgery, the Boston Society for Medical Improvement, the Boston Society of Medical Science and the American Association of Pathologists and Bacteriologists and other bodies. He was connected with the Massachusetts Volunteer Militia for many years, finally becoming surgeon general of Massachusetts in 1893. Taking charge of an office which needed reorganization, he established a model system and won much praise for his conduct of the medical affairs of the militia. In 1898 Massachusetts sent a hospital ship, the *Bay State,* with her troops to the Spanish-American War, and Dr. Burrell showed himself an efficient surgeon in charge. Another indication of his power as an organizer was as chairman of the Committee of Arrangements for the meeting of the Association in Boston in 1906. He gathered about him an efficient corps of assistants, all of whom worked together under a most remarkable system, each subcommitteeman being inspired by the masterful chief at the head to do his utmost for the perfection of the preparations for the meeting of the Association. The success in every detail, the harmony among this vast number and the elaborate preparedness for the meeting were subjects of remark by all who attended the Boston session.

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[1] The Journal, June 15, p. 2019.

As a surgeon and an educator Dr. Burrell has taken a high rank. He was probably the first to make a successful ligation of the innominate artery. Others had reimplanted parts of trephine buttons, but Dr. Burrell was the first to reimplant successfully a whole one. He has spared no pains to perfect his technic. In medical education Dr. Burrell has pronounced views. As the head of the Association he may be expected to speak with no uncertain voice. He thinks that the public is entitled to good surgery. He has urged a retiring age for the surgeon, and on the other hand has called attention to the danger involved in one's taking up surgery after only a few weeks' service in a clinic or postgraduate school. He has favored increasing the elective work in the fourth year, and established a system whereby students serve as clinical clerks and surgical dressers during the senior year. This system has been looked on as a basis for similar work in other institutions. Another matter in which he was a pioneer was the establishment of an ambulance corps; he urged this in 1866, and Massachusetts was the first state to realize this important feature. Massachusetts thus became the entering wedge, and the ambulance corps has been established in other states as a consequence.

The educational line of work has received Dr. Burrell's greatest effort. He has been an earnest and persistent advocate of a continuous teaching service. He realizes the dependence of technic on an unbroken period of training and practice. Fearlessly following his conviction that the public is entitled to good surgery, he has labored to make a man's ability to teach the sole criterion by which to judge his value to the institution. Further, Dr. Burrell has urged the education of the public that it might be fixed in the minds of all that laboratories and research agencies are for the benefit of the people. He feels that it is their due to be informed on many points, and that this work lies at the door of the profession. The work of the Committee on Public Instruction will be strongly supported by Dr. Burrell, and he sees a bright future ahead in the cooperation between the profession and the public in the matter of research, public hygiene and prophylaxis.

DR. HERBERT L. BURRELL, BOSTON,
PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION.

THE THIRD ATLANTIC CITY SESSION.

For the third time in seven years the American Medical Association met this year at Atlantic City, N. J., and found it still an ideal place for a convention. Chicago was selected as the meeting place for 1908. In last week's issue part of the proceedings of the House of Delegates was published and the remainder appears in this issue. A careful index of the business considered is found on page 2068. The minutes of the general meetings are found on page 2065 of this issue, and the orations were given last week. Publication of the Section articles begins in this issue and will be actively pushed.

HOUSE OF DELEGATES.

The House of Delegates held its sessions in the beautiful Observation Hall on the eighth floor of the Hotel Traymore. From this point of vantage an unsurpassed view of sea and land is presented, but this spectacle did not prevent the members of the House from accomplishing an enormous amount of work in the four days' session. The delegates assembled promptly at 10 o'clock on Monday morning and were soon in the midst of the business of the Association. Owing to the fact that most of the committee reports had been printed and, so far as possible, distributed before the meeting, and that some of the reference committees had been appointed and notified before the House convened, it was possible to transact, in the first day, much more work than has heretofore been done in that time. The reports of the various committees, especially of the standing committees and of the Board of Trustees, although long, had been carefully prepared and were read and discussed with much interest by the delegates. The enormous advantages of a small representative delegated body over the large general body which formerly transacted the business of the Association are now becoming apparent. The experience of six years has enabled the House of Delegates to get the machinery of its committees into good working order. The delegates now comprise a small body of thoroughly trained and representative men, from whom much in the way of effective work can be expected.

One of the most impressive features of the Atlantic City session was the character of the House of Delegates. A more splendidly representative body of men has never been gathered together in the history of American medicine. It is only necessary to look over the roll to recognize that the delegates from each state represented the highest and best of the profession. A thorough appreciation of their responsibilities, as well as a determination to act wisely and fairly, as representatives of the profession, was the evident aim of each member. The attendance was larger than that of any other session and practically all the members were present at every meeting. Complete unanimity and perfect harmony marked the entire session. This fact, coupled with the evident desire on the part of each delegate to transact the largest possible amount of business in the allotted time, enabled the House to do more business than at any previous session, and yet to adjourn over Wednesday so as to allow the delegates to enjoy some of the Section meetings. This has never before been accomplished, but it augurs well for the future.

SECTION MEETINGS.

The attendance at the Section meetings was perhaps larger than at any previous session. Some Sections report unprecedented audiences; for instance, in the Section on Laryngology and Otology the attendance at times numbered 500. In the joint meeting of the Sections on Practice of Medicine, Surgery and Anatomy and Pathology and Physiology, 2,500 gathered to listen to the symposium on goiter. Although more physicians attended the Boston session, there was also an extensive series of clinics and other attractions there; these were not found at Atlantic City, and the time was, therefore, free for solid scientific work.

THE EXHIBITS.

The Scientific Exhibit and the Commercial Exhibit were held in Marine Hall, the third building from the Boardwalk on Young's Old Pier. There had been some apprehension lest physicians would not take the trouble to go to see these exhibits. Any such fear, however, was speedily dispelled, as the attendance was large at all times. By a careful checking system it was found that more than 5,000 people visited these halls each day.

The Scientific Exhibit was a credit to those in charge and to those who furnished exhibits. They were arranged conveniently for examination and a carefully prepared series of demonstrations and lectures by prominent authorities was carried out. The Committee on Scientific Exhibit has made the excellent suggestion that, in subsequent years, awards of merit, in the form of medals and engraved certificates, be offered to stimulate competition in these exhibits. This excellent suggestion was referred to the Board of Trustees for action.

The Commercial Exhibit was thronged with physicians earnestly conversing with representatives of the various firms which displayed goods. For the first time this exhibit was under the exclusive control of the American Medical Association, and from it were excluded preparations which do not comply with the rules of the Council on Pharmacy and Chemistry. The names of most of the firms occupying space in the Commercial Exhibit were mentioned in The Journal, May 4. Many had taken great pains with their exhibits, and the whole effect was very pleasing. The success of this year's exhibit was very gratifying, and a continued effort will be made to enlarge on the historical, literary, scientific and artistic possibilities of the exhibit so as more than ever to draw the attention and interest of all medical men.

In this connection one must call attention to the most interesting display of the Philadelphia branch of the American Pharmaceutical Association. These pharmacists showed an array of elegant pharmaceuticals, put up in accordance with the U. S. Pharmacopeia and National Formulary. They were certainly attractive. Those in charge emphasized the fact that any competent pharmacist can prepare elegant and accurate products and urged that physicians cooperate by prescribing such articles. Another part of the exhibit made by the Philadelphia pharmacists consisted of various nostrums, some offered to the public, some offered to the profession, and some offered to both, with comparisons made between their claims and the real facts as regards composition and therapeutic power. This exhibit was the center of an interested group all of the time.

THE WEATHER AND THE ENTERTAINMENTS.

It was a matter of congratulation that, after cloudy, rainy weather and after a severe gale on Sunday, Tuesday dawned clear, bright and warmer. Aside from a thunderstorm or two the weather during the session was satisfactory. There was not much sea bathing, as the water was too cold for comfort, but the weather was such that hotel piazzas and board walks were gay with the traditional parade of visitors. As a city pre-eminent in its facilities for the accommodation of guests, Atlantic City was praised on every side. The Committee of Arrangements had done its work well. The entertainments were of high class and thoroughly enjoyed. The president's reception, as is usual, was very largely attended and was the crowning social event of the session. All in all, the fifty-eighth annual session was a most pleasant and profitable one.

"VIAVI TREATMENT" AND A FREE PRESS.

In a recent number of The Journal[1] we abstracted the *California State Journal of Medicine's* exposure of the "Viavi treatment." Our enterprising western contemporary, at the time of publishing this article, sent marked copies of it to every San Francisco newspaper. Two papers—the *Call,* a daily, and the *Star,* a weekly—made some reference to it. Large advertisements immediately appeared in all the San Francisco newspapers extolling the "Viavi treatment." The newspapers themselves became aphonic on the subject of Viavi—except that the *Call,* apparently repentant for its modified outburst of free speech, published a complimentary write-up of the fraud and its promoters. As Viavi has not advertised in the press for years, the conclusion is overwhelmingly forced on us that the San Francisco papers have sold their birthright of freedom of speech for a paltry mess of advertising pottage.

Medical News

ARIZONA.

Personal.—Dr. Robert Ferguson, Bisbee, has gone to Massachusetts for a prolonged visit.——Dr. Henry J. Warner, Safford, is reported to be critically ill with erysipelas.——Dr. William M. Bell, Phoenix, returned from St. Louis, May 16.

Hospital News.—The members of the Nevada County Medical Society are considering the establishment of a sanatorium for consumptives near Prescott, and also a farm in the mountains where persons afflicted with consumption may make their homes, do light work and receive medical treatment.——The Odd Fellows are about to establish three sanatoria; one of these may be located at Safford.——Dr. Ray Ferguson, superintendent of the Territorial Insane Hospital, Phoenix, has ruled that patients whose minds are affected by drink or drugs shall not be admitted to the institution.

CALIFORNIA.

Communicable Diseases.—Scarlet fever and measles are said to be prevalent in Russiantown, Fresno. The inhabitants of this portion of Fresno insist on holding social and church gatherings, despite the quarantine rules, and as many of the women are employed in housework in American families, it is feared the diseases will spread.

Personal.—Dr. C. M. Johnson, El Cajon, was seriously injured in a fall from the steps of a trolley car in San Diego, May 5.——Dr. Frank Garcelon, Pomona, is reported convalescent from appendicitis.——Dr. Lemuel P. Adams has been appointed a member of the Oakland board of health, vice Dr. Frank L. Adams. Dr. Thomas A. Williams and Edward R. Sill have been reappointed members of the board.——Dr. George E. Goodfellow, San Francisco, has been appointed chief of the medical department of the Randolph lines, with headquarters at Guaymas.——Dr. Julian J. Benton has been elected health officer of Berkeley, vice Dr. George F. Reinhardt.——Dr. Samuel E. Simmons, Sacramento, has gone to Europe.——Dr. Gustavus C. Simmons, Sacramento, has returned after a year abroad.——Dr. F. E. Gallison, Mt. Bullion, has been appointed physician of Mariposa County, vice Dr. Hjalmer Kylberg, Mariposa.——Dr. Frances L. Newton has been made president of the reorganized board of health of Woodland.

IDAHO.

Smallpox.—Smallpox has again appeared in Wardner, where four cases are reported.——There are said to be about twelve cases of smallpox on Gold Creek and Crane Creek, east of Fresno.

Personal.—Dr. George E. Hyde, Rexburg, has been appointed a member of the State Board of Health.——Dr. William F. Howard, Pocatello, has been chosen secretary of the State Board of Medical Examiners.

Hospital Notes.—The hospital building of the Nez Perces County Poor Farm, Lewiston, was burned April 25. None of the patients was injured.——Dr. John W. Givens, superintendent of the North Idaho Insane Asylum, Orofino, states that a wing to the main building and an administration building will be erected this year.——A $1,000 *x*-ray machine has been presented to St. Luke's Hospital, Boise City, by a friend of the institution in Philadelphia. The new addition to the hospital is nearly completed, thus giving accommodation for 70 patients.

ILLINOIS.

County Secretaries Meet.—The secretaries of the component medical societies of the state, organized at Rockford, May 22, and elected Dr. C. Hubert Lovewell, Chicago, president, and Dr. Domer G. Smith, Elizabeth, secretary.

Military Surgeons Condemn Speaker Cannon.—The Association of Military Surgeons of the State of Illinois held its annual meeting in Quincy, June 6, under the presidency of the surgeon general, Col. Nicholas Senn, Chicago. The following officers were elected: President, Col. Nicholas Senn, surgeon general (re-elected); vice-president, Major Buell S. Rogers; secretary-treasurer, Lieut.-Col. Charles Adams (re-elected), and assistant secretary, Major S. C. Stanton (re-elected), all of Chicago. The association adopted unanimously the following preamble and resolutions condemning Speaker Cannon:

Whereas, A trained medical personnel of sufficient size is indispensably necessary to the welfare of the Army and Navy, as well as to the interests of the whole country; and

Whereas, A numerical insufficiency of both the Army and Navy Medical Departments exists, and is growing as a result of the adoption by Congress in 1901 of defective organizations; and

Whereas, Both the medical services above referred to have been rendered so unattractive by this unwise legislation as to render it impossible to fill them, there being 30 vacancies in the Army and 60 in the Navy, and every reason to believe these deficiencies will continually increase if present conditions continue; and

Whereas, The failure to correct the faults herein described rests with the Speaker of the National House of Representatives, inasmuch as he did not allow the bill to be presented to the House, although the Senate had twice passed the bill for the relief of the Medical Department and the House was willing to do so, and as he has shown a similar spirit as regards the reorganization of the Naval Medical Corps; therefore, be it

Resolved, That the Association of Military Surgeons of the State of Illinois hereby expresses its condemnation of the action of the Speaker in this matter, and holds him responsible for the present alarming shortage in the commissioned medical personnel of both the Army and Navy.

Resolved, That copies of this resolution be sent to the President of the United States, to the Governor of Illinois, to the Senators and Representatives of Illinois, to The Journal of the American Medical Association, to the *Military Surgeon* and to the Associated Press.

The semi-annual meeting of the association will be held in Chicago in December next.

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[1] The Journal, April 27, 1907, 1445.

Chicago.

Advisory Health Board.—The mayor has appointed the following advisory board to cooperate with the Department of Health on matters of hygiene and sanitation: Mrs. Marshall Field, Sr., Drs. Nicholas Senn, Frank Billings, William E. Quine, Charles E. Kahlke and C. Hugh McKenna.

Deaths of the Week.—During the week ended June 8, 574 deaths were reported, equivalent to an annual death rate per 1,000 of 14.20. The deaths numbered 69 fewer than for the previous week and 51 more than for the corresponding week of 1906. For the first time since the opening of winter pneumonia was not alone in leading death causes. The deaths from this cause and from consumption were each 74; from violence (including suicide), 50; from heart diseases, 47; from nephritis, 41; from nervous diseases, 31, and from cancer, 22. Diphtheria caused 8 deaths; scarlet fever, 6; typhoid fever, 4, and measles, influenza and whooping-cough, each 3.

Hospital Notes.—The Chicago Home for Incurables received $700,000 in bequests during the last six months, but still needs half a million dollars to erect the fifth section of the home and pay its running expenses. The home is now caring for 260 incurables.——Mrs. Keith Spalding has donated the Edward Sanatorium, Naperville, to the Chicago Tuberculosis Institute, together with $6,000 a year for its maintenance and $1,000 to build and equip an annex of six beds. At present the institution has 14 patients, of whom all but one are being treated free of charge.——The German Hospital will erect a new hospital building six stories in height, with 100 rooms for private patients, and to cost about $250,000.

KANSAS.

Topeka to Get Hospital.—The Sisters of Charity will erect on the property acquired at 1629 West Sixth Avenue, Topeka, a permanent hospital building, making improvements costing about $50,000.

Society Meeting.—At a meeting in Yates Center, April 30, at which the majority of the legally qualified physicians of Woodson County were present, the Woodson County Medical Society was organized by the adoption of the standard constitution and the election of the following officers: President, Dr. Daniel W. Maxson, Toronto; vice-president, Dr. Henry W. West, Yates Center; secretary-treasurer, Dr. Emerson K. Kellenberger, Yates Center; delegate to the state medical society, Dr. George W. Lee, Toronto, and censors, Drs. Mordecai D. Elder, Piqua, B. F. Browning and Henry W. West, Yates Center.

NEW YORK.

Appropriation for Cancer Laboratory.—The new state cancer laboratory, Buffalo, has been granted another appropriation of $20,000 by the legislature, for the continued investigation into the cause of cancer.

Commencement.—At the sixty-second annual commencement exercises of the University of Buffalo a class of 60 was graduated. The baccalaureate address was delivered by Prof. Jeremiah W. Jenks of Cornell University.

Bills Passed.—The Huth bill, prohibiting the transfer of dying patients from one hospital to another, has passed the senate.——The governor has signed the Miller bill providing that the town of Hempstead, Nassau County, may pay certain obligations due St. Joseph's Hospital at Far Rockaway for the care of town patients.

Saranac Industrial Settlement.—The Saranac Lake Industrial Settlement has been formed to give employment to persons who have reached the arrested stage in pulmonary tuberculosis and can no longer remain in institutions for incipient cases. It is desirable that this class of persons should not return to city conditions in order to support themselves, and to this end light employment along the lines of gardening, poultry raising, etc., are to be undertaken. Such a practical training in agriculture and handicrafts will make permanent means of support possible to those whose strength will not stand the strain of close confinement.

New York City.

Held in Quarantine.—Steerage passengers from the steamer *Kroonland* were detained at Hoffman Island for observation because of one case of a fever, the nature of which puzzled the health office.——The Holland-American steamer *Staatendam* had a patient suffering with smallpox and all the passengers in the same compartment were detained for observation.

Death Rate from Tuberculosis Reduced.—In 1881 the death rate in New York City from pulmonary tuberculosis for 1,000 was 4.27. It has steadily fallen until in 1906 it was only 2.16 per 1,000. In 1881, with a population of 1,244,511, there were 5,312 deaths from pulmonary tuberculosis, while in 1906, when the population had increased to 4,152,860, there were only 8,955 deaths from this disease, a decrease of less than 60 per cent. in deaths, while the population had increased almost 300 per cent.

Opium Sold Openly.—It has become known that owners of chop suey restaurants have been selling opium openly throughout the city. One Chinaman who was arrested claimed that he had the right to sell it under a section of the Penal Code, which states that no person should sell or dispense a poison unless it was so labeled and that his opium was labeled. The lawyer of the county medical society said that to be fully understood this section should be read in connection with the whole pharmacy law, of which this section is but a part. The pharmacy law provides that every person who sells poisons shall not deliver any poison without satisfying himself that it is to be used for a legitimate purpose and that the seller must also have a license to do so.

Contagious Diseases on the Increase.—The cold weather is supposed to be responsible for the increase in the contagious, infectious and general diseases in this city. Deaths from pneumonia have increased over this period last year, while those from tuberculosis have decreased. There were 392 deaths from tuberculosis for the week ended May 18, while for the same week of last year there were 437 deaths. For the week ended May 25 there were reported 494 cases of scarlet fever; for the week ended May 18 there were 469 cases. For the week ended May 18 there were reported 630 cases of measles; for the week ended May 25 there were 805 cases. There has been an alarming increase in the number of cases of cerebrospinal meningitis, the number reported for the week ended May 25 being 40. There has been a marked decrease, however, in the number of cases of typhoid fever; for the week ended May 25 there were 35 cases, while during the last week in March there were reported 120 cases.

MINNESOTA.

State Association Changes Date of Meeting.—The date of the annual meeting of the Minnesota State Medical Association has been changed from Tuesday, August 20, to Tuesday, August 13. The house of delegates will meet on Monday, August 12.

MISSISSIPPI.

State Medical Association Meeting.—In order to correct a misunderstanding, we announce that the report of the meeting of the Mississippi State Medical Association in The Journal, May 4, was not received from the secretary, but was compiled from other sources.

MISSOURI.

Crusade Against Tuberculosis.—The Missouri Association for the Relief and Control of Tuberculosis, which is affiliated with the National Association for the Study and Prevention of Tuberculosis, has been organized with the following officers and directors: President, Dr. George Homan, St. Louis; secretary, Robert J. Newton; treasurer, J. H. Lynch, and directors, Drs. William S. Allee, Olean; John M. Allen, Liberty; Irvin V. Barth, St. Louis; William M. Bayliss, Mt. Vernon; G. R. Blickhahn, St. Louis; Jefferson D. Brummall, Salisbury; J. Robert Buchanan, Nevada; Charles R. Buren, Princeton; Theodore A. Coffelt, Springfield; Leander W. Dallas, Hunnewell; Walter B. Dorsett, St. Louis; Gustav Ettmueller, Jefferson City; John Green, Jr., St. Louis; Robert D. Haire, Clinton; George Homan, St. Louis; Benjamin M. Hypes, St. Louis; Henry J. Jurgens, Edina; Frank J. Lutz, St. Louis; Rev. B. T. Kemmerer, St. Louis; Mr. J. H. Lynch, St. Louis; Drs. Walter E. McKinley, Denver; Enoch H. Miller, Liberty; Mrs. Philip N. Moore, St. Louis; Dr. Woodson Moss, Columbia; Mr. Robert J. Newton, St. Louis; Drs. Milton P. Overholser, Harrisonville; Edward E. Parrish, Memphis; William Porter, St. Louis; Edward W. Schauffler, Kansas City; Henry C. Shuttee, Westplains; Andrew R. Snyder, Joplin; Jonathan E. Tefft, Springfield; Charles H. Wallace, St. Joseph, and Louis M. Warfield, St. Louis. The work of organizing local societies is to be pushed rapidly and organizations will soon be perfected in Kansas City, Jefferson and Scotland County. The purposes of the association are:

> Dissemination of knowledge concerning the causes, treatment and prevention of tuberculosis; investigation of the prevalence of tuberculosis in Missouri and the collection and publishing of useful information; securing of proper legislation for the relief and prevention of tuberculosis; cooperation with the public authorities, (state and local boards of health), the National Association for the Study and Prevention of Tuberculosis, medical

societies and other organizations in approved measures adopted for the prevention of the disease; promotion of the organization and work of local societies in all parts of Missouri; encouragement of adequate provisions for consumptives by the establishment of sanatoria, hospitals, dispensaries and otherwise; and in general to do all things and acts having as their object the relief of those afflicted with tuberculosis and the control and prevention of that disease throughout the entire state.

OHIO.

New Hospital.—The Robert Wright residence, Logan, a brick structure three stories in height, has been purchased by Drs. Murat H. Cherrington, Logan, and John S. Cherrington, Bidwell, for $6,500. The building will be remodeled and used as a hospital.

Contract Awarded.—A contract for the erection of the new state tuberculosis sanatorium at Mount Vernon has been awarded for $156,861.95. This includes the medical department, administration building, dining hall, bakery, scullery, serving rooms, kitchen, assembly hall and cold-storage rooms. The buildings are to be enclosed by Jan. 1, 1908, and to be finished six months later.

Commencements.—At the annual commencement exercises of the Miami Medical College, June 1, a class of 17 was graduated. At the banquet which followed Dr. Benjamin R. McClellan, Xenia, acted as toastmaster.——The annual commencement exercises of the Toledo Medical College were held May 21, when a class of eight received diplomas. The address of the evening was delivered by Dr. Dan Millikin, Hamilton.——The Cleveland College of Physicians and Surgeons, the Medical Department of Ohio Wesleyan University, held its commencement exercises May 22, when a class of 16 was graduated. The address was delivered by Hon. Fred C. Rector of Columbus; the dean, Dr. Roland E. Skeel, delivered the charge of the graduating class, and President Herbert Welch of the university presented the diplomas.

Medical Libraries.—A great interest has been manifested in the proposition to establish a medical library in Springfield, and Dr. Thomas M. Reade is visiting the medical departments of public libraries in other cities in the interest of this enterprise. The plan is to get each physician or other interested individual to donate one magazine or book a year to the library, which is to be for the benefit of all practitioners. The committee for this purpose is composed of Dr. Clarence H. Kay, president; Dr. Noah Myers, vice-president; Dr. Thomas M. Reade, secretary, and Miss Alice Burrows, treasurer.——A committee of physicians consisting of Dr. Edgar J. March, president; John P. DeWitt, secretary, and Drs. George F. Zinninger, A. B. Walker and James Fraunfelter, has purchased the W. K. Miller residence, Canton, for $5,000. The building, when remodeled, is to be used as a medical library and clubhouse for physicians of the city.

OREGON.

Communicable Diseases.—Typhoid fever is reported to be epidemic at Elkton.——There are said to be 11 cases of smallpox at the lumber camp 17 miles north of The Dalles.——The epidemic of spinal meningitis, which has prevailed in Portland for several weeks, is subsiding, as only one new case has been reported during the week ended May 21.

PENNSYLVANIA.

Philadelphia.

Money for Tuberculosis Congress.—Dr. Lawrence Flick of the Henry Phipps Institute, announced June 4 that he had received $35,000 in subscriptions toward a fund of $100,000 which he is raising to meet the necessary expenses of the International Congress of Tuberculosis to be held in Washington in 1908.

Gifts to Woman's College.—Mr. William P. Sharpless, West Chester, Pa., has given $2,000 to the Woman's Medical College of Pennsylvania as a scholarship, to be known as the Frances Linton Sharpless scholarship fund, in memory of his late wife, who was an alumna of the college.——An anonymous gift of $2,000 has been received to be placed in the scholarship fund of the same institution.

Jewish Hospital Report.—At the annual meeting of the Jewish Hospital Association, the report presented for the year showed that the expenses had exceeded the income by about $12,000. One thousand five hundred and nineteen patients were treated in the general hospital, 102 in the Lucien Moss Home for Incurables, 132 in the children's wards, 11 in the infirmary for the aged, 200 in the Guggenheim building for private patients, and 12 in the isolation building. In the Mathilde Adler Loeb dispensary 4,950 cases received treatment. The total cost of maintenance was $103,252.15, or $1.67 5/6 per diem for the support of each patient.

Commencements.—Jefferson Medical College held its eighty-second annual commencement exercises June 3, when a class of 126 was graduated. The degrees were conferred by Hon. William Potter, president of the board of trustees. The prizes were awarded by the dean of the faculty, Dr. James W. Holland. The orator of the day was George Sumner Huntington, New York City, on whom the honorary degree of LL.D. was conferred.——At the twenty-fifth annual commencement exercises of the Medical Department of the Medico-Chirurgical College, May 31, the doctorate address was delivered by Dr. John A. Witherspoon, Nashville, Tenn.; the degrees were conferred on a class of 38 by President Henry F. Walden of the board of trustees, and Dr. James M. Anders delivered the doctorate address ,

Site Chosen for Phipps Hospital.—It is stated that a site for the permanent home of the Henry Phipps Institute for the Study and Treatment of Tuberculosis, which is now located at 238 Pine Street, has been secured. The new hospital which it is proposed to erect and which is made possible by the munificent gift of $1,000,000 by Mr. Henry Phipps, is to be located at the northeast corner of Seventh and Lombard Streets. It will overlook Starr Garden Park and will be in the heart of a district long ravaged by tuberculosis, and largely populated by Italians and Russian Jews. The hospital will be erected on the most modern plan and will require an expenditure of probably $300,000. It is stated that Mr. Phipps in addition to defraying the cost of the erection of the building, will provide sufficient income to make the institution self-sustaining.

Post-Session Clinics and Banquets.—The elaborate schedules of clinics planned in Philadelphia before and after the session of the American Medical Association offered great opportunities to visitors to see special work demonstrated and to hear lectures on various branches. Most of these schedules were announced in The Journal, giving an idea of the scope of the clinics. A special event was the opening of the new Jefferson Medical College Hospital, Philadelphia. A picture of this hospital and the adjoining buildings was given in The Journal, May 4. The clinics were conducted not only by the most prominent men of Philadelphia and other American surgeons who were invited to assist, but by a number of distinguished foreign guests of the American Medical Association. Other clinics were held in New York. In Philadelphia also a banquet was given in honor of ex-President Bryant and President Burrell of the American Medical Association, and the officers of the Pennsylvania, Delaware and New Jersey state medical societies. At this occasion the Medical Club of Philadelphia was the host.

SOUTH DAKOTA.

Hospital Incorporated.—Articles of incorporation have been filed by the Fort Pierre Hospital Association with a capital of $15,000.

Personal.—At the reorganization of the State Board of Health, at Mitchell, Dr. Horace A. Peabody, Webster, was elected state superintendent, vice Dr. DeLorme W. Robinson, Pierre.——Dr. Frank S. Howe, Deadwood, has succeeded Dr. Alfred G. Allen, Deadwood, as a member of the State Board of Medical Examiners.——Dr. Evert Rodenhuis, Harrison, who has been ill for several weeks, is now convalescent.

TENNESSEE.

Society Meetings.—The West Tennessee Medical Association held its annual meeting at Jackson, May 16 and 17. The following officers were elected: President, Dr. Herman Hawkins, Jackson; vice-president, Dr. John T. Allen, Brownsville, and secretary-treasurer, Dr. Isaac A. McSwain, Paris.——The twenty-sixth annual meeting of the Middle Tennessee Medical Association was held at Murfreesboro, May 16 and 17. Dr. Richard Douglas, Nashville, was elected president; Dr. Enoch H. Jones, Murfreesboro, vice-president, and Dr. William Litterer, Nashville, secretary-treasurer. The society will hold its next meeting in November at Nashville.

TEXAS.

To Watch Suspects.—The State Health Department is preparing a system whereby records will be kept of passengers entering from Texas from possibly infected localities of Mexico, and Central and South America. The names and destinations of these individuals will be ascertained by the inspectors at the ports of entry and notification will be sent to the health officers at the places of destination.

Hospital News.—At a meeting of the King's Daughters, held in Temple, May 22, a motion was adopted pledging the society to construct a new addition to the Charity Hospital, Temple, operated under their auspices, to cost $10,000. Ten towns in Bell County, through their public officials and clergymen, will be asked to raise $1,000 each as a permanent endowment for one bed in the hospital.——Drs. Phil. R. Simons and Perry, Strawn, propose to erect a large sanitarium and hospital at Mineral Wells.

Smallpox.—A case of smallpox is reported from Seguin.——The mayor of Fort Worth has issued instructions strictly to enforce the regulations concerning smallpox, which provide that any person concealing the fact that anyone has smallpox or who fails to obey the directions of the city physician or health officer, will be subject to a fine of from $10 to $100.——Three patients, ill with smallpox, and one suspected of having the disease, were discovered on the North German Lloyd steamer *Hannover* at Galveston, May 20. The patients were taken in a screened ambulance to the Sealy Hospital annex.

UTAH.

Personal.—Dr. Ralph V. Chamberlain, dean of the University of Utah, Medical Department, Salt Lake City, has resigned.——Dr. Ephraim G. Gowans, professor of anatomy at the University of Utah, has resigned.

Improvements in University Medical School.—The dean of the University of Utah, Department of Medicine, Salt Lake City, announces a number of improvements. The bacteriologic laboratory is to be doubled in size and entirely refurnished. A lecture room for the course in anatomy will be erected with accommodation for 40 students. Separate laboratories will be erected for students of histology, embryology and pathology, as well as a large new botanical laboratory. A course in advanced zoology will be introduced.

VIRGINIA.

Society Meeting.—At the semi-annual meeting of the Medical Society of Northern Virginia, held in Alexandria, May 23, the following officers were elected: President, Dr. Tunis C. Quick, Falls Church; vice-presidents, Drs. George Tully Vaughn, Washington, and Frederick M. Brooks, Swetnam, and secretary, Dr. Avery A. Rittenour, Alexandria. The next meeting will be held November 15 at Warrenton.

WASHINGTON.

Influenza Epidemic.—The Indians of the Tulalip Reservation, Snohomish County, are reported to be dying off rapidly from influenza. Nearly 100 deaths have resulted from the disease.

License Revoked.—The State Board of Medical Examiners on May 20 is reported to have revoked the license of Robert B. Clarke, Seattle, charged with employing drummers to solicit business for him.

Personal.—Dr. William M. McCoy, Wenatchee, has purchased a site and approved plans for a hospital.——Dr. E. Van Zandt, formerly superintendent of the Western Washington Hospital for the Insane, Fort Steilacoom, has returned to Seattle from New York.——Dr. T. O. Cole, Kahlotus, has been appointed assistant district health officer.——Dr. James A. Durrent, Snohomish, has been appointed a member of the State Board of Medical Examiners.——Dr. Emil Bories, Seattle, is reported to be critically ill at Vancouver, B. C.——Dr. James B. Eagleston, Seattle, and Dr. Elmer D. Olmsted, Spokane, have been reappointed members of the State Board of Medical Examiners.

WISCONSIN.

Smallpox.—The Fourth Ward school at Eau Claire has been ordered closed on account of the prevalence of smallpox.

Blow to Sterilization Bill.—The opponents of the Elver sterilization bill won a victory by defeating a bill providing for the payment to members of the board of examiners of idiots, imbeciles and epileptics, not to exceed $1,000 a year.

Must Have Physician.—Dr. John B. Spalding, health officer of Kenosha, is reported to have sent out notices that the parents and guardians of children, treated by faith healing and prayers, would be held strictly to account for fatalities which might result. During the past two or three years several people have died in Kenosha without medical attention.

GENERAL.

Health Conditions in Panama.—The official report of the Canal Zone for March shows that only 23 men out of every 1,000 were excused during the month on account of illness or any other cause. Yellow fever no longer exists on the Isthmus and malaria is the only disease which is at all prevalent.

Marine-Hospital Service.—A board of officers will meet at the Bureau of the Public Health and Marine-Hospital Service, Washington, D. C., July 15, at 10 a. m., to examine candidates for admission to the grade of assistant surgeon to the Public Health and Marine-Hospital Service. Candidates must be between 22 and 30 years of age, and graduates of reputable medical colleges, and must furnish testimonials. The examination is to be physical, oral, written and clinical. For invitation to appear before the board application should be made to the Surgeon General, Public Health and Marine-Hospital Service, Washington, D. C.

Hydrotherapists Meet.—A conference of physicians interested in hydrotherapy was held at Atlantic City, June 4. Dr. Simon Baruch was called to the chair and Dr. Frank E. Brown appointed secretary. Representative physicians from several states discussed the importance of furthering the study, teaching and practice of hydrotherapy and other physiologic methods. A committee, consisting of Professors Hare of Jefferson, Thayer of Johns Hopkins, Baruch of Columbia, and Dr. F. E. Brown of Baltimore, was appointed to formulate a symposium on these subjects for the next meeting of the American Medical Association.

Society Meetings.—The annual meeting of the Chicago & Alton Railway Surgeons' Association was held in Jacksonville, Ill., May 17, and the following officers were elected: President, Dr. Carl E. Black, Jacksonville, Ill.; vice-presidents, Dr. Matthew W. Pickard, Kansas City, Mo., and Edward H. Higbee, Roodhouse, Ill., and secretary, Dr. Miles B. Titterington, Jerseyville, Ill.——The annual meeting of the White River Medical Association was held in White River Junction, Vt., May 21, when the following officers were elected: President, Dr. Henry C. Jackson, Woodstock, Vt.; vice-president, Dr. Frederic Von Tobel, Lebanon, N. H., and secretary and treasurer, Dr. Marion L. Bugbee, White River Junction, Vt. At the close of the meeting the annual banquet was held at the Gates Memorial Library. Dr. John M. Gile, Hanover, N. H., acted as toastmaster.

CANADA.

New Society.—The St. Catherines (Ont.) medical men have organized a medical society with Dr. Joseph G. Sutherland, president, and Dr. John P. Armour, secretary. All have pledged themselves not to do lodge practice.

Personal.—Dr. Georgiana Urquhart has been appointed medical inspector of schools in Vancouver.——Drs. D. A. Stewart and R. B. Mitchell, having each served one year in the Winnipeg General Hospital, have been appointed senior internes.——The following graduates have recently been appointed as resident medical staff in the same institution: Drs. Andrews, Boardman, McGregor, McDonald, McArthur, Stewart and Armytage.——Dr. Walter M. English, London, Ont., has succeeded Dr. James Russell as superintendent of the Asylum for the Insane, Hamilton.

Samaritan Hospital Staff Elected.—At the annual meeting of the Samaritan Hospital for Women, Montreal, the following staff was elected: Consulting physicians, Sir James Grant, Ottawa, and Herbert L. Reddy, Montreal; surgeon-in-chief, Dr. A. Lapthorn Smith; surgeon, Dr. S. Fairweather Wilson; assistant surgeons, Drs. Albert Johnston, E. Cazalet Feilde, George S. Hall, J. Clarence Sharp, Walter H. Smythe, H. B. W. Carmichael, George A. Browne and J. J. Ross; pathologist, Dr. James A. Williams; laryngologist, Dr. George T. Ross; registrar, Dr. J. Leslie Allan, and anesthetists, Drs. Howell and Donnelly.

Hospital News.—The annual report of the Victoria General Hospital, Halifax, N. S., states that during the year 1,434 patients were admitted, 885 male and 549 female.——A new hospital has been established at Van Anda, B. C., with accommodation for 12 patients, in connection with the Columbia Coast Mission, which already has a hospital at Rock Bay, and operates a mission hospital ship, the *Columbia*.—The new Western Hospital building in Montreal is about to be formally opened. The first building was erected in 1872 and was for special work alone. It became a general hospital in 1894. The cost of the new building was $75,000.——The new tuberculosis sanatorium for British Columbia is on the lines of the plans of Mr. Latham, who won the king's prize. It will provide accommodation for 40 patients. It will be crescent shape, with a sun-room at each end.——The question of founding a Scandinavian hospital in Winnipeg is under discussion.

Provincial Society Meeting.—The Ontario Medical Association held its twenty-seventh annual session in Toronto on May 28 to 30. Dr. George A. Bingham, Toronto, was the president, and Dr. Charles P. Lusk, Toronto, acted as secretary. The address in medicine was delivered by Dr. Mazyck P. Ravenel, Philadelphia, and dealt with the methods of infection in pulmonary tuberculosis. The address in surgery was delivered by Dr. George W. Crile, Cleveland, Ohio, on "Clinical and Experimental Observations on the Direct Transfusion of Blood." It was decided to meet next year in Hamilton. Dr. Ingersoll Olmsted, Hamilton, was elected president; Dr. Herbert J. Hamilton, Toronto, vice-president, and Dr. Charles P. Lusk, Toronto, secretary. The social part of the meeting included a smoking concert on the evening of the first day, at which Dr. James F. W. Ross, Toronto, gave a lantern demonstration of a trip through Egypt, and the annual banquet on the evening of the second day.

FOREIGN.

Moving Pictures Injurious to Eyes.—The cable states that the police in Berlin are making war on moving picture shows as medical authorities assert that they are injurious to the eyes. There are 200 cinematograph theaters in Berlin and its suburbs. The incessant movement of the films is regarded as especially harmful for children's eyes.

German Medical Study Trip for 1907.—The annual trip of German physicians to the health resorts begins this year, September 6, at Berlin. The party will proceed to the watering places along the shore of the Baltic, stopping also at Stockholm and Copenhagen. Further particulars can be learned on application to Dr. A. Oliven, Luisenplatz 2-4, Berlin, Germany.

Yellow Fever in Central America.—Three cases of yellow fever are reported by Acting Assistant Surgeon Wailes, as having occurred at Gualan, Guatemala, one of them having resulted fatally. Gualan is about 90 miles inland from Puerto Barrios. This port has established quarantine against the interior and is free from infection, but passenger traffic has been suspended.

Patenting of a Drug No Guarantee of Its Therapeutic Efficiency.—The Berlin chief of police has published a warning that the patenting of a drug, method or trade-mark is a formality which has nothing to do with the therapeutic efficiency of the drug or method. The proprietary and "patent medicine" manufacturers in Germany have been wording some of their announcements in such a way as to make it seem that the obtaining of a patent is a government guarantee of the therapeutic value of the article in question.

Garré Succeeds Bier at Bonn.—It is less than two years since Karl Garré left the chair of surgery at Königsberg to take Mikulicz's vacant chair at Breslau, and he has now accepted a call to Bonn to take the place left vacant by Bier's removal to Berlin as successor to von Bergmann. Garré was born in Switzerland in 1857, but he has been a professor of surgery in Germany since 1888. He has taken von Bergmann's place as the head of the trio publishing the *Centrbl. f. Chirurgie.* F. König of Berlin and E. Richter of Breslau are the other members of the trio.

Proposed Bengal Hospital for Insane.—A new hospital for the insane of the province of Bengal has been proposed which will supersede the institution recently built for that purpose. The new hospital will be built according to plans in keeping with the most modern conception of psychopathic treatment. It will accommodate about 700 male and 200 female patients, and will be so situated and constructed as to admit of considerable extension. One of the features of the institution will be the absence of enclosing walls and the various cottage and villa wards will be set in ample grounds. This will do away largely with the feeling of restraint and detention.

"Children's Hospital" Day in Copenhagen.—Once a year in Copenhagen several thousand mite boxes are distributed to responsible young women and they patrol the streets soliciting contributions from every passerby. Nearly $30,000 has been collected in this way for the children's hospitals and asylums during the four years since the custom was inaugurated. May 7 was the date appointed this year, and the thousands of young women on the streets for this purpose, smiling and jingling the pennies in their mite boxes to attract attention, make the day seem like an Italian carnival. The scheme originated, the *Lancet* says, with Dr. Carlsen of Copenhagen, and it is now being introduced into other towns in Denmark and Sweden.

Havana Has a Finsen Light Institute and Department for Phototherapy in General.—Dr. D. Roldan was commissioned by the Havana medical faculty to install a department for phototherapy in the Mercedes Hospital. After a trip to Europe to study the best methods, he has equipped the new department with the most approved apparatus, including one for a Finsen-light treatment of four patients at a time. One of the two Roentgen apparatus is designed exclusively for treatment of cancer. The *Revista de Med. y Cir.* for May 25 states that on the occasion of the inauguration of the new department, Roldan's former pupils presented him with a silver plaque as a souvenir, and the French government sent him the cross of the Legion of Honor.

International Congress for Psychiatry, Neurology, Psychology and the Care of the Insane.—As already mentioned in these columns, this congress will convene at Amsterdam, Sept. 2-7, 1907. Representatives of the Dutch government are taking an active part in the preparations for the congress and the annex exhibition, in cooperation with the leading physicians of the Netherlands. The professor of psychiatry at Leyden, G. Jelgersma, will preside, with W. P. Ruysch, chief of the national board of health, as vice-president. Dr. D. M. van Londen is chairman of the committee on hotel accommodations. The general address of the secretary and various committees is Prinsengracht 717, Amsterdam. The membership fee is $4. Communications for the congress must be received not later than July 15 to be included in the official program.

Appointments at the University of Manchester.—It has been decided to appoint lecturers on economic zoology and economic botany at the University of Manchester. The *Lancet* states that they will investigate the life history of animal and vegetable pests and will inquire into definite instances of damage done by the pests. The work is in many respects analogous to that carried on in the fields of bacteriologic research by the public health departments of the university. Improved facilities for teaching experimental psychology are also being considered by the university authorities, and the appointment of a teacher is only awaiting the possession of sufficient means. It is thought that this appointment will have an important influence on the investigation of mental and nervous diseases and likewise on the study of the conditions of school life and the mental and physical development of children.

Anti-Alcohol Congress.—The Eleventh Anti-Alcohol Congress will be held at Stockholm, Sweden, July 28, 1907. These meetings, held in different cities of Europe during the last few years, have assumed international prominence. The Swedish government, through its state and educational departments, has taken full control of this congress and formally invited the United States, Canada and every country in Europe to send representatives and eminent persons interested and acquainted with the subject. The State Department at Washington has appointed as delegates to this congress, for the government, Surgeon-General O'Reilly of the U. S. Army, and Medical Inspector Beyer of the Navy, Drs. T. D. Crothers of Hartford, Conn., and T. A. McNicholl of New York, to represent the medical profession, and Mr. D. A. Hockhart of Hartford, Conn., to represent the temperance organizations and the Swedish people of this country.

International Congress for Anatomy.—Representatives of the leading anatomic associations of the world gathered at Würzburg, in Germany, during the last week of April. Romiti of Pisa presided, and numerous communications were presented showing progress in all lines of comparative anatomy and embryology, and general microscopic and macroscopic human anatomy and embryology. The congress was under the auspices of the German *Anatomische Gesellschaft*, forming its twenty-first annual meeting. Four vice-presidents were elected, who will preside in turn at the annual meetings—Waldeyer of Berlin, Ebner of Vienna, Stöhr of Würzburg and Nicolas of Nancy. Stöhr is Kölliker's successor at Würzburg, where his assistants are Schultze, Sobotta and Sommer. They have at their disposal the remarkably well-equipped Institute of Anatomy with its unusual collections of specimens and works on anatomy, the Würzburg faculty having made rather a specialty of anatomy under Kölliker's leadership. The *Presse Médicale* for May 22 has a good report of the congress.

Early Local Reaction to Tuberculin a Sign of Tuberculosis.—At a meeting of the Berlin Medical Society, May 8, von Pirquet of Vienna described a new method of applying tuberculin for the diagnosis of tuberculosis. He noticed in vaccinating against smallpox that persons who had been previously vaccinated presented an antibody reaction, a small papule at the point of the inoculation, which appeared within the first twenty-four hours, but generally vanished by the end of the week. This papule never developed in persons vaccinated for the first time. The same phenomenon occurs in tuberculosis. A few drops of tuberculin applied to the arm and scratched in, like vaccine virus, causes the production of a papule in a day or so, in case of the presence of a tuberculous lesion anywhere in the body. This does not occur in the absence of a tuberculous lesion or in case of such debility that there is no production of antibodies. This early specific reaction was found most marked in his experience in patients with tuberculosis of the bones and scrofula.

Cost of Free Sanatorium Treatment of Tuberculosis in Germany.—The *Deutsche med. Wochschr.* for May 9 states that the central office at Berlin in charge of the system of compulsory insurance of wage-earners against sickness reports that in 1905 56,420 persons were given a chance to recover their health in sanatoria or other health institutions at a total cost of about $3,610,000, nearly $500,000 more than the year before. The total expense during the last five years, for 218,163 persons, was nearly $16,000,000. Of the total number treated during 1905, 47.56 per cent. had tuberculosis. More than half of all the working men who became incapacitated by sickness under 35 suffered from tuberculosis, and two-thirds of all those between 20 and 24. This does not apply to farm hands, but more than 37 per cent. of the incapacitated under 24 among them suffer from tuberculosis. During the year, 411 men and 38 women were given a course of treatment for venereal disease, and 55 men and 2 women for dipsomania. As a cause of incapacity, tuberculosis takes the third place among the male policy holders and the second place among the women.

Mortality in Prussia During 1905.—The Prussian statistics for 1905 show that tuberculosis heads the list as a cause of mortality with 9.68 per cent. of the total mortality of 726,679. Pneumonia follows with 7.82 per cent. Nearly 26 per cent. of the total mortality was due to infectious disease. Whooping cough was responsible for 1.83 per cent. of the total mortality; diphtheria for 1.65 per cent.; scarlet fever for 1.02 per cent.; measles for 0.87 per cent., and typhoid fever for 0.38 per cent. The number of women who died in childbirth was 3,963, or 0.55 per cent. of the total mortality, a considerably higher mortality than from typhoid fever. Only 10 persons succumbed to smallpox, 12 to hydrophobia, 18 to anthrax, and none to trichinosis since 1902. The proportion of deaths to 10,000 population was about 27.61 for affections of the digestive organs; 20.36 for old age; 19.13 for tuberculosis; 15.45 for pneumonia; 13.04 for affections of the heart or vessels; 12.4 for congenital weakness or deformities; 11.87 for apoplexy and nervous affections; 6.99 for cancer and other tumors; 3 for trauma or violence; 3.62 for whooping cough; 3.27 for diphtheria; 3.03 for affections of the urinary and sexual organs; 2.07 for suicide; 2.03 for scarlet fever; 1.74 for influenza, and 1.71 for measles. Epidemic cerebrospinal meningitis claimed 2,521 victims, all but 357 being under 15. The above figures from the official records are republished in the *Deutsche med. Wochschr.* for May 9.

Campaign Against Dust.—A congress of climatotherapy and urban hygiene has just been held at Nice, France, with more than 700 in attendance. The most important progress realized by the congress was the study of means to suppress dust. The *Progrès Médical* has a timely editorial on the subject, commending the campaign which Guglielminetti has been waging for years on behalf of the application of crude oil to roadbeds. He was able to present evidence which proves that the method costs but little more than a cent a square yard, while it renders the roads more resistant and saves repairs, with entire suppression of dust. The editorial adds that mothers who would not allow a spot on the dress of a daughter, and who take the train at once when a case of typhoid or diphtheria is reported where they are stopping, yet never think of keeping their children away from dust, and allow them to play in dust rising from soil which has collected the sputa of consumptives, the vomiting of children with whooping cough, scales of scarlet fever and other unspeakable things. The children breathe these things and carry them to their mouths and inflamed gums, but we are all so accustomed to dust that we never give it a thought. If it were not for the slight resisting power of many germs, epidemics would be even more frequent than they are. The automobile whirls up such clouds of dust that some of the resorts along the Mediterranean are becoming uninhabitable and are losing tourist custom. Consequently, the question of suppression of dust is a vital business matter with them, and the reports at the congress show that practical results are being realized.

LONDON LETTER.

(From our Regular Correspondent.)

London, May 25, 1907.

The Adulteration of London Milk.

In spite of the extensive precautions of the health authorities it is notorious that the milk sold in London is adulterated on a large scale. In many cases this can be done with impunity, because the standard of cream necessary to allow milk to pass has to be fixed as low as that of poor natural milk. Thus richer milk can be watered down to the composition of poor milk with impunity. The health officer of Battersea in his annual report declares that inhabitants of London pay at least $150,000 for water added to milk. The adulteration of milk is a very profitable business and the fines imposed are totally inadequate to check it. The same offenders are convicted repeatedly. The report states that the best method would be to license the milk vendors, the license to be renewed annually, as in the case of slaughter houses and cow sheds. This step has proved very successful in stopping adulteration in the West Indies.

The United Services Medical Society.

It has been decided to follow the example of the French, who a short time ago founded a society of military medicine. A meeting of the medical officers of the army and navy has been held for the purpose. Inspector General Ellis, director general of the navy, presided. The objects of the society are as follows: 1. The furtherance of sciences which bear on the preservation of the health of forces afloat and ashore, at home and abroad, in war and in peace. 2. The study of diseases and injuries incidental to the life of sailors and soldiers under the varying conditions of climate, locality and circumstances to which they are exposed in the performance of their duties. 3. The study of the organization, methods and apparatus for the amelioration of the condition of the wounded in war. 4. All matters which come within the scope of the technical duties of naval and military medical officers. Meetings will be held monthly in the Royal Army Medical College and the papers read will be published. The society will be managed by a from the army, two from the Indian army, two from the auxiliary forces, and also four ex-officio members, the director general of the army medical service, the director general of the naval medical service, the president of the medical board at the India office and the commandant, Royal Army Medical College.

The Plague in India.

Two facts stand prominently out in connection with the epidemic of plague in India—the appalling magnitude of the mortality and the inability of the government to cope with the disease. In January of this year there were 58,000 deaths; in February, 98,000; in March, 171,000, and in April, 314,000, making a total of 641,000 for the four months. Since the beginning of the present epidemic in 1896 the deaths have reached the enormous total of 5,326,000. The *Lancet* points out the inadequacy of a small service like the Indian Medical Service, which is fully occupied in its ordinary duties, to cope with the epidemic, and urges the government to appoint a special plague service. In this connection the findings of the Indian plague commission, appointed to investigate the disease with regard to the use of Haffkine's prophylactic, are of interest. They found: 1. Inoculation sensibly diminishes the incidence of plague attacks on the inoculated population, but the protection is not absolute. 2. Inoculation diminishes the death rate among the inoculated population. This is due not only to the fact that the rate of the attack is diminished, but also the fact that the fatality of the attack is diminished. 3. Inoculation does not appear to confer any great degree of protection within the first few days. 4. Inoculation confers a protection which certainly lasts for some considerable number of weeks. It is possible that the protection lasts for a number of months. An unfortunate accident occurred in the Punjab in 1902, by which nineteen persons inoculated from the same bottle were attacked with tetanus, to which they succumbed (See The Journal, March 2, page 811.) This, combined with racial prejudice, has done much to prevent inoculation.

The Epidemic of Cerebrospinal Fever.

The epidemic of cerebrospinal fever is in a stationary condition. In Scotland, during the week ended May 18, 23 deaths occurred in Glasgow, 7 in Leith, 5 in Edinburgh, 2 in Dundee and 2 in Paisley. In Glasgow 125 cases were under treatment. In Edinburgh during the month of April 43 cases were reported, and 36 deaths occurred. In Belfast during the week ended May 18 there were 21 deaths. In London there has been now a total of 420 cases and 295 deaths, and 43 cases remain under treatment.

Insanitary Restaurants in London.

For some years now it has been the practice to make special inspection of restaurants in the city of London. This example has been followed by the city of Westminster. Dr. F. G. Allan, medical officer of health for Westminster, has made a report recently, in which he showed that in 96 restaurants examined by his orders serious sanitary defects were found. In some the kitchens were found to be in a generally dirty condition. Restaurants are far more largely used in London than was formerly the case, so that it is a matter of the utmost consequence that the sanitary arrangements should be as perfect as possible.

Motor Hospital Ambulance for London.

At last London is provided with a motor ambulance. For many years grave dissatisfaction has been expressed at the primitive methods by which those injured or seized with sudden sickness in the streets were conveyed to the hospitals. The usual mode of conveying such persons was by means of a hand ambulance borne by policemen. On May 12, however, an ambulance connected with a series of call boxes was brought into use. The ambulance is an eight-horse power electromotor vehicle with stretcher accommodation for two injured individuals, and a similar number of attendants, and is equipped with all the necessary appliances. This ambulance is for use at St. Bartholomew's Hospital, and if it works satisfactorily it is intended to provide two others in the east of the city of London.

Red Cross Conference Meeting to be Held in London.

For the first time, the International Red Cross Conference—which meets every five years in one of the capitals of Europe—will be held in London. The meeting will take place June 10 to 15, under the patronage of the king and queen. The conference will be noteworthy from the fact that there will come into operation for the first time the fund established in 1902 by the Dowager Empress Marie Feodorovna of Russia, with the object of allocating the interest, which amounts to about $10,000 every five years, in prizes to the authors of the best inventions for diminishing the sufferings of wounded and sick military persons.

Physicians' Mistakes in Diagnosis.

The Metropolitan Asylums Board (which controls all the hospitals of London devoted to infectious diseases) has just issued its report for 1906. During the year, 30,228 patients were treated in the fever hospitals and 27 patients in the smallpox hospitals. The number of cases of scarlet fever amounted to the enormous total of 21,404, a larger number than in any previous year. The increase was not due so much to increased prevalence of the disease as to the increased percentage of persons attacked who now enter the hospital; In 1890, only 42 per cent. of the persons attacked entered hospital; last year 88 per cent. were admitted. The death rates were as follows: Scarlet fever, 2.9 per cent.; diphtheria, 8.8 per cent.; typhoid fever. 16 per cent.; other diseases 7.6 per cent. No case of smallpox was fatal. The diphtheria mortality still remains low. In 1893, the year before the adoption of antitoxin treatment it was 30.4 per cent. At one of the hospitals a record has been kept of the mortality rates according to the day of the disease on which the antitoxin treatment was commenced. The results are a striking testimony of the value of the treatment and of the importance of early injection. Of 235 cases treated during the years 1897 to 1906 on the first day of the disease not a single one was fatal. Of 1441 cases treated on the second day 4.3 per cent. were fatal; of 1,600 cases treated on the third day 11 per cent. were fatal; of 1,376 cases treated on the fourth day 17.2 per cent. were fatal;and of 1,645 cases treated on the fifth day 18.72 per cent. were fatal. Of interest are the statistics of mistakes in diagnosis made by physicians who sent the patients to hospital. The cases in which the patient was found not to be suffering from the certified disease numbered 2,151. The percentage of error among cases certified as scarlet fever was 5.2; as diphtheria, 18.3; as typhoid fever the enormous one of 33.7.

British Neglect of Chemical Research.

Prof. Meldola, F.R.S., president of the Chemical Society in a remarkable address on "The Position and Prospects of Chemical Research in Great Britain" emphasized the public apathy toward science. "The nation, as a whole," he says, "has not recognized the principle that the productive activity of the scientific worker is one of the prime factors in national development. Attention to this national weakness has from time to time been called by the publicists but public interest in scientific research is still at a low level, lower than in many leading nations. A temporary flicker of excitement is caused when some sensational discovery is announced or when some result of immediate practical (commercial) value is made known. Reseach as a cult is not understood; the national attitude toward the worker is one of 'payment by result' the very narrowest sense of the term. Our universities are failures as centers of chemical research. The deterrent causes are ancient traditions, defective educational methods, want of sufficient means leading to frittering away of the research faculty by the drudgery of coaching, the poor outlook for chemical research as a career, and the pedantic notion that a subject requiring for its advancement something akin to manual labor is derogatory to high scholarship."

Compensation for Industrial Diseases.

The committee appointed by parliament on compensation for industrial diseases has recommended a remarkable extension of the diseases and injuries entitling the worker to compensation. In a report issued last year the committee recommended six extensions which have been adopted: Anthrax, ankylostomiasis, and lead, mercury, phosphorus and arsenic poisoning. Now no fewer than eighteen extensions are recommended. These may be grouped as follows: 1. Poisoning and its sequelæ. The dock laborers and others who handle, as well as the workmen and others who use arsenic, are included. Poisoning by any of the processes involving the use of nitro or amido derivatives of benzene and of carbon sulphid, their preparations and compounds; any process in which nitrous fumes or nickel carbonyl gas are evolved; any process in the manufacture of African boxwood (poisoning by which was described in a previous letter to The Journal as a new condition). 2. Skin diseases: Chrome ulceration or its sequelæ arising from any process involving the use of chromic acid or bichromate of ammonium, potassium or sodium and their preparations. Eczematous ulceration of the skin produced by dust or caustic or corrosive liquids, or ulceration of the nose or mouth produced by dust. Epitheliomatous ulceration of the skin, or ulceration of the skin or the surface of the eye due to the handling or use of pitch, tar or tarry compounds. Scrotal epithelioma (chimney-sweeps' cancer). 3. Miners' diseases: Nystagmus, "beat hand," "beat knee," "beat elbow," synovitis and tenosynovitis of the wrist from a long succession of jars due to working a pick in hard coal. 4. Miscellaneous: Glanders acquired during custody of an equine animal suffering from the disease or from handling its carcass. Compressed-air illness and its sequelæ. The liability of chimney-sweeps to cancer in consequence of the irritation of the skin by the soot is shown by the fact that the mortality from cancer among them is twice that of male workers in general. Much of the report is occupied with a discussion of phthisis and pulmonary fibrosis in connection with the group of diseases arising from inhalation of dust—"miners' phthisis," "stonemasons' phthisis," "potters' rot," "grinders' rot," etc. The general conclusion is that while evidence of the prevalence of fibroid phthisis can not be ignored, it is prudent to keep in abeyance the question of scheduling these diseases. The disease known as "bottle-makers' cataract" is regarded as a subject for further inquiry.

Women Drinking and Infantile Mortality.

The question of alcohol and of alcoholism is greatly in the minds of British people at the present time. The fact is slowly but surely penetrating the brains of the "man in the street" that the drink problem is a very serious one in Great Britain and that it must be grappled with at once. One phase of the subject is now being earnestly taken up, that of women carrying infants in arms drinking in public houses. An important conference to discuss the situation was held some weeks ago in London, at which were present several influential members of the medical profession, as well as noted men drawn from all ranks of life. Sir Lauder Brunton, who was one of the speakers, placed the position clearly before the audience. He said in part: "My experience as physician at St. Bartholomew's Hospital, reaching over several hundred thousand cases, has shown me that the ordinary rule which obtains is, 'Mother a bit and sup; baby a bit and sup,' and generally the sup consists of gin and water. It must be quite evident that this process of slow poisoning destroys the child, one would say body and mind were it not that very often the body is destroyed before the mind has time to develop." Measures are to be taken to prevent by legislation in Great Britain children under 14 from entering public houses.

Manifesto in the Lancet on Alcohol.

The *Lancet* some few weeks ago published a manifesto, to which were appended the signatures of the most distinguished British physicians, stating that, in the opinion of the signers, alcohol in certain circumstances and employed judiciously is a valuable remedy. The publication of this statement raised a storm of dissent, and the correspondence on the matter was both verbose and somewhat tinctured with gall. However, most of those who had so boldly declared in favor of alcohol as a drug, weakened when attacked and endeavored to explain their reasons for signing the obnoxious document. Two stuck to their guns—Professor Halliburton and Sir James Crichton Browne—and asserted that they signed the manifesto in good faith and that its contents expressed their true opinions. And thus the matter rests.

Correspondence

The Viavi "Treatment."

Elmira, N. Y., May 27, 1907.

To the Editor:—The enclosed letter was written to a woman who had paid the Viavi representative $175 cash in advance for a "course of Viavi." The female representative had diagnosed a "tumor" (!) and had warned the woman to steer clear of any or all physicians, or take her chance on being ordered to the hospital for an operation (horrors!). After having used the "three-fold Viavi cure" for some eight or ten months and feeling somewhat worse, she visited a physician, who failed to find a tumor, but did find a retrodisplacement without adhesions. The symptoms, which had been severe backache, some headache and irritable bladder, were permanently relieved by replacing the uterus and using large tampons for about one week. While no further treatment was given or advised, the patient to-day (May 27, 1907), is in excellent health and laughs at the suggestion of examination or further treatment. The Viavi representative had the patient examined by the Viavi (female) "doctor," who corroborated the diagnosis of a "tumor" and urged another six months' course ($75 worth) of the "remedies." The Watkins (Schuyler County) Medical Society brought an action against this Viavi representative for illegal practice, which was discontinued without prosecution, I believe.

Viavi is successful financially—I am ready to swear to that.

William Brady, M.D.

[The letter Dr. Brady encloses is too long for publication. It is poorly written and shows that the writer, although able to work the dear women, is not blessed with too much education.—Ed.]

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CONRADI'S METHOD FOR DIAGNOSIS OF TYPHOID.

West Point, N. Y., May 30, 1907.

To the Editor:—Will you explain Conradi's method for the diagnosis of typhoid and tell me where I can find literature on the subject.

George T. Taylor, M.D.

Answer.—Conradi's culture medium, generally known as Drigalski-Conradi's medium, is made by adding nutrose and crystal violet to lactose litmus agar using 3 per cent. of agar instead of 2 per cent. The crystal violet strongly inhibits the growth of many bacteria other than the typhoid bacillus which would also color the medium red, the 3 per cent. agar makes the diffusion of the acid which is formed more difficult. A description of the method of preparing and using this medium can be found in Park's "Pathogenic Bacteria and Protozoa," 2d edition, page 282. It is applicable to the detection of typhoid bacilli in the stools but difficulties arising from the large numbers of colon and other bacilli render the method as applied to the stools of little use. It has been used, however, to differentiate the bacteria obtained by culture from the blood with better success.

Conradi showed in 1901 that bile has the power of keeping the blood fluid and in 1906 (*Deutsche med. Wochschr.*, Jan. 11, 1906) he proposed his method for hastening the growth of the bacilli in the drawn blood so as to make the culture method available for clinical purposes. He sterilizes a mixture of bile with 10 per cent. peptone and 10 per cent. glycerin and puts it into tubes holding from 2 to 3 c.c. The blood is received directly from the ear into this mixture contained in a capillary glass tube, and after thorough mixing the contents of the tube are emptied into the larger tube and this repeated till all the blood which flows from the little wound in the ear is mixed. The proportion of blood to the entire liquid must be kept as low as 1 to 3. The mixture is kept in the incubator at 37 C. (98.6 F.) for from 16 to 32 hours and then plated on the Drigalski-Conradi medium.

The bacilli are recognized by their usual characters. The method has been especially successful in the discovery of the bacilli in the early stages of the disease. Conradi has since improved his method so that a few drops of blood are required and the blood sent to the laboratory for the Widal reaction can be employed also for the culture of the bacilli. This depends on the fact discovered by Müller and Graf that the bacilli are entangled in the clot when the blood coagulates. Conradi has found that the clot from 0.2 c.c. (4 drops) of blood, will give cultures that enable the diagnosis of the disease in 50 per cent. of cases. He removes the clot and places it in a tube containing 5 c.c. of his bile mixture and incubates for from 12 to 16 hours then spreads 0.1 and 1 c.c. on dried plates of litmus-milk-sugar-agar. The further investigation is carried out in the usual way.

FORMULA FOR DEPILATORY.

Cincinnati, June 5, 1907.

To the Editor:—Please give a prescription for removing the hair before operation that will be less irritating than a mixture of barium sulphid with two parts of flour.

B.

Answer.—Preparations made by sulphurating lime are recommended as depilatories, but whether their action is milder than that of barium sulphid must be determined by experience, and would depend in any event on the strength of the solution employed. It would seem an easy matter to regulate the severity of the action by the strength of the solution. The following preparations may be tried:

Calx sulphurata, U. S. P.

Liquor calcis sulphurata, N. F.

Martin's Depilatory: "A soft mass, containing calcium hydrosulphid, Ca2HS, is prepared from 2 parts of slaked lime and 3 of water by passing hydrogen sulphid into the mixture as long as it is absorbed. The mass has a strong sulphurous odor, and, on standing, separates into two portions, which are to be mixed when used; if properly prepared, an application for eight or ten minutes is sufficient for removing the hair." National Dispensatory.

TO "BREAK" HARD WATER.

Olustee, Okla., May 15, 1907.

To the Editor:—I practice in a region where the water is loaded with gypsum and its use for lavatory purposes is open to serious objection. My hands are continuously unfit for surgery. On account of the unsightly fissures about the nails, I can not disinfect them. What can be done to this wretched plaster-of-Paris solution to render it "bath worthy"? Please do not say use rain water, for often it does not rain here for months.

S. H. Landrum, M.D.

Answer.—If the hardness of the water is due to carbonates of lime or magnesia (temporary hardness), the addition of lime (CaH_2O_2) will precipitate the troublesome ingredients. If, however, as you intimate, the hardness is caused by sulphates (permanent hardness), sodium carbonates (Na_2Co_3) may be employed. In some degree the treatment of each individual water is a problem by itself, but it is probable that by a little experimentation with varying quantities of lime and soda, you can largely improve the character of the water.

RECTAL INCONTINENCE FOLLOWING LABOR WITHOUT PERINEAL LACERATION.

Marion, Ind., June 3, 1907.

To the Editor:—Please cite literature on rectal incontinence following labor with no perineal laceration. I have two cases in one family—an aunt in whom the condition has existed thirty-five years, and a niece in the sixth week of the puerperium.

E. H.

Answer.—There is practically no literature on this subject. An article by W. Bodenhamer (*New York Medical Journal*, April 8 and 15, 1905) on "Atony of Rectum and Anal Sphincters: Its Etiology, Pathology, Diagnosis and Treatment," may contain some reference to such cases. Rosenfeld (*Centralblatt f. Gynaekologie*, xxviii, No 1) has recorded a case of isolated rupture of the sphincter ani during labor. Possibly similar ruptures of the sphincters may be the cause of incontinence in the cases referred to by our correspondent.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending June 8, 1907:

Frick, Euclid B., surgeon, ordered to accompany Third Battalion, Engineers, from Camp Columbia, Cuba, to Fort Leavenworth, Kansas; on completion of this duty will return to station in Cuba.

Scott, George H., asst.-surgeon, is detailed as a member of the Army Retiring Board, Denver, Colo., vice First Lieut. S. E. Lambert, asst.-surg., hereby relieved.

Wyeth, M. C., surgeon, will proceed to the Philippine Islands for duty on the first available transport sailing from San Francisco, Cal., after his discharge from treatment at the Army and Navy General Hospital, Hot Springs, Ark.

Waterhouse, S. M., asst. surgeon., Fort Worden, Wash.; Murtagh, J. A., asst.-surgeon, Fort Mason, Cal.; Buck, C. D., asst.-surgeon, General Hospital, Presidio, San Francisco, Cal.; Brechemin, Louis, Jr., asst.-surgeon, Fort Baker, Cal.; Davidson, W. T., asst.-surg., Fort D. A. Russell, Wyo.; Smith, H. M., asst.-surgeon, Fort Apache, Ariz., and Hall, J. F., asst.-surgeon, Fort Flagler, Wash., are relieved from duty at the posts designated after their names and will proceed at the proper time to San Francisco, Cal., and take transport to sail on or about Aug. 5, 1907, for the Philippine Islands, and on arrival at Manila will report in person to the commanding general, Philippines Division, for assignment to duty.

Duncan, L. C., asst.-surgeon, advanced to the rank of captain, May 10, 1907.

Keller, W. L., and Billingslea, C. C., asst.-surgeons, advanced to the rank of captain, June 2, 1907.

Loving, R. C., asst.-surgeon, granted 30 days' leave of absence.

Kieffer, C. F., surgeon, will proceed to Washington Barracks, D. C., and report in person to the commanding officer, General Hospital, at that post for observation and treatment.

Farr, C. W., asst.-surgeon, granted two months' leave of absence, to take effect on the expiration of his present sick leave.

Wolven, F. H., dental surgeon, ordered from Fort Niagara, N. Y., to Fort Porter, N. Y., for duty.

Porter, E. H., contract surgeon, left Fort Clark, Texas, on leave of absence.

Enders, W. J., contract surgeon, order for Fort Snelling, Minn., revoked; will proceed to Fort Warren, Mass., for duty.

Kuhn, C. F., contract surgeon, granted leave of absence for three months.

Anderson, E. A., contract surgeon, relieved from duty in the Philippines Division; will sail September 15 for San Francisco, Cal.

Hutson, T. O., contract surgeon, returned to Fort Moultrie, S. C., from duty at rifle range, Waco, Ga.

Jarrett, A. R., contract surgeon, relieved from duty at Target Range, Creedmoor, L. I., and ordered to return to Fort Hamilton, N. Y.

Trotter-Tyler, George, contract surgeon, ordered to Target Range, Creedmore, L. I., for duty.

Snyder, H. M., contract surgeon, ordered from Cheyenne, Wyo., to Fort Douglas, Utah, for duty.

Henning, O. F., contract surgeon, relieved from further temporary duty at Fort Barrancas, Fla., and ordered to return at the expiration of his present leave of absence to Fort Sheridan, Ill., his proper station.

Tignor, E. P., dental surgeon, ordered from Tacoma, Wash., to Fort Leavenworth, Kans., for temporary duty, and thence to Fort Adams, R. I., for station.

Ingalls, R. E., dental surgeon, relieved from duty at Fort Leavenworth, Kans., and ordered to Philippine service.

Wolven, F. H., dental surgeon, when relieved from duty at Fort Adams, R. I., ordered to proceed to Philippine service.

Wing, F. F., dental surgeon, left Fort Meade, S. D., and arrived at Fort D. A. Russell, Wwo., for duty.

Chambers, W. H., dental surgeon, ordered, on arrival at San Francisco, Cal., to West Point, N. Y., for duty.

Hewitt, J. M., contract surgeon, relieved from duty in the Philippines Division, and will sail September 15 for Sanfrancisco, Cal.

Navy Changes.

Changes in the Medical Corps of the Navy, for week ending June 8, 1907.

Smith, H. W., asst.-surgeon, ordered to report to the Surgeon General of the Navy, Navy Department, for special temporary duty.

Campbell, F. E., P. A. surgeon, detached from the *Constellation* and ordered to the *Washington*.

Short, W. H., asst.-surgeon, detached from the Naval Hospital, New York, and ordered to the Naval Hospital, Philadelphia.

Baker. M. C., acting asst.-surgeon, detached from the Naval Hospital, Va., and ordered to the *Franklin*.

Chapman, R. B., asst.-surgeon, detached from the Naval Recruiting Station, Oklahoma City, O. T., June 27, and ordered home.

Hayden, R., asst.-surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the Naval Hospital, Annapolis, Md.

Longabaugh, R. I., asst.-surgeon, detached from the Naval Hospital,, Annapolis, Md., and ordered to the Naval Hospital, Mare Island, Cal.

Smith, H. W., asst.-surgeon, ordered to duty at the Naval Medical School Hospital, Washington, D. C.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended June 5, 1907.

Wasdin, Eugene, surgeon, granted leave of absence for ten days from June 9, 1907.

Woodward, R. M., surgeon, granted leave of absence for one month and four days, beginning June 27, 1907.

Stimpson, W. G., surgeon, granted leave of absence for 15 days, from June 11, 1907.

Grubbs, S. B., P. A. surgeon, granted four days' extension of leave of absence, May 31, 1907.

Currie, D. H., P. A. surgeon., granted leave of absence for two months, from June 9, 1907.

Vogel, C. W., P. A. surgeon, granted leave of absence for seven days, from April 1, 1907, under Paragraph 191, of the Service Regulations.

Ward, W. K., asst.-surgeon, granted leave of absence for one month, from June 5, 1907.

Sweet, E. A., asst.-surgeon, granted leave of absence for fourteen days, to be taken during the month of June, 1907.

Porter, J. Y., sanitary inspector, granted leave of absence for fifteen days, from June 1, 1907.

Adams, F. B., acting asst.-surgeon, granted leave of absence for twenty days, from June 1, 1907.

Fox, W. E., acting asst.-surgeon, granted leave of absence for eleven days, from June 19, 1907.

James, W. F., acting asst.-surgeon, granted leave of absence for fifteen days, beginning Aug. 17, 1907.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for three days, from June 3, 1907, and four days from June 10, 1907.

Safford, M. V., acting asst.-surgeon, directed to proceed to Concord, N. H., for special temporary duty; on completion of which to rejoin his station at Boston.

Turner, L. A., acting asst.-surgeon, granted leave of absence for fourteen days, from June 4, 1907.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended June 7, 1907:

SMALLPOX—UNITED STATES.

California: San Francisco, May 18-25, 1 case.

Illinois: Chicago, May 25-June 1, 10 cases; Moline, May 19-26, 1 case; Springfield, May 23-30, 1 case.

Indiana: Indianapolis, May 12-26, 4 cases; LaFayette, May 20-27, 1 case.

Iowa: Davenport, May 17-31, 2 cases.

Kentucky: Louisville, May 23-30, 3 cases.

Louisiana: New Orleans, May 18-25, 4 cases (3 imported); Shreveport, 1 case.

Massachusetts: Lawrence, May 18-25, 1 case.

Michigan: Detroit, May 25-June 1, 10 cases; Fenton, to May 25, 41 cases.

Minnesota: Winona, May 4-11, 2 cases.

Mississippi: Natchez, May 18-25, 1 case.

Missouri: St. Joseph, May 11-25, 32 cases; St. Louis, May 18-25, 1 case.

New York: Buffalo, May 18-25, 4 cases; New York, 4 cases; Niagara Falls, 1 case.

North Carolina: Greensboro, May 18-25, 2 cases.

Ohio: Dayton, May 18-25, 1 case; Toledo, May 4-18, 28 cases.

South Carolina: Camden, May 18-25, 1 case.

Tennessee: Nashville, May 18-25, 1 case.

Virginia: Richmond, May 18-25, 2 cases.

Washington: Spokane, May 18-25, 20 cases; Tacoma, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, April 13-20, 1 case, 1 death.

SMALLPOX—FOREIGN.

Austria: Trieste, May 11-18, 2 cases.

Brazil: Para, May 11-18, 2 cases, 4 deaths.

China: Tientsin, April 21-28, 1 case.

Colombia: Barranquilla, May 11-18, 1 death; Cartagena, April 20-May 11, present.

France: Paris, April 27-May 11, 21 cases, 6 deaths.

Germany: General, May 5-11, 12 cases; Manheim, May 11-18, 1 death.

Great Britain: Liverpool, May 11-18, 1 case (from vessel); London, May 4-11, 1 case; Southampton, May 11-18, 1 death.

India: Bombay, April 30-May 7, 1 death; Calcutta, April 20-27, 67 deaths; Madras, April 20-May 3, 3 deaths.

Italy: General, May 7-16, 15 cases; Naples, May 4-18, 11 cases; Turin, April 28-May 12, 3 cases, 1 death.

Java: Batavia, April 20-27, 5 cases.

Manchuria: Dalney, April 20-27, 1 case.

Mexico: Aguas Calientes, April 20-27, 23 deaths, May 11-25, 33 deaths; Mexico, April 27-May 4, 5 deaths; Monterey, May 12-19, 1 death; Nuevo Laredo, May 11-18, 1 case, 1 death; Sonora, April 6-20, 8 cases.

Portugal: Lisbon, May 11-18, 7 cases.

Russia: Odessa, April 28-May 11, 11 cases, 1 death; Riga, May 11-18, 11 cases; St. Petersburg, April 28-May 4, 1 case.

Spain: Barcelona, May 13-20, 3 deaths; Carthagena, April 28-May 4, 1 death; Valencia, May 12-19, 16 cases, 3 deaths.

Turkey in Asia: Bagdad, April 13-27, present; Bassorah, April 29-May 4, present; Constantinople, April 21-28, 3 deaths, May 4-12, 1 death.

Venezuela: La Guira, March 31-May 25, present; Maracaibo, May 4-12, 1 case, 1 death.

YELLOW FEVER.

Brazil: Para, May 11-18, 2 cases, 1 death.

Cuba: Habana, May 25, 1 case (from San Nicolas).

Guatemala: Gualan, May 21, 3 cases, 1 death.

Venezuela: La Guira, May 4-11, 1 case, 1 death.

CHOLERA.

Ceylon: Colombo, April 6-13, 1 case, 1 death.

India: Calcutta, April 20-27, 33 deaths; Rangoon, 16 deaths.

PLAGUE.

Egypt: Alexandria, May 9-16, 21 cases, 34 deaths; Beni Souef Province, 19 cases, 9 deaths; Girgeh Province, 30 cases, 29 deaths; Keneh Province, 12 cases, 14 deaths; Minieh Province, 22 cases, 30 deaths; Samallut Province, 15 cases, 8 deaths.

Formosa: April 20-May 4, 236 cases, 210 deaths.

India: General, April 20-27, 87.394 cases, 76.711 deaths; Bombay, April 30-May 7, 230 deaths; Calcutta, April 20-27, 423 deaths; Rangoon, 71 deaths.

Straits Settlements: Singapore, April 13-20, 1 death.

OFFICIAL MINUTES—HOUSE OF DELEGATES.

PROCEEDINGS OF THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ATLANTIC CITY, JUNE 3-7, 1907.

(Continued from page 1969)

The minutes of the First Meeting, held on Monday morning, were published in THE JOURNAL, June 8, page 1957.

Second Meeting—Monday Afternoon, June 3

The House of Delegates was called to order at 2 p. m. by President Mayo.

Forty-four delegates responded to roll call.

The minutes of the previous meeting were approved.

Report of the Committee on Organization.

REFERRED TO COMMITTEE ON REPORTS OF OFFICERS. (See page 2056.)

Dr. J. N. McCormack, Kentucky, Chairman, read this report:

Since my last report at the Boston session, I have made more or less complete itineraries in Michigan, Ohio, Alabama, New Jersey, Arkansas, Iowa and Nebraska, and have addressed one or more meetings in Florida, Pennsylvania, Maryland, Virginia, West Virginia and Kentucky. I have also spoken, on special invitation, before joint sessions of the legislatures in Alabama, Tennessee and Arkansas, and have received invitations from the governors of several states to address their respective legislatures when next convened.

DEVELOPMENT OF COUNTY SOCIETIES.

Taking up matters in the order of their importance, I desire to urge on the House of Delegates the paramount duty of more fostering care in the work of county societies, the foundation and hope of our organization. In my last report I referred briefly to the serious conditions which have confronted councilors and other workers since the exhaustion of the first outburst of enthusiasm following the reorganization movement in maintaining the interest in these societies. Outside of the large centers of population it has been found practically impossible to do this under the old order of programs, with text-books, papers and routine discussions at monthly, bimonthly or quarterly meetings. The plan for systematic postgraduate instruction, originating in the minds of thoughtful workers of widely separated sections, acting quite independently of each other, to meet this difficulty, found such favor that it spread rapidly and is now in more or less satisfactory operation in many counties in several states.

POSTGRADUATE COURSE.

Believing that there are almost unlimited possibilities in this scheme as a means of inducing both young and old members to continue or to revive their interest in scientific medicine, and that there are few physicians anywhere who would not be benefited by such a review course, the committee has induced Dr. J. H. Blackburn, Bowling Green, Ky., who has been a leading spirit in conducting a course in his own county society, to elaborate a tentative plan covering a four years' course of study, adapted to the needs of the average county society. This has been printed, with an explanatory letter from Dr. Blackburn, for submission to you first, and then to send to active, carefully selected workers in every section of the country, with the hope of eliciting helpful criticisms and suggestions. If the plan meets your approval, after profiting by such criticism as may be obtained, it is expected that the outline for the entire course can be revised, printed in pamphlet form, and put in the hands of the county societies at an early day, so that the teaching work may be assigned to members, and that the weekly course, elaborated somewhat after the university extension idea, may begin in THE JOURNAL of the Association and the monthly journals by the first week in September.

While it is hoped, in the course of time, to make this so attractive that a majority of county societies and physicians all over the country will be engaged in the same line of study, it should be borne in mind that the course is purely suggestive. Stimulated by what we propose, it is hoped and expected that many societies, especially those in the educational centers, will suggest something far better, and that out of all of them may be evolved something so nearly ideal that by the second year, or at least by the second cycle, it can be utilized in any community where as many as three or four members can be gotten together each week, or even as a course of home study by those less fortunately located.

After the course is well under way, if it proves as practical and successful as is anticipated, it may come about that county societies will be asked to appoint committees and conduct examinations on blank forms furnished, probably at home under an implied pledge not to seek text-books or other aids, something after the Chautauqua idea, and that a certificate will be provided, all free of expense, to those who take the course to the satisfaction of their county society. The necessity of doing something in this direction, and the magnitude of the problem, will be appreciated when it is known that a large majority of the 122,000 licensed physicians who are treating sick people every day do not attend medical meetings, and that a large per cent. of this element do not read recent periodical or standard literature. I am convinced that this is entirely practical, that excellent teaching can be developed in a majority of the county societies with little or no outside aid except from the councilors, printed matter, and weekly elaboration in the journals, and my idea is for the Association to take the work up in a comprehensive way and to prosecute it year after year, until, with cooperation of the Council on Education and state boards, a competent, up-to-date physician has been placed within the reach of every family in the United States. It will probably require about six hundred dollars ($600) annually to meet the expenses incident to the preparation of this course, and I suggest the appropriation of this amount or so much thereof as may be necessary, to be expended under the direction of the Secretary.

Meeting and discussing matters of common concern with the rank and file of the profession of widely separated sections in a frank heart-to-heart way from month to month, as well as through the extensive correspondence of my office with county society and other officials in every part of the country, I have been able to study and weigh professional conditions and sentiment on nearly every matter of general interest in a very broad way. As I have talked to lay audiences in the evening, after meeting the profession in the afternoon at almost every appointment, I have also had an opportunity to gauge public opinion in regard to our work in a comparative way from year to year.

As a result of this large experience and study, I am gratified to report that in its essential features our system of organization has constantly grown in the confidence of the profession by trial, and is no longer considered an experiment anywhere. I have often met the honest, intelligent, healthy criticism and inquiry as to methods, details and individuals so much to be desired, and have courted and encouraged this spirit as not only legitimate, but most hopeful and helpful. The constant growth in harmony, in confidence in itself and in power over public and legislative opinion, even more noticeable than the gain in membership, which goes steadily on from year to year in nearly every state, are so evident as finally to convince most of those who were long naturally doubtful as to the wisdom of the change of methods.

In fact, I have been constantly both surprised and gratified to find how few, except those commercially interested, have been misled by the active and adroit crusade of the proprietary medicine people and their allies. The journals directly controlled by them have been made to serve their masters with only such regard for truth and decency as would best carry out the purposes for which they exist. With that element of the so-called independent, but really most dependent, medical press, indirectly controlled by the same interests, probably some time without being fully conscious of it, it is more difficult to deal, although it is often hard to distinguish between them. Many of these editors are good men who want to be loyal to the best interests and traditions of the profession, but, living in a commercial age, and accustomed to receiving revenues from the same advertisers until it had become second nature, and seemed almost essential to their existence, they were blinded to the importance of the drug reform which has swept over the profession and country like a tornado. Iterating, reiterating and repeating by quotations from each other the pure fabrications, or worse insinuations, and innuendoes, evidently all having a common origin, these journals, paid for by somebody, have flooded the desks of doctors all over the country like the leaves of autumn. They might have created distrust even in our membership had not their vehemence been too loud and insistent to be disinterested, and because nearly all of their stories bore unmistakable ear-marks of their common mercenary paternity. I desire to emphasize that what is said here does not apply to those journals, under whatsoever management, which are making faithful efforts to foster scientific medicine and to free their advertising columns from objectionable matters. On the contrary, these are entitled to and should receive not only the cordial moral, but the financial support of the profession.

While these misrepresentations have done so little harm with the membership, I am convinced that they have kept many from joining the societies and have crippled our usefulness in many other ways. As one evidence of this, they have arrayed the retail druggists against us almost solidly in most states. At every capital visited I have found a strong force of drug men working under the direction of expert lobbyists representing the National Association of Retail Druggists, backed by the proprietary interests, against the legislation proposed by the profession in the interest of pure food and drugs, with all of their expenses borne by that body. In every instance an attempt was being systematically and often successfully made to confuse the minds of legislators by the introduction of decoy bills prepared by their central bureau, but cunningly altered as to wording in the various states to hide their common origin. It was found in every instance that legislators were also literally inundated by letters and telegrams from their drug and newspaper constituents in the interest of these now fully exposed and recognized frauds. As a real friend of the pharmacists, one who has always been wedded to the prescription method of dispensing, the discovery of this almost universal ascendency of the quack interests over this trade was a painful one. It evidently means that we have come to the parting of the ways with the druggists, and must arrange to dispense for ourselves, as is being done in other countries, unless prompt steps are taken in a comprehensive way to restore proper relations with them.

For these and other reasons, the time has come for this House to meet frankly and once for all to set at rest the issues raised by these people or by anybody else who has criticisms to offer. Everything so far proposed for improving our methods was threshed out and rejected in framing our organization, but there is nothing about the plan, its purposes or its personnel which is not subject to fair criticisms and discussion. Most of your officers serve gratuitously, and some of them have given the best years of their life in this way. This is also true of the executive boards, which are arousing so much opposition because they are doing fearless and admirable work. You have but two salaried officials. I am one of these. Paid or unpaid, we are all your servants. Speaking for myself, although I know that I may speak for all, I ask you to investigate, criticise and condemn, if you will, but let all who have complaints or doubts speak out in open meeting as candidly as I do in giving the results of my work, in which, although I hold my position by your partiality, I have always felt the utmost freedom. Half of the members of this House have served in it for at least one year, some like myself for several years, and the other half are fresh from their constituencies, to whom and our consciences all of us are alone responsible. All have equal interests, rights and powers, and if any are dominated by improper motives or influences it is a reflection on either their integrity or their intelligence. I am satisfied that no such influence has ever been exerted or attempted, but it is your duty to satisfy yourselves if there be any question in your minds. Let us take up all of our work in this kind, frank, dispassionate way, remove the causes of complaint, if any exist, remaining here for ten days or two weeks, if necessary, to do it all thoroughly, and return home with such foundations laid for so much better work that it will make our profession the powerful factor in its own uplift and in public affairs which is demanded for the welfare of those we serve, bearing in mind that we are the real official Medical Congress of these United States.

REPORT ON BRANCH ASSOCIATIONS.

On account of repeated solicitations from various interstate societies for authority to organize branch associations under the permissive provision of the by-laws of this Association, your committee submits its second report on this subject. We renew our recommendation that permission be given for the organization of seven branches, at the discretion of state associations composing them, so arranged as to cover the entire country. Provisionally, it is suggested that the branches be numbered and named, and that they shall contain or have assigned to them states and territories, as follows:

1. North Atlantic Branch: New York, New Jersey, Connecticut, Rhode Island, Massachusetts, Maine, Vermont and New Hampshire.

2. Atlantic Coast Branch: Pennsylvania, Maryland, Delaware, District of Columbia, Virginia, North Carolina, South Carolina and Porto Rico.

3. Southern and Gulf Branch: Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas and Tennessee.

4. Mississippi Valley and Lake Branch: Ohio, Indiana, Illinois, Missouri, Kentucky, Michigan and West Virginia.

5. Northwestern Branch: Wisconsin, Minnesota, Nebraska, Iowa, North Dakota, South Dakota, Montana and Wyoming.

6. Southwestern Branch: Texas, Oklahoma, Indian Territory, Kansas, Colorado, New Mexico and Arizona.

7. Pacific Coast and Mountain Branch: California, Oregon, Washington, Idaho, Nevada, Utah, Alaska, Hawaii and the Philippine Islands.

A form of constitution and by-laws is also submitted providing that membership in such branch associations shall be entirely voluntary, as in this association, but shall be limited to those who are in good standing in their respective county and state associations. Such officers shall be elected as may be necessary and, in every way, each branch will have the fullest possible autonomy consistent with its relations to the state organization composing it.

JOINT MEETINGS WITH STATE ASSOCIATIONS.

As branch associations are organized, it is recommended that, in so far as possible, they arrange to hold their meetings in the fall, and at the same time and place as the meeting of the state association of the state in which the meeting is held. For instance, if the meeting of the Mississippi Valley and Lake Branch is to be held with the Kentucky State Medical Association in 1908, it is suggested that the scientific programs of the two bodies be merged for that year, the Kentucky house of delegates meeting separately, of course. The same arrangement would apply to other states from year to year until the meetings had gone around. The bulk of the attendance under such a plan would be from the membership of the state in which the meeting was held, as would be the case in any event, but there would always be a sufficient attendance of the leaders from other states to add greatly to the interest of the state meeting for that year, and in time this advantage would be extended to each state embraced in the branch.

In making the assignment of states, existing interstate organizations, natural affiliations and facilities for travel, were considered so far as known and possible, but it should be understood that what we suggest is tentative and somewhat as a basis for discussion. Members of the House from the various states and sections, better advised, may be able to suggest changes and shifting of states which will make the plan more acceptable.

STATE MEETING TO BE HELD IN THE FALL.

For the reason here set forth, and for others still more important, it is again urged that all the state associations which have not yet done so, seriously consider the advantages to be gained by holding their meetings in the fall, as nearly as may be, midway between the meetings of this association. A number of state associations have already acted favorably on this suggestion and the advantages of the arrangement are evident. With the state and national meetings coming within a few weeks of each other, as is often unavoidable when both are held in the spring, many of our best members are forced to miss both of them. In addition, and probably more important, half of the delegates from such states begin active service at once without the time for such inquiry and study as would make them most useful to their constituents and to the cause of organization.

The committee realizes that the matters embraced in this report are important and far-reaching, and that it may be several years before some sections will be ready to organize branches. On the other hand, other sections with long established strong societies are ready and anxious to come into such relations with the system as will make them valuable factors in the scheme of organization, and some of these have had formal applications for such relations pending for several years. Instead of increasing it would really tend to diminish the number of societies, as there are already two or more organizations in almost every section indicated for a branch, some of them semi-national in scope or claims, and all of them overlapping each other in such a way as to produce inextricable confusion. We only propose a plan or framework for such an orderly growth and development as will bring an occasional stimulant to the scientific work of each state society without a possible interference with its official proceedings, furnish an opportunity for the recognition of the large and growing class of worthy men, especially the younger men, who, in consequence of our rapid growth, find it more and more difficult every year to get on the program of the section, and, at the same time, to make the branches feeders and culture beds for developing higher work in these sections.

If the recommendations are approved nothing hasty or ill-considered can result, as the whole question as to each branch or participation therein, is conservatively left to the state associations composing them, and membership is made voluntary, and is limited to those who are members of their respective county and state societies.

Respectfully submitted.

J. N. McCORMACK.
GEORGE H. SIMMONS.

This report was referred to the Reference Committee on Reports of Officers.

Report of the Committee on Ophthalmia Neonatorum.

REPORT ACCEPTED.

Dr. F. Park Lewis, Chairman, reported as follows:

To the House of Delegates, American Medical Association:

Gentlemen:—Your committee beg leave to report that they have taken counsel with their colleagues in ophthalmology, in obstetrics, in bacteriology, in sanitation and in public health. Through their courtesy they have received a large number of reprints, pamphlets, personal communications and other expressions of opinion on the subject of ophthalmia neonatorum which have been of inestimable value in enabling them to formulate their conclusions, and for which they desire to express their sincere appreciation. The problem which has been submitted to them is almost unique, as it involves a preventable disease which is not prevented and a curable disease which continues to be the most prevalent local cause of blindness. In the year 1906 it contributed 7 per cent. to the blindness that developed in the state of New York, and its importance was recognized in the United States Census for the Blind and Deaf, taken in 1900, in which the following words were used:

> Of the totally blind in the United States 3,935 were blind at birth, or became so under one year of age, while for the partially blind the corresponding figures are 3,434.
>
> These 7,369 persons whose vision was totally lost or severely impaired before the completion of the first year of life represent 11.04 per cent. of the total number of blind.
>
> Excluding congenital defects, and accidents and operations, there are 2,556 who lost sight after birth but under one year of age, and in 644, or 25.02 per cent. of these cases the cause of blindness was probably ophthalmia neonatorum, since other diseases of the eyes causing blindness are extremely rare.
>
> The importance of these figures lies in the fact, the report continues, that this disease, which is very malignant and which attacks the infant at birth or immediately after, and almost always results in total destruction of the sight—usually of both eyes—or in very severely impaired vision, is now considered preventable, and if proper measures had been instituted at the time of birth few or none of these cases would have occurred.
>
> It is not pertinent in this connection to discuss the means of prevention, which are well known, but it can at least be pointed out that the so-called "sore eyes" of babies is a highly dangerous affection and that its treatment should be prompt and energetic and carried out by a properly competent person.

The purpose of the committee in directing attention to this official statement by the central government is to more exactly define the character of the problem presented for solution.

The purpose for which your committee was appointed was not to determine the relative efficiency of different methods of procedure for the purpose of eradicating this plague; those with which we are familiar are abundantly adequate. The problem to be solved is not *what* to do, but how to get that done which is known to be effective. It is not a thing to be determined—it is a thing to be done. The protection of the citizen from the assaults of ignorance, indifference or neglect when they threaten his well being and even his economic efficiency, is a duty which the state can not evade and which he has a right to exact.

It is as essentially the duty of the state through its department of health to protect him from an infection which destroys his sight as it is to save him from needless exposure to smallpox, diphtheria or yellow fever, and the difficulties to be encountered are no greater. It is essential that there shall be recognized responsibility on the part of all persons, whether they shall be physicians or laymen, who shall undertake to engage in the important work of caring for the parturient woman and her newborn child.

"Last year the demand for a midwife's attendance was voiced by 43,834 mothers in Greater New York—42 per cent. of the total number of births reported." Except in some of the western counties of that state the midwives have no legal status, are required to have no standard of proficiency and no adequate supervision is exercised. The same lack of responsibility to central authority is general throughout the country. The difficulty, almost impossibility, of enforcing the admirable ophthalmia law where it exists will be evident.

Your committee believe with Cohn and with Hess that ophthalmia neonatorum as a cause of blindness must and shall be wiped out of all civilized countries, but so stupendous is the task that this can be accomplished only by wise counsel, by concerted effort and by cooperative action.

Your committee believes that effective measures against this disease require that there should be a popular understanding of its dangers and prophylaxis, and that there should be a general movement inaugurated through the health boards of the country for its control, but so important is it that these measures should be rightly formulated that your committee is unwilling, without further advice, to recommend a detailed plan of procedure. That which is determined on should come from the united wisdom of those who look on the subject from many sides. A plan of procedure having been determined on, a concerted effort to carry it into effect should be made throughout the entire country. Should this be done there is no reason to doubt that this prolific cause of blindness can be controlled.

The importance and timeliness of the subject have been recognized by the appointment of committees on ophthalmia neonatorum by the Academy of Ophthalmology and Oto-Laryngology and the American Ophthalmological Society.

Your committee would, therefore, recommend that its work be continued and that it be permitted to formulate a detailed plan of procedure with the advice and consent of the chairmen of the sections on Ophthalmology, Obstetrics, and Hygiene and Sanitary Science, and as the responsibility for effective and uniform action must rest on the officials of the state boards of health for ultimate solution, it is further recommended that the Conference of State and Provincial Boards of Health and the American Public Health Association be invited to appoint committees to cooperate with your committee and those appointed by the Academy of Ophthalmology and Oto-Laryngology and the American Ophthalmological Society, in making effective such a plan as may be determined on and that the health officer of each state or federal territory and the president of each state medical society be also invited to cooperate with your committee in carrying these procedures into effect throughout the United States.

Respectfully yours,

F. Park Lewis, Chairman.
J. Clifton Edgar,
F. F. Wesbrook.

Dr. Frank Billings, Illinois, moved that the report of the committee be accepted, with its recommendations, and that these recommendations be carried out.

This motion was seconded by several and carried.

Report of the Committee on Section on Tropical Medicine.

COMMITTEE CONTINUED.

In the absence of Dr. Ludvig Hektoen, chairman of this committee, the Secretary read the report as follows:

As chairman of the committee appointed in accord with Dr. Herzog's resolution to consider the advisability of creating a section on "Tropical Medicine," I beg leave to state that the committee is not yet in a position to make any report.

L. Hektoen.

As no objection was raised, this committee was continued.

Report of the Committee on the Establishment of a Board of Public Instruction.

REFERRED TO REFERENCE COMMITTEE ON HYGIENE AND PUBLIC HEALTH. (See page 2051.)

Dr. John G. Clark, chairman, presented the report of this committee.

To the House of Delegates of the American Medical Association:

In recent years the world at large has been brought more and more, through popular channels of publication, into touch with advancements in all of the sciences. The layman, therefore, who keeps abreast of current literature has a very good conception of what is occurring in the various scientific branches of knowledge, with the exception of medicine.

As at present constituted, largely through ethical limitations, it is difficult, so we are informed by several leading editors, for them to secure accurate information from accredited sources, on many medical subjects which vitally interest the general public. It is the opinion of your committee that a most valuable means is being lost of disseminating knowledge on topics which are constantly being brought into the foreground of our national societies, and which would be of the greatest value to the lay world if presented in a popular form. A systematic use in an ethical way of the public press will materially assist the physician not only in carrying into effect general sanitary regulations, but as well the actual treatment of infectious cases during outbreaks of epidemics. Also a very great stride will be made toward effecting wise medical legislation, if through the public press the lay public is made acquainted with the many advances in medicine, and especially if the way is pointed in which the citizen may assist by individual effort and through legal regulations of evils, which the doctor is frequently combating almost unaided. In the past, quite wisely, there have been ethical restrictions which have prevented the names of physicians from appearing in public print in connection with medical matters. Now, however, that so much of the progress in the healing art has directly to do with sanitation, hygiene and preventive medicine, it seems judicious that we should inaugurate some method of employing, without ethical offense, this invaluable means of disseminating popular knowledge pertaining to public and individual health.

Briefly summarized, the purpose of a specially constituted Board of Public Education should be: To supply the community at large with established facts regarding matters of general moment and public health. To supply these facts ethically, in good taste, and without the element of individual advancement. To harmonize and give the added value of combined effort to the several interests which are now working independently for the common good along medical lines. To direct this work under the auspices of the American Medical Association, thus giving unity of purpose among the workers and public expression to the aim and aspirations of this national Association.

To ascertain what the sentiment might be on this important question outside of the medical profession, your committee has interviewed some of the leading educators and editors of the United States, and without exception they have all enthusiastically endorsed the general plan as proposed by the committee, which made its report before the House of Delegates at the Boston meeting. Among those who have given us valuable assistance are President Eliot, President Gilman, President Stone of the Associated Press, ex-Postmaster-General Charles Emory Smith, now editor of the Philadelphia *Press*, and Dr. Talcott Williams, also editor of the Philadelphia *Press*.

As a very comprehensive commentary on this scheme of public education, the following letter from the distinguished publicist and editor, Mr. Charles Emory Smith, must have very important bearing in your deliberations as to the value of the plan which your committee proposes. He says:

> The conception of a system of popular education on questions of health and hygiene, as you have outlined it to me, under the sanction and through the medium of the American Medical Association, has impressed me very greatly. Rightly worked out I think it has large possibilities of public benefit. If made practical the newspapers would, doubtless, gladly cooperate, and the combination of reasonable medical authority and wide publicity should achieve large and valuable results.
>
> The thought, as I understand it, is to provide timely articles on current subjects relating to the physical well-being of the community and to the right instruction of those who are responsible for the care of households. It is expected that the real interest of the articles will insure their publication, while the authoritative character given to them by the actual direction of the highest medical sources will guarantee their educative value. As the articles are intended for popular reading and guidance they should be of a popular character. This is indispensable to their success. While scientific and exact they should be easily grasped by the general intelligence.
>
> The actual execution of such a scheme involves various practical questions. It is not invidious to say that some physicians have the faculty of writing in popular form and some have not. In projecting the plan it would probably be expedient to consider whether the articles should be prepared by different professional men of eminence specially qualified to treat the particular subjects assigned to them, or whether it would be better to employ a few men who have recognized training for writing popular matter and who could utilize the data furnished to them.
>
> The systematic development and sequence of subjects would require that they should be prepared on a well-conceived and comprehensive plan. This could only be framed by the central committee created by your body. It would have to assume the direction and control and be responsible for the range and quality of the articles. The life and efficiency of the movement would chiefly depend on it.
>
> It need not follow that the succession of articles should everywhere be the same. If in a particular section there is a prevalent epidemic or a special danger, a special series meeting the immediate requirements of that locality should be used there. The system should permit elasticity and variation.

> The machinery required must provide for the preparation and dissemination of the articles. The former is the vital need which will require most consideration. The latter can be provided with comparative ease through agencies which are readily available. The essence of the plan depends on the willingness of the profession to enter on it as a method of popular instruction and on such an intrinsic interest in the articles themselves as will secure their continued publication.

As a result of our study of this question we have arrived at the conclusion that this work should take four general directions: First, the publication of suitable articles through the public press; second, keeping on file in a central bureau suitable articles in pamphlet form for general distribution to the public; third, the organization, when it is possible, of public courses of lectures in cities which have medical schools, and in other localities under the supervision of county medical societies; fourth, the dissemination by circular letters of matters of general moment to the medical profession.

Publication Through the Press.—In a personal interview with Mr. Stone, the president of the Associated Press, especially valuable suggestions were given not only concerning the methods of publication, but also as to the general question of the organization of this board. In order to make the articles available for publication through the Associated Press, he suggested that they should come direct from a Board of Public Education rather than from an authorized individual. In other words, he assumed that much greater effect will be made on the lay readers of these articles if they emanate directly from a Board of Public Education than if they are signed articles of physicians. On this point there has been some divergence of opinion, for several prominent editors have taken the view that a paper signed by the author and sanctioned by the Board of Publication of the American Medical Association would carry greater weight than if it appeared as an unsigned publication from the Board of Public Education. Relative to this matter President Eliot takes the following position:

> I feel some doubt about the expediency of endorsing each article as "approved by the American Medical Association." Most learned societies do not endorse articles written by their members, indeed they expressly declare that each individual writer is alone responsible for his own communication. Would it not be better to let each author sign his article, and state merely that the article is printed by authority of the committee of the American Medical Association on public instruction? I see no good reason why the authors of the articles should shrink from that form of advertising, if advertising it be.

On this point your committee holds that no matter of a general controversial character should be published, for such questions have no place in the lay press. Every article should deal with questions on which conclusions are sufficiently settled to merit a positive statement as to their facts, and only such articles should command the approval of the Board of Public Education. It is only after debatable questions have been threshed out on the floors of our societies and published in professional journals with reasonably definite conclusions, that they may safely appear in public periodicals.

While your committee has held, and, indeed, are strongly inclined to still maintain that each article shall be unsigned by the individual writer, appearing merely as authorized publications of the Board of Public Education, we have nevertheless been influenced by the many eminent educators and journalists who insist that the author's name shall appear, and that the article shall be authorized by the Board of Public Education. While we have let our report take this form, we hope that the House of Delegates will consider this question separately and decide what attitude shall be taken on this point.

The actual writers of the several articles must be selected carefully in order that the most authoritative information may be given to the public.

The scope and character of the articles to be published is to be determined by the Board of Public Education. One essential feature of these articles is that there shall be the least possible reference, direct or implied, to any person or institution, in order that there may be no imputation, either direct or indirect, that the function of the board is being diverted to the promotion of individual interests. Each article must actually be read by at least two-thirds of the board. Each section of the American Medical Association shall from time to time offer themes which should be brought before the general public, and shall authorize an individual or set of individuals to prepare papers for submission to the general board, which shall have final authority as to the propriety and method of publication.

Concerning the various avenues of publication, our advisors have upheld in general the proposition of your committee. In periods of either local or general epidemics, the Associated Press may be employed as a quick means of instruction to the public as to the proper care and regulations to be observed. Thus, as suggested by one of our advisors, as an example of how valuable this Associated Press news might be; when the country is under the stress of an excessive heat wave, daily warnings by the Bureau of Public Education as to personal hygiene and other measures for the prevention of sunstroke might be given in conjunction with the weather report. For conditions of less emergency, series of articles on innumerable topics might appear in the "patent insides" matter, which is sent to all parts of the United States by the American Press Association. Also carefully prepared articles could be published from time to time in popular magazines, such as the *World's Work*, the *Ladies' Home Journal*, the *Outlook*, the *Scientific American*, etc. In this way much that is of the greatest value could be brought to the attention of the reading public, which would then understand more fully than they do now that the chief aim of the medical profession is to prevent rather than to cure disease.

Bureau for the Preservation of Articles and Their Dissemination in Pamphlet Form.—Any circulating printed medium for the dissemination of news is at best ephemeral, and while the articles above mentioned may be of value for purposes of general instruction and molding public opinion, they will be passed over as is the usual news item, and when the information which they may have conveyed is desired, the daily paper or other weekly or monthly periodical will probably have been consigned to the waste basket. To make these articles quickly available at any time they may be needed, your committee suggests that there be established at the headquarters of the American Medical Association a central bureau, where pamphlets shall be kept in permanent stock, so that they may be drawn on at any time by physicians or laymen. The editor of The Journal of the American Medical Association suggests that a nominal price, not more than to cover the cost of publication, shall be charged, thus freeing the Board of Public Education from the heavy expense of absolutely free publication and distribution. On such subjects as typhoid fever, scarlet fever and other contagious diseases, as well as many other pathologic conditions, small volumes consisting of chapters on all phases of the disease, available for public use, may be kept on sale and held subject to the order of individuals or booksellers. In this way the busy practitioner, in time of epidemics, who can not possibly give personal directions to each of his patients and much less to the community at large, may have available for immediate general distribution the very best and most concise information, intelligible to the layman, for use in combating these infections.

At most your committee can but make suggestions in this report as to the general scope of this work. Its complete development must devolve on the Board of Public Education.

Public Lectures.—Another effective method of instruction shall be by lectures in public and private schools, in colleges and other institutions of learning. Popular lectures on certain topics may well be conducted under the auspices of local county medical societies, before literary clubs, college settlements, etc.

President Eliot comments as follows on the value of popular lectures:

> I believe that articles if well written and adequately illustrated would be very useful, if their publication could be procured in weeklies and other periodicals of large circulation; but it seems to me that wherever there is a medical school another method should be used, viz., the method of popular lectures on preventive medicine and on those diseases the origin and treatment of which can be explained to a popular audience by means of lantern illustrations. The Harvard Medical Faculty has just started a somewhat long course of lectures of this sort given Saturday evenings at eight and Sunday afternoons at four. The attendance at the opening lectures promises a good result.

Circular Letters to Physicians.—The discussion of many subjects should, of course, be restricted to physicians, but in order to direct uniform attention to them, the Board of Education may consider that they merit special articles or circular letters, under separate cover to the entire medical profession. Thus much valuable work done by the various societies on venereal questions and on cancer of the uterus, etc., would necessarily, because of its private nature, be confined largely to the medical profession. To prevent professional lethargy, however, a special appeal by circular letters will many times be of great value in bringing physicians to the realization of the necessity for concerted work on many of these vital questions.

Organization.—To further the aims, as outlined in the foregoing report, your committee recommends that this Board of Public Education shall be composed of seven representatives, to be appointed by the President of the American Medical Association. Each member shall be appointed for four years. The tenure of office shall be so arranged that not more than two new members shall be appointed annually, thus preserving the individuality of the general constitution of the board and insuring a uniform continuity of purpose. As this Board of Public Education will presumably be composed of physicians more or less busily engaged in their professional or educational duties, it will be necessary for the successful inauguration of this scheme to have a paid secretary, whose duties shall be to attend to the editorial and executive part of this work. On this point all of our advisors are in full accord. Both President Eliot and President Gilman believe that this agent should be medically educated, but endowed with an especial adaptability for the presentation of editorial compositions in an attractive and popular form. Referring especially to this necessity, President Eliot in his comprehensive criticism makes the following remarks on this point:

> I think the committee would need a paid agent who should deal with the authors of the articles, suggest subjects, and maintain the continuity of the work. This paid agent ought to be medically educated, but it would be desirable that he should have had some journalistic or editorial experience. Your committee, therefore, have to propose to the Association a considerable appropriation to cover the salary of a competent man, and the incidental expenses.

Cost of Maintenance.—While it is quite evident from even a casual review of this proposed plan that the expense incident to the work will be considerable, your committee believes that an appropriation of $3,500 a year may be sufficient, at least to inaugurate the scheme and demonstrate its urgent need and great usefulness. Further, it is the hope of your committee that a work, which may be of such far-reaching value, may command the interest of some philanthropist, who may endow a board of this character with sufficient funds to give the widest breadth to its growth.

If a plan of this general character is inaugurated, your committee believes that the natural evolution of the function of this board may be very great, and would ultimately be of profound educational value in the collection and dissemination of scientific, sociologic and statistical facts for the use of the medical profession and for the instruction of the general public, thus rendering inestimable value to mankind. Indeed, as the results of this work are recognized by the public, we believe it is possible that it may logically lead to the establishment of a national executive department encompassing all of these aims. Before our government can be induced to assume this responsibility it must be convinced of its need by actual demonstration. Respectfully submitted,

F. F. Simpson,
J. W. Bell,
Stuart McGuire,
W. D. Haggard,
Willard Bartlett,
Henry Sewall,
John G. Clark, Chairman.

At the conclusion of the report, Dr. Philip Mills Jones, California, moved that the report be referred to the Reference Committee on Hygiene and Public Health, with the exception of that part of it which pertains to the appropriation of money, and that it be referred to the Board of Trustees. Seconded.

Dr. Denslow Lewis, Section on Hygiene and Sanitary Science, asked if this committee was not the old committee of last year, called "The Committee on Treatment of Uterine Cancer."

The President replied that it is a committee to take the place of that committee, with increased functions.

Dr. Lewis asked the committee to report on two resolutions which were referred to it last year; one which was introduced by Dr. Prince A. Morrow, New York, emanating from the Section on Hygiene and Sanitary Science, and the other introduced by Dr. L. Duncan Bulkley, New York, concerning the reporting of venereal diseases, also emanating from this section.

The President replied that these resolutions, so far as he could remember, were not referred to this committee last year; therefore, the committee could not be expected to make a report on them.

The motion of Dr. Jones was then put and carried, and the report was so referred. (See page 2051.)

Amendments to By-Laws.

Dr. Alexander R. Craig, Pennsylvania, presented the following amendments to the By-laws, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws: (See page 2054.)

Chapter X—Committees. (*Page 18*). *Section 3.*—Insert after paragraph (d) the following: (e) Board of Public Instruction on Medical Subjects. Also add: (page 21) Section 8. Board of Public Instruction on Medical Subjects. The Board of Public Instruction shall consist of seven members. Two members shall be appointed to serve for four years, two for three years, two for two years, and one for one year. Thereafter the tenure of office shall be four years.

The Board shall organize, shall elect a Chairman, and shall adopt such regulations for the government of its actions as it deems expedient.

The functions of the Board shall be: To supply the community at large with established facts regarding matters of general moment and public health; to supply these facts ethically, in good taste, and without the element of individual advancement; to harmonize and give the added value of combined effort to the several interests which are now working independently for the common good along medical lines; to direct this work under the auspices of the American Medical Association, thus giving unity of purpose among the workers and public expression to the aim and aspirations of this national Association.

Re-number following sections of the chapter.

Alexander R. Craig.

Resolutions on Sexual Hygiene.

REFERRED TO REFERENCE COMMITTEE ON HYGIENE AND SANITARY SCIENCE.

Dr. Denslow Lewis, Chicago, offered the following preamble and resolutions, which were referred to the Reference Committee on Hygiene and Public Health: (See page 2051.)

Whereas: We recognize the value of publicity in the prophylaxis of the venereal diseases, criminal abortion, illegitimacy, infanticide and prostitution; and

Whereas: We appreciate the necessity of diffusing accurate knowledge regarding sexual hygiene and the dangers of venereal infection; therefore be it

Resolved, That we commend to all educators the advisability of teaching the truth regarding the healthfulness of continence, the physiology of the whole body, and the possibility of innocent infection.

Resolved, That, for the purpose of imparting needful knowledge, and, at the same time, safeguarding the young against corrupting information, we favor, in lieu of the present laws against "obscene" literature, the enactment of laws which shall put the postal matter of the immature wholly within the control of parents or guardians. We favor such other proper legislation, having application only to the immature, which shall be so definite in meaning that there will be no doubt as to what is prohibitive and which will not preclude any adult from acquiring full and complete information regarding all scientific subjects.

Resolved, That we recommend the amendment of all national and state laws so as to declare that no prohibition contained in them shall be deemed to apply to any serious discussion of sexual facts or conditions or to any consideration of prophylaxis, especially if such information is promulgated by the American Medical Association or any of its component societies, the American Society of Sanitary and Moral Prophylaxis, the National Purity Federation, the National Educational Association, or by other societies of recognized standing in the community which are acknowledged to have the interests of humanity at heart.

Communication from American Pharmaceutical Association.

The General Secretary read a letter from Charles Caspari, Jr., General Secretary of the American Pharmaceutical Association, as follows:

My Dear Sir:—I have the honor of informing you that President Eliel has appointed the following gentlemen as delegates from the American Pharmaceutical Association to convey cordial fraternal greetings to the American Medical Association on the occasion of its next annual meeting: Joseph P. Remington, Philadelphia, Pa., chairman; M. I. Wilbert, Philadelphia, Pa.; Henry Kraemer, Philadelphia, Pa.; George C. Diekman, New York City; William A.

Puckner, Chicago, Ill.; O. Raubenheimer, New York City; William J. Schieffelin, New York City; A. M. Roehrig, Stapleton. N. Y.; Charles Caspari, Jr., Baltimore, Md., E. H. LaPierre, Cambridgeport, Mass.

On motion, the House of Delegates then adjourned to meet Tuesday at 2 p. m.

Third Meeting—Tuesday Afternoon, June 4

The House of Delegates met at 2 p. m. and was called to order by President Bryant. The Secretary called the roll, and sixty-six members responded.

The Secretary read the minutes of the previous meeting, and they were approved.

Report of Reference Committee on Amendments to the Constitution and By-Laws.

Dr. George W. Guthrie, Pennsylvania, chairman, presented the following report of the Reference Committee on Amendments to the Constitution and By-Laws:

TRUSTEES NOT ELIGIBLE AS DELEGATES.

1. The proposed amendment to the Constitution, Article V, Section 1, page 2, presented at the last annual session, is as follows:

After the words "in accordance with the By-Laws hereinafter provided" on line 9 of the Section, insert: "Provided, however, that no Constituent Association, Scientific Section of the American Medical Association, or Medical Department of the Army, the Navy or the U. S. Public Health and Marine-Hospital Service may be represented in the House of Delegates by a member of the Board of Trustees of the American Medical Association."

The committee recommends the adoption of this amendment to the Constitution.

JUDICIAL COUNCIL REORGANIZED.

2. The proposed amendment to Section 4, Chapter 10, Book 3 of the By-Laws, page 18—Judicial Council—presented at the session of 1906 is as follows:

To strike out all the first sentence of the section after the words "five members," and insert in lieu thereof the words. "To be appointed by the President on the first day of each annual session from the delegates present and to continue in office until their successors are appointed."

On this amendment, the committee is not ready to report. (See page 2055.)

ASSOCIATE MEMBERS.

3. The committee recommends the adoption of the amendments and the By-Laws in manner and form as recommended by General Secretary Simmons, as follows:

A new section, to be Section 3, Chapter 3, Book 1 of the By-Laws, shall read as follows:

Section 3.—Associate Members.—Representative teachers, students of sciences allied to medicine, resident in the United States, and not eligible to regular membership, may become associate members of this Association on recommendation of the officers of a section and on election by the House of Delegates. Such members shall be designated as associate members.

The present Section 3 to become Section 4 and to be amended by the insertion of the words "and associate," following the word "pharmaceutical," making the section read as follows:

Section 4.—Privileges.—Dental, pharmaceutical and associate members shall enjoy the same privileges as regular members, and shall be subject to the same conditions.

The present Section 4 to become Section 5, and to be amended by inserting the word "three" following "two" in the second line of the Section, making it read as follows:

Section 5.—Forfeiture of Membership.—Membership obtained under Sections 1, 2 and 3 of this chapter may be declared forfeited by the House of Delegates for reasons considered sufficient for that body.

INVITED GUESTS.

A new section to be known as Section 6, to be inserted and to read as follows:

Section 6.—Invited Guests.—Representative teachers, students of sciences allied to medicine, and distinguished physicians of foreign countries may be invited by the general officers or by the officers of a section to attend the annual session and to take part in the scientific work. They shall be designated as invited guests; they shall hold their connection with this Association until the close of the annual session to which they are invited, and shall be entitled to participate in the scientific and social functions of the Association.

Present Section 6 to become Section 7.

Present Section 7 to become Section 8.

ROLL CALL.

We recommend that Book 2, Chapter 5, Section 1 of the By-Laws be amended in accordance with the recommendation of General Secretary Simmons by inserting "Roll Call" as the second item in the Order of Business of the House of Delegates, and that the succeeding numbers be changed accordingly.

REPORTS AND ELECTIONS.

4. The amendments to the By-Laws proposed by Dr. J. W. Grosvenor, New York are as follows:

All reports presented to the House of Delegates shall be acted on seriatim, except such reports as contain only one proposition.

In balloting for all elective officers and for the place of meeting of the Association, each member of the House of Delegates shall cast his own ballot.

Your committee recommends that these amendments be not adopted.

Geo. W. Guthrie, Chairman.

After the reading of the report, Dr. Frank Billings, Illinois, moved that it be considered seriatim.

This motion was duly seconded and carried.

Section 1 of the Report was read, and, on motion of Dr. Alexander R. Craig, Pennsylvania, seconded by Dr J. L. Wiggin, Illinois, was adopted.

Section 2 was read, but as the committee was not ready to report on this, the Section was passed.

The portion of Section 3 relating to associate members was read, and, on motion of Dr Adam Guthrie, Arkansas, seconded by several, was adopted.

The remainder of Section 3 relating to roll-call was read, and on motion of Dr C. E. Cantrell, Texas, seconded by Dr. Philip Mills Jones, California, was adopted.

AMENDMENT REGARDING REPORTS NOT ADOPTED.

The portion of Section 4 relating to an amendment offered by Dr. J. W. Grosvenor, New York, that all reports presented to the House of Delegates shall be acted on seriatim, was read.

Dr C. S. Bacon, Illinois, moved that the recommendation of the committee regarding these amendments be concurred in. Seconded.

Dr. J. W. Grosvenor, Buffalo, New York:—*Mr. President and Members of the House:* It must be known to most of those present that there has been more or less criticism concerning the reports of this body in the past in this respect, that they have not gone sufficiently into details. They have been wholesale rather than retail reports, and this criticism sometimes has been severe and spread abroad to such a large extent that it occurs to me it might be possible, by placing an amendment of the description that has been read to you in our organic law, we could disarm, in a large measure, the critics who are making these severe criticisms against this body, and therefore, I have formulated the amendment that has been presented to the House. I believe that some of our reports in the past have not given sufficient details.

Some years ago, when this Constitution was adopted, if I remember rightly, it was not taken up seriatim. There was one member who offered a single amendment, which was adopted, and only one amendment was adopted at that time. A motion was then made that the whole report be adopted, the report not being taken up seriatim or in detail at all. Those who were present will recall that on that occasion there was very little time given for the discussion of the Constitution seriatim, and I have been exceedingly sorry that was not done, for I believe that if our Constitution had been considered section by section, there would not have been a necessity for making so many amendments to it, and I believe we would all be better satisfied with the Constitution we had or have. Last year, I remember, when a member made a motion that a certain report be taken up seriatim it was voted down. I do not know for what reason. Therefore, it seems to me it can do no harm, and it may do us great good, to take up these reports in a more thorough and systematic manner and discuss them carefully and thoroughly. If this is done, it will not be necessary to change the By-Laws so often. I am most heartily in favor of this amendment, and I feel sure it will do our organization good.

Dr. R. C. Cabot, Boston:—Dr. Grosvenor has remarked that if his amendment should carry, it would have the effect of disarming the critics of the work of the House of Delegates. I doubt that very much. If this amendment should prevail, it would make it impossible for this body to despatch business as promptly as it would wish in disposing of certain reports. There are times when it is necessary for us to go slow, while at other times it is equally necessary for us to move quickly. Now, if this amendment is carried we shall always have to go slow. It seems to me that this House of Delegates wants to keep busy, and it is unnecessary to consider certain reports brought before this body in such detail and with such care and thoroughness as Dr. Grosvenor intimates. Some reports can be disposed of quickly, while others require more mature deliberation. I do not think it would be wise for this amendment to be passed by this House of Delegates.

Dr. Geo. W. Guthrie, Pennsylvania:—The Committee invited Dr. Grosvenor to appear before it and to present his arguments. He did so, and those arguments were much the same as the ones he has just advanced. As Dr. Cabot has remarked, if this amendment is accepted, it seems to me we would be depriving ourselves of the elements of deliberation and of the opportunity of despatching business promptly, and I do not think it is necessary for us to fix an ironclad rule, by considering every report that is brought before this body seriatim.

The motion of Dr. C. S. Bacon was then put and carried.

AMENDMENT REGARDING ELECTION NOT ADOPTED.

The portion of Section 5 of the report relative to balloting for all elective officers, etc., was read.

Dr. Alexander R. Craig, Pennsylvania, moved that the recommendation of the committee regarding this amendment be concurred in. Seconded.

Dr. J. W. Grosvenor, Buffalo, New York:—In offering this amendment, I am trying to promote the interests of the Association, and of this House of Delegates, and the Association, I think, will agree with me, that I am on the right track. You have all noticed occasionally in this House of Delegates, that whenever a name was placed before us for office, some one has risen and made a motion to the effect that the Secretary or some other officer be designated to cast the unanimous vote of the body for the election of that gentleman. This amendment is offered for the purpose of providing a suitable way of doing away with that method of transacting business. Our By-Laws state that the officers shall be elected by ballot, and I believe the object of these By-Laws in this regard was to give each member of this body an opportunity to express his own opinion by means of a ballot. Of course, you may say that a member has the opportunity of expressing his opinion by voting either for or against such a motion. When such a motion is made, the member has the privilege of adopting one of two courses. He can vote for it, or can refuse to vote for it. It is his privilege to do one of those two things. I do not believe myself that an officer should be elected in any other way than by ballot, because a member may wish, or several members may wish, to vote for somebody besides a certain person designated. A man may not like to oppose such a motion against a candidate, as that candidate may be his friend; hence there is a good deal of timidity on the part of many members of this body about voting against such a motion. I am not alone, Mr. President, in my belief that officers should be balloted for. There are other people who may want to get some of the offices. If we vote in accordance with a motion such as I have mentioned, we simply elect a man by acclamation, not by ballot. By designating some one to cast the ballot of the Association for a candidate, it is simply a mechanical ballot, nothing more nor less, and we really violate our rules when we adopt such a method. That is my opinion in reference to it. I hold in my hand a copy of Roberts' Rules of Order, which has been adopted by this House as its guide on parliamentary law. (Here Dr. Grosvenor read from Roberts' Rules of Order regarding the election of officers by ballot and otherwise.) If the election of officers is carried on as it ought to be. I believe it would take much less time than it does now in the way which I have pointed out, according to the motion mentioned. I am in favor of the adoption of this amendment, and I trust it will be carefully considered by the members before a vote is taken on it.

Dr. C. E. Cantrell, Texas:—Your committee thinks that this amendment is entirely superfluous and unnecessary. It would put us through a rule of procedure that is absolutely unnecessary, for the reason that if there is more than one candidate a ballot must be taken. If there is a single member on the floor of this House who objects to the election in any other way than by ballot, a ballot must be taken; yet, where there is but one candidate, and the House of Delegates wants to get through with its work, so that its members may attend the scientific meetings, if we adopt this amendment, we can only elect officers by going through the process of casting a formal ballot, which I regard as entirely unnecessary under such circumstances, and that is the reason the note, which the gentleman has read to us, from Roberts' Rules of Order, is published, so that an officer may be designated to cast the unanimous ballot of the Association for a candidate, in order to dispose of these things promptly. If we spent less time in transacting business of the House of Delegates, and devoted more of it to scientific work, we would all be better off, and the less law we have the better we would be. (Applause.)

Dr. Adam Guthrie, Arkansas:—I am more than willing to go down in defeat, as I was about to say, in recording myself as being willing to stand by the sacredness of the ballot, even in the American Medical Association. As much as I respect the personnel of the committee, and as much as I know they know more than I do about our Constitution and By-Laws, I have that respect for the feeling of one man that it should not be necessary to destroy the sacredness of the ballot by a single objection. I hope my friend from Texas will not think it is too great a burden to elect the officers of the American Medical Association in the very best way that can be done and covering it with everything that makes the ballot sacred.

Dr. G. W. Guthrie, Pennsylvania:—I would say, in response to my namesake from Arkansas, that this does not destroy the sacredness of the ballot. It does not say that the officers shall not be elected by ballot, for if there is one objection made, it simply means that every member must cast his ballot. It seems to me, that if a deliberative body unanimously decides that the Secretary shall cast the ballot of that body for an officer, then they are voting by ballot. As Dr. Cantrell says, if there is only one candidate for an office, and the Secretary is instructed to cast the unanimous ballot of the body for that candidate, then this one vote expresses its sentiment unanimously. I do not see that this is not voting by ballot. If we fasten ourselves to some ironclad rule, no matter how insignificant the office is, we must go through the formality of having every member cast his own ballot. This is depriving us of liberty of choice, and, as Dr. Cantrell has remarked, if there is one single objection either by Dr. Grosvenor or by the gentleman from Arkansas, a ballot must be taken.

There being no further discussion, the motion of Dr. Craig was put and carried.

Dr. Frank Billings, Illinois, moved that the report of the committee be adopted as a whole, which was seconded and carried.

Report of the Committee on Scientific Research.

REFERRED TO BOARD OF TRUSTEES.

In the absence of the chairman of this committee, the General Secretary read the following report:

Gentlemen:—Your committee would report that in accordance with the regulations of the Board of Trustees, four grants have been made for the year 1907, viz.: Dr. G. F. Ruediger, Chicago, for a continuation of his work on the "Bacteria of Scarlatinal and Normal Throats;" Dr. H. T. Ricketts, Chicago, for a further study on "Rocky Mountain Spotted Fever;" Dr. Richard M. Pearce, Albany, for an "Investigation of the Nature of the Proteid Soap Compounds and of the Staining of Pure Fats and Lipoids by Scharlach and Soudan III."

The amount of these grants is: For the first two $200 each, and for the third $100

A grant of $50 has also been offered to Dr. J. N. Wainwright of Scranton, Pa., for some experimental investigations regarding carcinoma.

Application has also been received from Drs. D. J. McCarthy and M. K. Meyers, Philadelphia, for a study of experimental cerebral thrombosis. This application, however, was too late for consideration during the present year.

Your committee would further report that its attitude has been to restrict the grants as far as possible, giving aid only where it might be worthily bestowed and where the lack of other endowment justified such expenditure. The entire amount appropriated for the purposes of the committee has not been exhausted, but it is hoped that the appropriation will be continued in the same amount in future years, as the expenditures have been carefully made and demands of such a nature as the committee will consider proper will doubtless grow more frequent. The inquiries received during the last six months would indicate that the entire amount will be necessary to meet the legitimate needs in the forthcoming year.

Alfred Stengel, Chairman.

Dr. Alexander R. Craig, Pennsylvania, moved that the report be accepted and referred to the Board of Trustees for consideration and report to the House of Delegates with recommendations.

Seconded and carried.

Report of Committee on Davis Memorial Fund.

The General Secretary read this report, as follows:

I beg to report the receipt of the following amounts:

Dr. William Louis Rabi, Dwight, Ill.	$ 0.25
Dr. J. H. Harrison, Treas. Utah State Med. Assn.	50.00
Dr. I. C. Smith, San Diego, Cal.	.25
Dr. E. O. Barker, Oklahoma State Medical Assn.	6.00
Dr. G. M. Waterhouse, Weiser, Idaho.	25.00
Dr J. F. Hunter, Mississippi State Medical Assn.	100.00
Dr. G. W. Gay, 665 Boylston St., Boston.	1.00
Dr. R. H. Fitz, Arlington St., Boston.	10.00
	$192.50

There are a number of subscriptions promised, with the assurance on the part of the different members of the committee of a far more satisfactory report from them during the ensuing year. The committee has been requested to remit direct to Dr. Billings, the Treasurer, any amounts which it may receive.

Henry O. Marcy, Chairman.

Dr. Frank Billings, Illinois, said that last year there was turned over to him by Dr. Marcy $192.50, which was placed in the Savings Bank Department of the Northern Trust Company, Chicago, drawing 3 per cent. interest.

On motion, these reports were accepted and the committee continued.

Report of the Reference Committee on Hygiene and Public Health.

RESOLUTION REGARDING CRIPPLED CHILDREN APPROVED.

We, the undersigned, members of the Reference Committee on Hygiene and Public Health, submit the following report on the resolution submitted by Dr. Frank Billings, Illinois, (see page 1969) relating to the improvement by modern scientific treatment of deformed and ruptured children. The committee heartily approves this resolution, and recommends favorable action by the House of Delegates.

On motion of Dr. Alexander R. Craig, Pennsylvania, the recommendation of the committee was concurred in.

BOARD OF PUBLIC INSTRUCTION ENDORSED.

Your committee submits the following recommendation on the report of the Committee on the Establishment of a Board of Public Instruction, John G. Clark, chairman (see page 2046):

The committee heartily endorses this very excellent report, with the exception of the last two paragraphs, headed "cost of maintenance," this subject apparently not coming within the jurisdiction of this committee. Your committee further approves the suggestion that the articles be unsigned by the authors, but recommends that this phase of the problem be submitted to the House of Delegates for a vote, as recommended by the Committee on the Establishment of a Board of Public Instruction.

Dr. W. N. Wishard, Indiana, moved that this report of the committee be adopted, with the recommendation relative to the establishment of a Board of Public Instruction, including the suggestion of the committee that the articles be unsigned.

Seconded and carried.

The committee begs to submit the following report on the resolution submitted by Dr. Denslow Lewis (see page 2048): As this matter appears to be closely related to the subject included in the report of the Committee on the Establishment of a Board of Public Instruction, we recommend that the resolution of Dr. Lewis be referred to said committee for further consideration.

Charles J. Kipp,
R. M. Woodward,
William N. Wishard, Chairman.

On motion of Dr. Philip Mills Jones, California, the recommendations of the committee were concurred in. On further motion, the report and its recommendations were adopted as a whole.

Report of Reference Committee on Sections and Section Work.

SENN MEDAL.

This committee, to whom was referred the report of the Committee on the Senn Medal (see page 1965) recommends that the report of said committee be referred to the Executive Committee of the Section on Surgery and Anatomy.

Leartus Connor, Chairman.

On motion of Dr. C. E. Cantrell, Texas, the recommendation of the committee was concurred in.

eport of Reference Committee on Legislation and Political Action.

Dr. C. S. Bacon, Illinois, chairman, presented the following report of the Reference Committee on Legislation and Political Action:

WORK OF THE COMMITTEE ON LEGISLATION.

To this committee has been referred the report of the Standing Committee on Medical Legislation, which consists of a summary of the work of the committee during the past year, and also a record of the conference of the Committee on Medical Legislation with the National Legislative Council, held at Washington, D. C., Dec. 13-15, 1906, and published in The Journal, Jan. 26, 1907. This report records the passage or successful issue of several bills and measures that have received the support of the Association and the committee and the defeat of one measure that was opposed by the Association. These include the final passage of the Food and Drugs Act, the bill for the relief of Dr. James Carroll, the beginning of a general hospital for the Army, the establishment of a satisfactory status of the medical service in the Isthmian Canal Zone, the provision for medical representation on the general staff of the Army, and the defeat of the osteopathic bill for the District of Columbia. In the record of the Washington conference appears more in detail the work done in the achievement of these ends. For the persistent self-sacrificing and laborious work required to attain these satisfactory results, your reference committee recommends that the thanks of the House of Delegates be extended to the Committee on Legislation and to its associate and auxiliary committees.

The report shows that some measures that have received the endorsement of the American Medical Association and the earnest support of its committees, have failed; the causes of these failures are analyzed, and, in some cases, determined.

ARMY MEDICAL REORGANIZATION BILL ENDORSED.

Your reference committee would recommend that the House of Delegates re-endorse the Army Medical Reorganization Bill, and direct its legislative committee to aid in every way possible in securing the passage of the bill by the next Congress.

ARMY CANTEEN BILL ENDORSED.

Your committee would also make the same recommendation in regard to the Army Canteen Bill.

In regard to the Hammond Bill, your committee, uncertain as to the present status of the matter and of the purport of the previous action of Congress, would recommend that further action be left to the discretion of the Committee on Medical Legislation.

DEPARTMENT OF PUBLIC HEALTH.

In the matter of the creation of a department or bureau of public health, your Reference Committee recommends the adoption of the suggestion of the Committee on Legislation, namely, that the question of the details of the organization, powers and status of the National Public Health Agency be left to the Committee of One Hundred, to which it pledges its confidence and support.

TRAINED NURSES FOR THE NAVY.

Your committee also recommends that the House of Delegates endorse the principle of the proposed bill of Surgeon-General Rixey to provide trained nurses for the Navy.

PHYSICIANS IN CONGRESS.

Your reference committee agrees with the Committee on Legislation in its views concerning the importance of having actual representation of the medical profession on the floor of Congress, and it is hoped that a larger number of physicians than heretofore will offer themselves for both branches of Congress. In this connection, as a mark of appreciation of the valuable services of the physicians who were members of the House and who aided so greatly your committee in its Washington conference and who secured the defeat of the osteopathic bill in the committee of the house, it would recommend the adoption of the following resolutions by the House of Delegates:

Resolved, That the House of Delegates of the American Medical Association, assembled in Atlantic City, on this, the 4th day of June, 1907, hereby expresses to Hon. Andrew Jackson Barchfeld, representative from the Thirty-second Pennsylvania District, to Hon. Hiram Rodney Burton, representative-at-large from the State of Delaware, and to Hon. Edmund William Samuels, representative from the Sixteenth Pennsylvania District, its high appreciation of their valuable counsel to the Committee on Legislation of the American Medical Association in conference in Washington, December, 1906, and its sincere thanks for their efficient service in securing the defeat of the osteopathic bill in the committee of the house; and,

Resolved, That these resolutions be entered on the minutes of the Association and published in The Journal, and that a copy of them be forwarded by the Secretary of the American Medical Association to each of these representatives.

In accordance with the request of the chairman of the Committee on Medical Legislation, your committee would call attention to the importance of having a full representation of the states in the conferences of the Committee on Legislation with the National Legislative Council, and would urge that the state associations make appropriations to meet at least the traveling expenses of their delegates when attending these conferences.

UNIFORM STATE LAWS.

In reference to the subject of "Uniform State Laws" and an "Enlarged Legislative Policy," the Committee on Legislation has urged the necessity of taking an important step looking to the promulgation of standard bills to be passed by state legislatures, and has recognized that with the increased necessity for the formulation of certain standard laws must come an increased necessity for securing their adoption by the different states, and that this, in turn, must call for a more or less uniform and harmonious organization with which to carry the plan into effect.

Your committee wishes to commend most heartily this proposition for an enlarged legislative policy, not restricted as largely heretofore to dealing with questions of strictly national concern, but embracing the public interests of the medical societies and of the profession in all the states and municipalities of the nation. It regards this question as one of fundamental importance. It conceives, for example, that the very valuable work of your Council on Education can be quickly undone if a number of states pass laws creating, from osteopaths and Christian scientists, a class of medical practitioners that, by further laws, may soon become endowed with all the powers and functions now accorded to physicians. It sees a sufficient reason for the cooperation of our legislative committees with the legislative committees of the state societies in the fact that the National Association of Osteopaths and the National Proprietary Association work quietly, but most effectively, in supporting the local measures in which they are interested in the various state legislatures. It sees further need of this national assistance to the state societies in the great differences and inconsistencies in the activities of the profession in different states.

Your committee believes that the Committee on Legislation, through the Bureau of Medical Legislation, should study the questions of public policy in the different states and sections of the country, analyze and establish the principles which should govern the state and municipal legislative activities, formulate standard laws for local guidance, and investigate and advise as to the proper and efficient methods for securing the passage of these acts and for carrying such laws into effect.

Your committee, therefore, recommends that the House of Delegates ask the Board of Trustees of the Association to provide for such increase in the clerical help of the Bureau of Medical Legislation as will enable it to conduct these investigations and prosecute successfully the further objects of this enlarged policy.

P. W. Tomlinson,
Hubert Work,
J. H. Hamilton.
C. S. Bacon, Chairman.

Dr. Philip Mills Jones, California, moved the adoption of the report, with the resolutions contained therein.

Seconded by Dr. Alexander R. Craig, Pennsylvania.

DISCUSSION ON ARMY CANTEEN.

Dr. J. W. Grosvenor, New York:—There is one part of this report that I do not agree with. I understand that this reference committee recommends or approves of the restoration of the Army canteen. I do not believe that we, as a House of Delegates, ought to take any such action at the present time. While the statement is made in the report of increasing demoralization among the soldiers, which has followed as the result of the abolition of the Army canteen, it is doubtful whether anything of that kind is the result of the abolition of the canteen. I have examined recently six of the reports from the War Office, and, so far as desertion is concerned, there is only one year in which desertion is represented as the result of the abolition of the canteen, and this is mentioned incidentally.

So far as sickness is concerned, the reports show that there has not been so much sickness since the abolition of the canteen; and, so far as demoralization is concerned, I do not think we can judge at the present time whether this has followed the abolition of the canteen or not. I do not think sufficient time has elapsed to determine that with certainty. I think it is unwise for us before we can determine that fact to place ourselves on record in favor of the restoration of the canteen.

I desire to move as an amendment that, so far as this part of the report is concerned, this House of Delegates do not concur in the recommendation made by the committee. (This was seconded.)

I am sure most officers of the Army are interested in everything that is calculated to promote the moral and physical welfare of the men under them. I am well aware, however, that there are some officers of the Army who recommend the restoration of the canteen. I am also very well aware that there is a large proportion of officers of the Army who are opposed to the restoration of the canteen, and among them I may mention Dr. Wise. General Sheridan was interviewed with reference to this point, so far as the restoration of the canteen is concerned, after it had been suggested that some method should be proposed whereby a canteen should not be opened within five miles of any army post, and said, "You say five miles; put it at ten." That shows his idea in reference to the restoration of the army canteen. I do not think it would be wise for this House to concur in the action recommended by the committee as to this part of the report; therefore, I hope that my amendment will prevail.

Dr. F. D. Reese, New York:—This question is largely a moral, and not a scientific, one, and consequently it should not engage the attention of this body. I am, therefore, in favor of the amendment.

Dr. Charles A. L. Reed, Ohio:—I did not hear all of the remarks made by the previous speakers with reference to the restoration of the canteen. I have seen but little of its practical workings. But the testimony on which I rely and on which the Committee on Medical Legislation has relied in making the recommendations which it has seen fit to make to Congress, is weighty and scientific, in that we are dealing with the physical welfare of the Army, as well as the moral aspect of our men in the Army, to which we can not, as the conservators of the best interests of the public, close our eyes.

On one occasion, at a hearing given by the House Committee on Military Affairs, there was a delegation of ladies, charming, dignified, elegant women, who appeared before the committee. The chairman of that delegation was the widow of one of the most distinguished officers of the United States Army, and the other members of that delegation were the wives and daughters of other officers of the United States Army—women who had gone all over this country with their husbands in the discharge of their official duties—and I shall never forget the great impressiveness with which that venerable woman stated to that committee words to this effect: "Mr. President, I have been identified with my husband, an officer of the United States Army, for forty years; I have served with him at every post in the United States, and I have had occasion to watch the operation of the canteen and to observe the condition of the men in the absence of the canteen, and I am prepared to say that we, as the wives of the officers, are deeply interested in the physical and moral welfare of the army officers and soldiers, and we have had occasion to note that, where canteen discipline was maintained, immorality was repressed, and all the things that are objectionable, which can be attributed to indulgence in alcoholic drinks, were reduced to a minimum. We know from personal experience that, since the abolition of the canteen, the physical condition and moral status of the Army have alike deteriorated in consequence of the absence of it."

Mr. President, that was all the testimony I wanted on that occasion on that subject. But if I wanted, and the committee wished, more testimony to the same effect, it could be accumulated by practically everybody who is connected with the practical administration of the affairs of the United States Army. It was for these reasons, sir, that the committee made the recommendation it did, and I trust that the members of this House of Delegates, who are not given to fanatical views on any particular question, will recognize the practical importance, the scientific importance, of this question, and will sustain the recommendation made by the Reference Committee on Legislation and Political Action. (Applause.)

Dr. Philip Mills Jones, California:—I have not read the reports of the Army for the last four years. I am not interested in this matter as a question of abstract ethics; but I live in a city where there is a large army corps, and I have seen the practical workings of the abolition of the army canteen. When the army canteen was located within the Presidio at San Francisco, the vicinity of the Presidio was regarded as a very desirable residence section. The soldiers were quiet and orderly. Almost immediately on the abandonment of the canteen, shacks of all sorts and descriptions sprang up about the gates of the Presidio, and in place of reasonable peace and quietude there was substituted a condition of chronic drunkenness and disorder, and on several occasions a riot, so that it was necessary to bring out the reserves of the police department, as well as several companies of regulars of the Army to quiet them. That, Mr. President, is a condition which has continued almost without interruption since the abolition of the army canteen.

Dr. F. D. Reese, New York:—I was much interested in Dr. Reed's remarks, and, as he has quoted from one person, I wish to quote from a hundred—in exact numbers ninety. I have asked eighty out of ninety young men, who served in the Cuban Army, their opinions about the abolition of the canteen, and they all said it was a good thing. I said to them, "Would you say this to the officers of the Army?" They replied, "No, sir; we would not dare make such a statement to Army officers." That is actual knowledge which I have obtained from these soldiers.

Now, gentlemen, the idea that the restoration of the canteen (and that means the sale of light drinks, such as beer, and occasionally whisky smuggled in) will increase or develop the morals of the soldiers is absurd. Just think how absurd such a proposition is! Why does not our Government prohibit the sale of liquors within ten or fifteen miles from an Army post, instead of allowing them to establish canteens within or near these posts. (Laughter.) This is not a laughable matter, gentlemen. It is a question that appeals to the mothers of the country. Our mothers are not fools. The women of the W. C. T. U. are not fools. They have furnished us the boys that have been sent to the Army, and they are familiar with the stories of the boys when they come home.

Let me relate the case of a captain who came home and was buried in our town. He never drank a drop of liquor until he went to Cuba as an officer of the Army. He became intoxicated and got into a fight with another soldier, who killed him.

Now, to make a long story short, we need to have more exact knowledge and more reliable information on this question before we can intelligently vote on it.

Dr. Adam Guthrie, Arkansas:—It seems to me that this subject has provoked some mirth on the part of some of the members. I do not see why it should. If the question was asked of the learned gentlemen who constitute this body, how many would recommend whisky as a medicine at this late date and time and as a necessary part of the rations and of the doctor's armamentarium in the army, I venture to say not a dozen would stand up. I do not believe a dozen would say that alcohol is now held with anything like the respect that it used to be, nor is it held to be as valuable a remedy as it was formerly. So we are put in the attitude of reforming the morals of the United States Army by helping a lot of soldiers to get drunk and teaching the younger ones how to drink. It seems to me that is what we are apt to do. This legislative body of the American Medical Association is asked to put its stamp of approval on it, not as a measure that alcohol is no longer considered by up-to-date scientific physicians as a valuable agent to treat any class of diseases, not as an essential food, but, according to the report of the committee, the way to reform the Army of the United States of America and to sustain and maintain the highest standard of manhood and fighting qualities of the members of the army is by restoring the canteen. That is all there is to this proposition. But I do not think we can secure the highest standard of manhood by restoring the canteen. I do not think we can reform the morals of the United States Army with whisky, and that is what the question amounts to. It seems to me to be a question of maintaining the morals by teaching these young men how to drink. I hope that the House of Delegates will not endorse that part of the committee's report, for if the strong arm of the law and discipline of the Army can not be carried out without whisky, without the canteen, then the arm of discipline is not strong enough, and the defect is not in the want of whisky, but in the want of a better organized form of discipline.

Dr. Charles A. L. Reed, Ohio:—The last speaker really intends to be accurate. His zeal is manifest; his enthusiasm is obvious, and there is an evident desire on his part to be fair in his representation; but certainly the very opposite of what he has said is the true condition of affairs. The object of the restoration of the canteen is to repress drunkenness, and the experience of army officers has been to the effect that the existence of the canteen, as compared with the absence of it, has been to repress drunkenness and the greater consumption of alcohol. You and I know that a perfectly idealistic humanity does not exist, nor do perfectly idealistic conditions exist, and the tendency among the type of men who make up the rank and file of the United States Army is to drink, and it has been clearly demonstrated that the existence of the canteen minimizes the opportunity for drinking. The moment you take away the canteen you have all kinds of indulgences that result in extreme dissipation, and in the demoralization which now exists. I trust the members of the House of Delegates will endorse the recommendation of the committee. As I take it, it is the desire of this committee and of this House not to support dissipation, but, in the light of the evidence, to repress it.

Dr. N. Fred Essig, Washington:—This is a moral question. We can not get medical legislation on morals. Let us confine ourselves to those matters of legislation which will be of benefit to the medical profession and to the community at large. Let those who are interested in the Army and our legislators, who are ready, at all times, to give us legislation on other subjects, devote their attention to this matter. I do not consider that it is the business of this body to meddle with a question which is strictly moral. Let us confine ourselves to matters of legislation which will be of great importance to the profession and to the communities in which we reside. I trust that this part of the report will be eliminated, and that this great organization will not place itself on record as dictating in any manner whatever its position on the liquor question. (Applause.)

Dr. John M. Gile, New Hampshire:—It seems to me the last speaker has struck the keynote. I think this body would be unwise to enter into anything that savors of politics. There are very much broader subjects than this one of the army canteen which we can discuss, and I think it would be foolish on our part to place ourselves on record in regard to this question. While I believe in the restoration of the canteen, I do not believe it is wise for the American Medical Association, through its House of Delegates, to offer any recommendations in the case. The discussion shows it. (Applause.)

At this juncture there were cries of "Question!" "Question!"

The Chair recognized Major Charles Richard, United States Army, who said:

There seems to be a misconception of what the canteen is among the gentlemen present here this afternoon. To a certain extent, it is a moral question, and perhaps should not properly, for that reason, come before the House of Delegates. However, after an experience of thirty years in the service, I do not hesitate to say that it affects the health of the enlisted men of the army. The canteen was originally established with a view to furnishing a place where the soldiers could go and get a little beer if they wanted it or other refreshments; where they could read the journals, magazines and newspapers; where they could engage in a game of billiards, or a game of cards; in other words, where the soldiers had their club. It was a general amusement room at the same time; the sale of beer was incidental to that club. It is unfortunate it should have been named canteen, because the word canteen suggested drink. When the canteen was abolished, the soldier was driven from his barracks and sought amusement elsewhere. The surroundings of every military post are largely made up of dives. The soldier frequents these dives, where he becomes loaded with poor whisky and loses his moral sense, and, as a result, venereal disease has increased since the abolition of the canteen to a great extent in our Army. With all due deference to Dr. Grosvenor, I know it is a fact that venereal disease has increased since the abolition of the canteen.

Dr. J. L. Wiggin, Illinois:—Forty per cent.

Dr. Richard (resuming):—This gentleman says 40 per cent. The soldier is not required to drink at the canteen. He goes there for amusement. Like a gentlemen who goes to his club, he does not have to drink. So it is with the soldier. He is driven from his post to a place that is far more demoralizing than the canteen. He has got to go home within a specified time and he makes most of the little time he has outside of his regular duties. The soldier, like most men, sometimes takes more than is good for him, and the result is that he contracts venereal disease, and that is why nine-tenths of the Army are in favor of the canteen. The small minority who are against its restoration have not been in the service long enough to judge of its value, or who entered the service after the abolition of the canteen.

I can heartily endorse what Dr. Reed and Dr. Jones have said, and, as I have previously remarked, while this is really a question of morals, yet it influences the health of our enlisted men, and it is properly a hygienic question so far as this body is concerned.

DR. C. S. BACON, Illinois:—The Reference Committee, to whom this subject was referred, adopted the recommendation that had been read. *First*, because the matter has already been acted on by the Committee on Legislation of the Association, and it is a pretty good policy to accept the deliberations of a committee that has given such a subject considerable discussion. As a member of the Committee on Medical Legislation, I know that this matter was thoroughly and freely discussed by the representatives of all states in the Legislative Council. *Second*, the conclusions of the Legislative Council were based on their own investigations and on the almost unanimous opinions of Army officers. The committee also had in mind the fact that all moral questions are medical ones. We are sometimes apt to make more out of a word or term than is justified. What is a moral question, anyway? What is a medical question? Does not medicine concern itself with morals? Does not the moral condition of an individual that needs medical aid concern the medical profession? Of course, it does. I claim it is a medical question when it concerns the health of the Army. Have we not a right to approve a measure or to give our endorsement to a measure that does not imply the administration of drugs? How is it about the condition of the troops in the Philippines? We know the state of solitude these troops are in, and how it affects their efficiency. Have we not a right, therefore, to concern ourselves with the moral and physical condition of these men? I think we have.

DR. N. FRED ESSIG, Washington:—I am personally in favor of the restoration of the canteen, but I want to say this much, that we should recognize our limitations as the legislative body of the American Medical Association, and not attempt to interfere with legislation that belongs entirely outside of that which pertains to medicine. We might just as well recommend that certain clothing be worn by the soldiers, that a certain diet be prescribed for them, as to attempt to legislate for the Army in regard to morals. We want to eliminate politics to a great extent. We have enough of it. Do not let us get any more of it.

Dr. Henry W. Coe, Oregon, offered an amendment that the report of this committee be accepted, with the exception of that section of it which refers to the recommendation of the re-establishment of the Army canteen.

The amendment was seconded by Dr. S. Solis-Cohen, Section on Pharmacology and Therapeutics, who moved to amend further that the report of the committee be accepted, excepting the recommendation concerning the canteen, which shall be omitted on the ground of expediency.

This amendment was seconded and accepted.

Dr. Grosvenor thereon withdrew his amendment in favor of the one offered by Dr. Coe.

The amendment was then put and carried.

On motion, the report of the committee as amended was adopted.

Report of the Committee on Insurance.

Dr. John H. Musser, Section on Practice of Medicine, chairman, presented the report of this committee, as follows:

Your committee begs leave to present as its report:

1. The preliminary report of the committee published in THE JOURNAL of the American Medical Association, Dec. 8, 1906, page 1937.

2. The letter of Dr. Mayo, the President, which accompanies that report.

Further than this, notwithstanding various efforts to arrive at other conclusions, the committee has nothing further to report, and asks that it be discharged.

FRANK BILLING,
J. N. MCCORMACK,
WILLIAM J. MAYO,
JOHN A. WYETH,
J. H. MUSSER, Chairman.

Dr. Hubert Work, Colorado, offered the following resolution in connection with the report of the Committee on Insurance, prefacing it by saying that he introduced the resolution last year creating this committee:

Resolved, That this Association cordially approves the report of the Committee on Insurance, and urges on county societies such wise and conservative action in accordance with its spirit as will protect the interests of the humblest competent member of the organization.

Dr. C. E. Cantrell, Texas, moved that the report of the Committee on Insurance be adopted, together with the resolution offered by Dr. Work, and that both the report and the resolution be referred to the Reference Committee on Reports of Officers. (See page 2056.) Seconded and carried.

Supplementary Report of Committee on Amendments to the Constitution and By-Laws.

Dr. George W. Guthrie, Pennsylvania, chairman of the Reference Committee on Amendments to the Constitution and By-Laws, presented the following supplementary report on Dr. Craig's amendments, to be made if the Trustees and Reference Committee on Hygiene and Public Health report favorably on the report of the Committee on the Establishment of a Board of Public Instruction:

Your committee recommends the adoption of the following amendments to the By-Laws, proposed by Dr. Alexander R. Craig: (See page 2048.)

BOOK III. CHAPTER X—COMMITTEES.

(1) Section 3. (Page 18): Insert after paragraph (d) the following:

(2) (e) Board of Public Instruction on Medical Subjects.

Also add (page 21):

Section 8. Board of Public Instructions on Medical Subjects. The Board of Public Instruction shall consist of seven members. Two members shall be appointed to serve four years, two for three years, two for two years and one for one year. Thereafter the tenure of office shall be four years.

The board shall organize, shall elect a chairman, and shall adopt such regulations for the government of its actions as it deems expedient.

The functions of the board shall be: To supply the community at large with established facts regarding matters of general moment and public health. To supply these facts ethically, in good taste, and without the element of individual advancement. To harmonize and to give the added value of combined effort to the several interests which are now working independently for the common good along medical lines. To direct this work under the auspices of the American Medical Association, thus giving unity of purpose among the workers and public expression to the aim and aspirations of the National Association.

(3) Renumber following sections of the chapter.

C. E. CANTRELL,
R. C. CABOT,
GEORGE W. GUTHRIE.

Dr. L. S. McMurtry, Kentucky, moved that the recommendations of the committee be concurred in and that the amendments to the By-Laws be adopted, subject to the favorable report of the Board of Trustees and the Reference Committee on Hygiene and Public Health.

This motion was duly seconded and carried.

Action on Resolutions Asked.

DR. DENSLOW LEWIS, Section on Hygiene and Sanitary Science:—Abiding by positive and definite instructions given me by the Section on Hygiene and Sanitary Science, which I have the honor to represent in this body, I have been asked to demand respectfully that the committee, to which was referred the resolution of Dr. Prince A. Morrow, New York, a year ago, stating that continence is healthful, be requested to make some definite answer one way or another. The Section on Hygiene and Sanitary Science regards it as unfair that no action on this matter has been taken, and we respectfully demand that the matter again be called to the attention of the committee, and that some report be forthcoming before the end of this session.

The President said the members of the committee would consider themselves notified of the request of the member of the House, and he had no doubt they would act accordingly.

Chairman for Medical Congress Confirmed.

Dr. Frank Billings, Illinois, said that the Sixteenth International Medical Congress would convene at Budapest in 1909. The secretary and president of that congress had announced that Dr. J. H. Musser, Philadelphia, had been appointed chairman of the American committee.

Dr. Billings moved that the House of Delegates confirm the appointment.

This motion was duly seconded and carried.

Dr. Leartus Connor, Michigan, said there was a misunderstanding among many members as to the relative increase of funds of this Association, and, in chatting with those who know about it, they assured him that there was a less reserve fund as regards amount now than there was ten years ago, and what he desired to ask was that the Secretary or Treasurer be invited to present the facts on this point. He would make this as a motion.

The motion was seconded.

The President stated that this request for information would be referred to the Reference Committee on Reports of Officers.

Dr. Alexander Craig, Pennsylvania, moved that the resolutions referred to by Dr. Lewis in his remarks be recalled from the special committee to which they were referred last year, and that they be now referred to the Reference Committee on Hygiene and Public Health for consideration and for advice and report to the House of Delegates. Seconded.

The Secretary read the resolutions referred to by Dr. Lewis from the minutes of the House of Delegates of last year (1906), and said he believed that the committee of which Dr. Clark was chairman covered the subject-matter of the resolutions in the report of that committee yesterday.

Dr. Denslow Lewis:—I respectfully challenge any one to find in the report of the committee, to which the resolutions were referred, any direct or indirect reference to them. They were pigeon-holed, and the members of the Section on Hygiene and Sanitary Science considered this, as least, discourteous. While recognizing the healthfulness of continence, it seems evident that the subject is not popular with the members of that committee.

The President:—The last remark of the gentleman is in bad taste and very unparliamentary.

The motion of Dr. Craig was then put and carried.

Cooperating Committee on International Classification.

Dr. A. T. Bristow, New York, moved that the Chairman appoint a Committee (of five) on Nomenclature and Classification of Diseases, and that this committee cooperate with representatives from other bodies interested in order to send a suitable delegation to the Paris Commission in 1909, which revises the International Classification of Causes of Death and prepares for the U. S. census of 1910.

Seconded and carried.

Control of Rabies.

Dr. R. C. Cabot, Massachusetts, offered the following preambles and resolution:

Whereas, The House of Delegates of the American Medical Association recognizes the needless sacrifice of human and canine life by a preventable disease, rabies, and also recognizes that by the enactment and enforcement of proper legislation it can be eradicated, as has been demonstrated in Great Britain, Germany, Sweden and other countries; and

Whereas, This Association is anxious that its influence and that of its members individually be earnestly directed toward the stamping out of this disease; therefore, be it

Resolved, That the House of Delegates of the American Medical Association requests its legislative committee and council to take the necessary steps to secure some such national and state legislation as the following:

1. Control of the disease in the United States placed under the supervision of the Chief of the Bureau of Animal Industry at Washington, as are other epizootic diseases, such as foot-and-mouth disease, according to the act of Congress of May 31, 1884.
2. Full authority vested in the State Cattle Commission or other properly appointed commission, to act as may be necessary for the eradication of the disease, in conjunction with the United States Bureau of Animal Industry, at Washington, whenever rabies appears in the state.
3. All licensed dogs compelled to wear collars and metal plates of special form, that they may be readily recognized.
4. Prompt capture of all dogs not properly tagged, with subsequent humane destruction, unless properly licensed within a short time.
5. Efficient muzzling of all dogs unrestrained in public places for a period of at least one year.
6. Dogs imported from countries other than those from which rabies is excluded to be quarantined for six months.

Moreover, the House of Delegates of the American Medical Association requests the management of its Journal to use its columns to circulate much-needed information in regard to the diseased rabies.

On motion of Dr. H. Bert Ellis, California, this resolution was referred to the Reference Committee on Legislation and Political Action. (See opposite column.)

Dr. S. Solis-Cohen, Section on Pharmacology and Therapeutics, offered the following amendment:

Amend Section 1 and Section 2, Chapter 3, of the By-Laws, by adding in each after the words "approval by a majority vote of the section," the words "and confirmation by the House of Delegates."

S. Solis-Cohen,
Henry L. Elsner,
Tremont W. Frankhauser.

This amendment was referred to the Reference Committee on Amendments to the Constitution and By-Laws. (See below.)

Dr. A. R. Craig, Pennsylvania, moved that when the House adjourns, it adjourn to meet at 2 p. m., Thursday. Seconded.

Dr. J. W. Grosvenor, New York, moved to amend by substituting the words 2 o'clock Wednesday afternoon instead of Thursday afternoon. Seconded.

Dr. L. C. Morris, Alabama, moved, as an amendment to the amendment, that the House of Delegates adjourn to meet at 9 o'clock on Thursday morning.

This amendment was seconded and accepted by Drs. Grosvenor and Craig, and the original motion as amended was carried.

On motion the House then adjourned until 9 o'clock Thursday morning.

Fourth Meeting—Thursday, June 6

The House of Delegates met at 9 a. m., and was called to order by President Bryant.

The Secretary called the roll, and forty-eight members responded.

The minutes of the previous meeting were read, corrected and approved.

Report of Reference Committee on Amendments to the Constitution and By-laws.

Dr. Geo. W. Guthrie, Pennsylvania, presented a report from the Reference Committee on Amendments to the Constitution and By-Laws.

1. On the proposed amendment to Section 4, Chapter 10, Book 3 of the By-Laws, page 18, Judicial Council, (see page 2049), the committee is now ready to report, recommending the adoption of the amendment.

2. The committee also recommends the adoption of the amendments offered by Drs. Solis-Cohen, Elsner and Frankhauser. (See above.)

George W. Guthrie, Chairman.
R. C. Cabot,
C. E. Cantrell.

On motion of Dr. Frank Billings, Illinois, the report was adopted.

Report of Reference Committee on Legislation and Political Action.

RESOLUTIONS ON RABIES ENDORSED.

Dr. Charles S. Bacon, Illinois, Chairman, presented the following report:

To this committee were referred the resolutions offered to the House of Delegates by Dr. R. C. Cabot, Massachusetts, with reference to rabies. (See opposite column.)

Your committee respectfully recommends acquiescence in the principles of the resolutions; that they be transmitted to the Committee on Medical Legislation, and that the following preambles and resolutions be adopted.

Whereas, The House of Delegates of the American Medical Association recognizes that by the enactment and enforcement of proper legislation, the distressing and fatal disease of rabies can be eradicated, as has been demonstrated in Great Britain, Germany and Sweden and other countries; and

Whereas, This Association is anxious that its influence and that of its members, individually, be earnestly directed toward the stamping out of this disease; therefore, be it

Resolved, That the House of Delegates of the American Medical Association requests its Legislative Committee to take the necessary steps to secure such national and state legislation as will attain this result, and would suggest:

1. That the general control of the disease in the United States be placed under the supervision of the chief of the Bureau of Animal Industry at Washington, as are other epizootic diseases, such as foot-and-mouth disease, according to the act of Congress of May 31, 1884.
2. That the control of the disease in the different states be vested in the State Cattle Commission or other properly appointed commission, to act in conjunction with the United States Bureau of Animal Industry at Washington, whenever rabies appears in any state.
3. That the general dissemination of the much-needed information in regard to this disease be delegated to the Board of Public Instruction of the American Medical Association.

Thos. McDavitt,
P. W. Tomlinson,
Hubert Work,
J. H. Hamilton,
C. S. Bacon, Chairman.

On motion, duly seconded, the report of the committee was adopted.

Report of the Committee on Scientific Exhibit.

Dr. F. B. Wynn, Indiana, chairman, read the report of the Committee on Scientific Exhibit, as follows:

VALUE OF EXHIBIT.

The meeting place at this time prompts the observation that seven years ago, in this city, was inaugurated the first National Scientific Exhibit. The project, then viewed as a dubious experiment, has proven of great practical utility. The great Virchow, a short time before his death, wrote in a personal communication concerning the Scientific Exhibit, as follows: "I hope your countrymen will appreciate the intimate relationship of a practical knowledge of pathology to both diagnosis and treatment." And how forcefully true does this sage observation of the father of modern pathology appear in the light of progress made in both medicine and surgery. The surgeon has advanced because he has recognized the bacteriological factors underlying infection; and, further, because the knife has laid bare and made familiar to his eyes the character of the lesion which he seeks to remove. The general practitioner is not so fortunate. He more frequently deals with symptoms, the pathologic cause of which lies hidden from his view. The privilege of a postmortem is rarely granted to him. The Scientific Exhibit, therefore, supplies an educational need to the general practitioner. The committee which fails to reckon with this vast body of our membership neglects its greatest opportunity and obligation.

The Scientific Exhibit is no more the hand-maid of the Section on Pathology and Physiology, than it is the adjunct of medicine, surgery or ophthalmology. It belongs to the whole Association. It is an objective demonstration of the scientific and practical work accomplished in the various departments of the Association as well as representative of scientific medical progress the world over. At least, this is what the committee has sought to make it, and in the furtherance of the good work your continued sympathy and support are asked.

THE PRESENT EXHIBIT.

It is not designed at this time to speak in detail of the magnificent exhibit presented for your inspection. Suffice it to say, that in point of magnitude and artistic excellence it has not been surpassed, if equalled. What shall be said of the seventy or more exhibitors and demonstrators who have labored so unselfishly in the preparation and presentation of the exhibit? The computation of the service they have rendered would be difficult, and these words are indeed feeble to express my personal gratitude and the obligation due them from the whole Association in recognition of conspicuous service rendered.

CERTIFICATES RECOMMENDED.

It is suggested by the committee that perhaps a limited number of neatly engraved certificates of award might be given to the three laboratories or institutions presenting the best exhibits. To encourage original investigation, a gold medal might be offered for the best exhibit, illustrative of research work. It is especially recommended, for the ensuing year, that a gold medal be awarded to the best tuberculosis exhibit, which should be graded, especially on the following points:

1. Compactness and adaptability for continuous demonstration to the laity, as in public libraries, railway stations, etc.

2. Merit in lucidly and concisely instructing the laity on the disease, its nature, causation, prevention, cost, cure, etc.

The large tuberculosis exhibit presented in the leading cities of the country a couple of years ago was valuable in an educational way. It was, however, large, cumbersome, lacked classification and was expensive to maintain. A compact, comprehensive and yet inexpensive tuberculosis exhibit should be devised, which will serve as a model for use by health boards. This is but one of several sanitary problems, in which the committee believes the exhibit may render a valuable practical service and we hope it may receive your approbation.

FRANK B. WYNN, Director Scientific Exhibit.

After reading the report, Dr. Wynn suggested that provision should be made for securing the certificates of award (mentioned in the report) and medals outside of the customary appropriation. The House should designate a Committee on Awards rather than leave it to the Committee on Scientific Exhibit, because some of the competitors are likely to be exhibitors, and it would be a source of embarrassment to many of the exhibitors.

REPORT REFERRED TO BOARD OF TRUSTEES.

On motion of Dr. Philip Mills Jones, California, the remarks of Dr. Wynn were referred to the Board of Trustees with the request that they be acted on favorably.

It was then moved that the report be adopted. Seconded.

Dr. Frank Billings, Illinois, moved to amend that the report be adopted with the recommendations of the committee.

The amendment was seconded, accepted, and the motion as amended was carried.

Reference Committee on Reports of Officers.

Dr. Philip Mills Jones, California, read the report of the Reference Committee on Reports of Officers.

I. PRESIDENT'S ADDRESS. (See page 1957.)

(*a*) *Medical Education.*

We endorse opposition to the course of certain physicians in organizing or conducting incompetent medical schools, and we believe that the moral weight of this Association, together with the publicity which will eventually follow the work of the Council on Medical Education, will secure the proper uplifting of medical education in the United States. The honest activity of the various boards of examiners, cooperating with the Council, will be of inestimable value in securing this result.

(*b*) *Council on Pharmacy and Chemistry.*

We most earnestly commend the work of the Council on Pharmacy and Chemistry and the President's views thereon, and we commend to the Board of Trustees the further and permanent continuance of this work. We most strongly recommend that the members of this Association confine their prescriptions to articles contained in the United States Pharmacopeia, the National Formulary, or such as have been approved by the Council on Pharmacy and Chemistry.

(*c*) *Fees for Life Insurance.*

We endorse the report of the Insurance Committee and believe that a minimum fee of five dollars for life insurance examinations is just and fair, and we deprecate the organized effort of certain companies to compel the acceptance of a lesser fee. While it would seem desirable for county societies to take cognizance of this matter, we further deprecate the exercise of any narsh or coercive measures directed against individual members. We also agree with the view that present differences will eventually be amicably adjusted. We concur in the recommendation that the committee be discharged.

(*d*) *Reference Committees.*

We endorse the recommendation referring to committees, and recommend that the various reference committees be appointed two months in advance of the annual meeting, and that the reports be referred to these committees early enough for consideration.

II. REPORT OF GENERAL SECRETARY. (See page 1957.)

We sincerely commend, and heartily approve, the work of the General Secretary as set forth in his report, and we believe that the growth of the Association and the development of THE JOURNAL and its plant are largely, if not entirely, due to his indefatigable efforts.

III. REPORT OF THE BOARD OF TRUSTEES. (See page 1959.)

Any organization or corporation transacting business can only be successful so long as its affairs are conducted in a careful and up-to-date business-like manner, and it is with pleasure that we note the essentially thorough and business-like manner in which the Trustees have conducted the affairs of this Association. We believe that the statement of audit is sufficiently definite and comprehensive, and that to make public further and more intimate business details would be unwise and poor business policy. We consider the publication of the American Medical Directory, the compilation of data relative thereto, and of the graduation and licensure of physicians in the United States, undertakings of the greatest value to the Association and to the entire medical profession; and we consider the financial status of this portion of the Association work to be eminently satisfactory.

IV. REPORT ON ORGANIZATION. (See page 2043.)

We recommend that Dr. J. N. McCormack be requested by the Trustees to continue his most valuable work with the profession, and the laity, in this country.

(a) In the matter of the proposed postgraduate work, we recommend that the Trustees appropriate six hundred dollars for this purpose.

(b) We consider that active work in county societies is of the greatest value to the medical profession of this country, and we earnestly recommend that every effort be made to stimulate interest and activity in county society work.

In the matter of the proposed branch associations, we recommend that this report on branch associations be referred to the state associations by the General Secretary, with an urgent request for an expression of their views, to be presented to this Association at the next annual meeting.

We offer the following:

Whereas, The Council on Pharmacy and Chemistry, after examing many hundreds of preparations, has officially announced its approval of a large number of such preparations; and

Whereas, We believe that the editors of many medical journals in this country, both official organs of State Associations and privately owned journals, are desirious of cooperating in the work of freeing the medical profession from the nostrum control; therefore, be it

Resolved, That this Association most earnestly requests all medical journals to refuse to aid in promoting the sale of preparations which have not been approved by the Council, by refusing advertising space to such preparations; and be it further

Resolved, That we most earnestly request the moral and financial support of our members for those medical journals, whether privately owned or controlled by medical organizations which disregard commercialism and stand firm for honesty and right dealing, thus sustaining the Council in its greatest work for the medical profession.

In conclusion, your committee believes that all of the officers of this Association have served it well and faithfully, and we, therefore, move the adoption of the following:

Resolved, That the thanks of the Association be extended to the President, the General Secretary, the Board of Trustees and other officers for their valuable and efficient services.

W. T. Sarles,
Philip Mills Jones,
W. W. Richmond,
Donald Campbell,
A. Jacobi, Chairman.

After the reading of the report, the President said: The Chair will decide how this report shall be considered. First, a motion to adopt the report should be made, which should be seconded, after which the report may be taken up seriatim, the preamble coming last for acceptance and action.

Dr. C. E. Cantrell, Texas, moved that the report be adopted. Seconded by Dr. O. B. Campbell, Missouri.

DISCUSSION ON THE PRESIDENT'S REPORT.

Section 1, including subsections *a*, *b*, *c* and *d*, was then read, after which it was moved to amend subsection *d* to read that reports of committees be in the hands of the reference committees at least thirty days before the annual meeting.

Seconded.

Dr. Wisner R. Townsend, New York, said there was a little ambiguity in the sentence "early enough for consideration," and he thought a definite time before the meeting should be stated. He moved to amend that these reports be sent to each member of the House of Delegates at least two weeks before the annual meeting.

This amendment was seconded and accepted.

Dr. C. E. Cantrell, Texas, suggested that the appointment of the committees be left until the President knows what members will be present.

Dr. W. S. Hall, Section on Pathology and Physiology, moved, as a substitute motion, that at least two weeks before the annual meeting of the Association, printed reports of committees be sent to every member of the House of Delegates, and that reference committees be appointed on the first day of the session.

Seconded.

After discussion by Drs. Wisner R. Townsend, Frank Bilings, W. H. Carmalt, George H. Simmons and W. H. Sanders, the substitute motion of Dr. Hall was put and carried.

Dr. Jones then read Section 2 of the report, which, on motion, was adopted.

DISCUSSION ON THE REPORT OF THE BOARD OF TRUSTEES.

Section 3 of the report was read, after which Dr. George V. Webster, Illinois, moved its adoption. Seconded.

Dr. H. W. Coe, Oregon:—You will notice, gentlemen, that his report of the Board of Trustees has been audited by the nvestors Audit Company, E. M. Mills, manager, and that it is favorable to the Association. It takes up the question of something like one-third of a million dollars, a vast sum of money collected from the profession of this country, from the East and West, from the North and South—the money of men who each pay $5.00, which goes into the treasury of this Association along with other expenses. It is a considerable drain on both the young and older members of the profession when we consider the other expenses they have to meet, and it seems to me we ought to take up this matter of finance as a business man would discuss his own financial affairs, for the reason that we are here as representatives of the profession of our states. We are sent to this House of Delegates as picked men, not simply to register. There are certain things on the face of this report which show that this Auditing Company is selected by the Board of Trustees to audit the accounts of the Association. This Auditing Company or committee is not selected by this House of Delegates, but is picked by the Board of Trustees. It seems to me that an auditing committee should be selected by this House to go over the finances of the Association, and not by the Board of Trustees. Let us take up a few of the items given in the report.

Under Exhibit A of the report of the Board of Trustees, we have what is termed a comparative balance sheet of assets. They have included in the assets net investment in directory to date (Exhibit D), amounting to $43,820.66. Under net investments in this directory, they include such items as these: Express. I cannot see why money sent for express is a net asset. They have here under Exhibit D, page 4 of the report, an item designated as postage, amounting to $4,254.13. I do not see that money spent for postage can be considered an asset. Again, here is a pay-roll amounting to $23,674.96 as an asset. These items are not clear to me.

Under Exhibit E, they have an inventory of paper, stock, metal, type, buttons, ink and coal, amounting to $14,336.59, which, of course, are assets, according to the Board of Trustees. I contend that these are not assets, and that this exhibit is not made to show the real condition of affairs, but is intentionally misleading, and—

The President:—Men's names and men's motives are not debatable; but the acts of men and the consequences of their acts are debatable.

Dr. Coe (resuming):—Perhaps this is misinformation on the part of the members of the Board of Trustees, and that these items are in the wrong place. But there are some assets in this directory item that are not explicit enough. According to this report, the total expenditure for the directory paid to January 1, 1907, was $47,441.83. Of this amount, $6,035.50 was paid for the Standard Directory. The amount expended on the directory for other purposes since July 1, 1905, is, therefore, $41,406.33

The report says, "To offset the charge of $41,406.33, there are at present the following assets: (1) 7,300 advance orders for the directory, which, at $5.00 each, gives a total of $36,500." They do not include this in their report because it is one thing to have an order for money and another to get the money. Secondly, we are told that 8,500 copies of the directory were printed, and there are on hand 1,200 extra copies. It is evident from the way this directory item has been presented, that we should take notice. It seems to me, we have a duty to perform to the constituencies we represent, and the finances of this Association should be gone over carefully by a committee appointed by this House of Delegates of independent men.

Looking under Exhibit H on page 5 of the report, I see certain items, some of which are not clear. Here is the salary of Dr. McCormack for the year 1906, amounting to $4,999.92; agents' expenses, $551.08. I do not know what the latter item means. Here is another suggestive item under the head of jobbing, amounting to $246.85, and so on all the way through the report. It would seem to me as though the Board of Trustees is entitled to a different clearance than it gets in this report, and if things are all right, then it should have that clearance.

Dr. J. W. Grosvenor, New York:—I would like the privilege of asking the Board of Trustees a few questions.

Under Exhibit A, page 2, we have liabilities and sundries. I would like to know what these sundries are. I do not know what they mean. On another page, 3, under Exhibit B, I find a large item under jobbing. I do not understand what that is, whether it is for work that has been done at the headquarters of the A. M. A. or some outside companies. Then I notice books. What books are those? I notice, too, sale of paper boxes, etc. Why should the Board of Trustees sell paper boxes? Then on the same page, we find an item under commissions for securing new members, etc. How much are these commissions? I see under Exhibit C on the same page of the report, inventories, increase in assets. I do not understand that. Then it says below, a decrease in assets. Is that a decrease from the report of last year or not? And on page 4, Exhibit D, I see correspondents, information, etc., an item amounting to $7,983.81.

Then, with regard to the payroll of the Association. What is the average pay of these employés, or what is the highest or lowest amount any employé receives? Then on page 5, regarding salaries, what salaries are those? I would like to get a little more information about the payroll and also about jobbing.

Dr. M. L. Harris:—On behalf of the Board of Trustees, I would like to make an explanation of these items, provided the House of Delegates desires it.

Dr. C. E. Cantrell, Texas:—I move that we hear Dr. Harris, and that his time be not limited.

Seconded and carried.

Dr. Harris (resuming):—First, in reference to the audit. We select an auditing firm which has no connection whatever with the Association. It is a reliable auditing firm. This company audits accounts for such large firms as Alexander H. Revell & Co., Chicago; the American Trust and Savings Bank, the Colonial Trust Company, Peabody, Houghteling & Co., the Santa Fe Railroad Company, the Northern Pacific Railroad Company, etc. The representatives of this firm come to your building at Chicago and audit every account. Everything that is bought is traced from the time it is sent for until it is received in the office and checked up, and every cent that is paid out is checked up, as well as every cent that is put in the bank and every cent that is taken out of the bank. This auditing company makes to us a complete report of the entire financial condition of the Association. The gentleman has no business ability or he would not ask such simple questions about these—

The President:—Be careful, Doctor, what you say; be careful; you are reaching a dangerous point.

Dr. Harris (resuming):—Everything that is paid out to accomplish an end is an asset until the other side of the ledger is complete to offset it. Every dollar put in the directory is an asset until it goes out again, and is on the opposite side of the ledger balance. This report was made before the income from the directory had been received. The report was made up to the end of December, 1906. The income from the directory is not all received yet from the copies that have been sold. Every dollar of the directory is an asset until the edition has been completed.

With regard to jobbing and agents we send out to aid in organization, I will say that under the summary of organization we have mentioned the account of Dr. McCormack, who is at the head of that department. We have other agents who are sent out to aid in this work. Jobbing is printing items of stationery, etc., and the little pamphlets which we send out to aid in organization. This printing is done for organization purposes. Under Exhibit A, liabilities, page 2, there are innumerable kinds of small accounts, and we can furnish an itemized list of all of these accounts to the members of the House of Delegates if necessary. Under this head are embraced reprints and things of that kind that are printed in the office, and which are not included in the publication of The Journal itself. They are things for which the Association is paid.

As to the sale of scrap paper and boxes, we have an enormous amount of scrap paper which comes from the cutting machines. This paper accumulates and then we sell it. The boxes referred to are the large wooden cases in which the paper for The Journal is delivered. These are also sold.

Dr. J. W. Grosvenor:—I understand that there is a clerk at the office who receives money and pays out money without special supervision. Is that true?

Dr. M. L. Harris:—It is not true. Every dollar that is received or paid out is under the supervision of the General Manager.

Dr. H. W. Coe:—Is it not true that the great bulk of receipts never gets into the treasury?

Dr. M. L. Harris:—These receipts go into the treasury, but not into the treasurer's hands.

Dr. H. W. Coe:—I do not find this in the receipts of the treasurer.

Dr. M. L. Harris:—The receipts do not go into the treasurer's hands. Dr. Billings, our Treasurer, is simply a custodian, and you all know that it is absolutely impossible for Dr. Billings to devote his entire time to the receipt of every dollar that comes into the office of The Journal. In the next place, the money does not go into his hands, but to the general office. The surplus money goes to the Treasurer and he is custodian for our surplus funds. We have a clerk in the office who devotes his entire time to that phase of the work. All money comes to the General Manager's office. He is bonded for $10,000. Every man who handles money for the Association is under bond.

A Member:—It may be there are a number of gentlemen present who do not understand the principles of common commercial law, and, if so, I would urge them to read up and not prolong this discussion indefinitely.

The President:—I have heard insinuations cast on the officers of the Association for many years—men who are trying to discharge their duties faithfully and honestly, and I determined that if I ever occupied this position I would see it threshed out to the satisfaction of every member in the House of Delegates. (Applause.)

A Member:—It seems clear that the matter before this House of Delegates, and one which is the cause of all disturbance, is whether the Board of Trustees shall make its report in greater detail or not, or whether there should be a detailed report printed and sent to every member of the House of Delegates for his investigation. If the members of the Board were asked to explain or to answer every question we ask, it would take them a week to do so. Is it the sense of this House that we be satisfied with the Auditor's report such as we have, or shall we require in printed form every detail of 10 or 15 cents that is charged to expense accounts that goes through the hands of the Association? It seems to me that we ought to vote as to whether or not we are satisfied with the Auditor's report and stop all of this discussion at once.

Dr. C. E. Cantrell, Texas:—Is it not a fact that the members of the Board of Trustees are our agents and are doing business for us; that the officers of the Association, the Secretary and Journal people are employed by the Board of Trustees, and that this Auditing Committee acts for the Board of Trustees to see whether or not these people have done and are doing their work properly and have accounted for everything, and whether or not this report is not a summing up of the whole matter?

Dr. M. L. Harris:—Yes. An unbiased auditing company is absolutely essential to the conduct of every business, and we are endeavoring to conduct the business of the Association in a business-like manner, so that every single item can be accounted for.

Dr. Philip Mills Jones, California:—One word of explanation from the committee. The committee considered carefully the question of the details of this report, which has been raised in the present discussion, and we not only considered it a waste of time and of energy to embrace many of these details, but we further considered it unwise, and so expressed it in our report.

Dr. Charles J. Kipp, New Jersey:—I think the gentleman from Oregon (Dr. Coe) should withdraw his remark that the report was "intentionally misleading."

Dr. H. W. Coe:—I will gladly withdraw any offensive statement I may have made, but I do not think I used the words "intentionally misleading." I wish to put myself on record, however, as saying that the report is not as explicit in regard to certain details as I think it ought to be.

The motion to adopt this section of the report was then put and carried.

The President:—I promised our Secretary that he should make some brief remarks on what has been said, but in my desire to expedite the business of the House I overlooked it, and I will ask the indulgence of the House for a brief time to listen to such remarks as the Secretary may desire to make.

Dr. H. W. Coe:—I move that Secretary Simmons be permitted to make extended remarks.

Seconded and carried.

Dr. George H. Simmons, Illinois:—During the last two years I have been accused of everything in the category from being a grafter to a swindler and everything else. Dr. Billings has been grouped with me. Members of the Board of Trustees have been grouped with me. There have been insinuations cast that are not pleasant. The fact of the matter is that this Auditing Committee audits my accounts and reports to the Board of Trustees. I am the one who is investigated, and the methods we have adopted are the ones I have either originated myself or are those of my predecessors, and we have tried our best to have these methods as absolutely business-like and as safe in every respect as possible.

We have a peculiar difficulty to contend with from the fact that we get a great proportion of the money in small sums. We have gone to different firms in Chicago and have asked different auditing companies what method to adopt to transact our business in a business-like way. We have adopted this method: We have a clerk who is under bond. She opens every letter and enters in a cash record every cent that comes in. Items relating to membership, subscription, directory, advertising, etc., are properly entered on our books in the different departments to which they belong. For instance, every item that comes in credited to subscriptions goes to the subscription department. Every item for membership goes to the membership department. These accounts are reported back to the cashier every night, and the reports must agree in every detail with the total amount entered on the books. Every one of these items is entered twice, in some instances three times. Everybody who handles money, directly or indirectly, is under bond. I am under bond. Mr. Braun, the Business Manager, and Mr. Shelly, the Cashier, are under bond. The latter, who is directly responsible for the cash and a most faithful and honest man, feels these insinuations as much as any of us. We have tried our best to carry on the business of the Association in a strictly business-like manner.

In regard to the Treasurer's fund, I do not think Dr. Harris answered that question, although I believe it was asked. Let me say that the money which comes into the office goes into the bank, and we are checking out of that fund every day. After we get a certain surplus it is transferred to the Treasurer, who deposits it in a separate bank as a surplus fund. Every cent of money that goes into the Treasurer's hands draws either 2 or 3 per cent. interest. For several years past we have also been drawing 2 per cent. on the average amount of our checking account on deposit in the Commercial National Bank of Chicago. There is not an item paid out at the office of THE JOURNAL that is not represented by a receipt, even if it is a nickel for the boy to pay his street car fare. We have a voucher check system that is as perfect as we can possibly make it, and any of you gentlemen can go into the voucher room and see all the voucher checks that have been paid since we have adopted that system. You can go there and see every cent that is paid to me, to Mr. Braun, or to any one who is paid by check. Now, if there is any way by which we can conduct the business of the Association in a more systematic or business-like manner, then I would like to have some one tell me how.

DR. L. S. MCMURTRY, Kentucky:—I move that the House of Delegates tender a vote of confidence and thanks to the Secretary-Editor and Manager for his faithful, honest and efficient services.

This motion was seconded by several, but Dr. Coe said that, inasmuch as he had started this discussion, but had said nothing against the Editor and was very careful not to do so, he took great pleasure in seconding the motion.

Dr. Hubert Work, Colorado, moved to amend that the Board of Trustees be included in the vote.

The amendment was seconded, accepted and the original motion as amended was unanimously carried.

Report on Organization.

Referred to the Board of Trustees.

Dr. Jones then read Section 5 of the report relating to organization.

Dr. Adam Guthrie, Arkansas, moved the adoption of this section, which was seconded by Dr. Cantrell.

Dr. Wisner R. Townsend, New York, said that, inasmuch as this involved the expenditure of money, he would move as a substitute that the question of the abolition or retention of an organizer be referred to the Trustees with power to act, and that the remainder of the section be adopted.

The substitute was seconded.

Dr. Jones stated that the substitute was practically embodied in the recommendation of the committee.

Dr. Townsend replied that if a substitute motion meant the same as the original, why not adopt the substitute?

The Chair ruled that the substitute and the original in this case meant the same.

The motion of Dr. Guthrie was then put and carried.

Branch Associations.

The section in reference to forming branch associations was read by Dr. Jones, who said that at the time the committee unanimously adopted this section it considered that the initiative in regard to forming branches should come from the state associations involved. The committee had no knowledge that any such application had been presented. Last night Dr. McCormack had handed him a telegram signed by Dr. F. H. Clark, Oklahoma, stating, "Do not forget to ask House of Delegates to make Medical Association Southwest official district association."

Dr. Jones said the committee had no knowledge of the states embraced in this Association.

On motion, this part of the report was adopted.

The remaining sections of the report of the committee were read and adopted. The preamble was likewise adopted.

Report of Committee on Reports of Officers Adopted.

On motion, the report was then adopted as a whole.

Dr. J. W. Grosvenor, New York, moved that the Board of Trustees be requested by the House of Delegates to make its report for the coming year more explicit than formerly by the introduction of explanatory notes or words.

This motion was not seconded. The President stated that, as there was no objection, the request would doubtless be complied with.

Report of Reference Committee on Medical Education.

Dr. F. B. Lund, Section on Surgery and Anatomy, presented the following report of the Reference Committee on Medical Education:

The Reference Committee on Medical Education of the American Medical Association, to which was referred the report of the Council on Medical Education, (See page 1701) reports as follows:

The Council on Medical Education was created by the American Medical Association to act as its agent in an effort to elevate the standards of medical education. The Council's functions are two: To make an annual report on existing conditions in medical schools in the United States, and to make suggestions which shall lead to a gradual improvement in medical education.

I.

The first of these functions has been well performed, as is evidenced by the Council's present report. The reference committee is of the opinion that the compilation of the tables based upon the standings before state licensing boards of the graduates of each medical school in the United States should be specifically endorsed, and that such an annual compilation shall be indefinitely continued. The reference committee is further of the opinion that the most valuable portion of the Council's report is that based on personal inspection of all the medical schools of the United States. The committee, therefore, suggests that the House of Delegates of the American Medical Association direct the Council on Medical Education to make an annual inspection of all of the medical schools of the United States for a period of three years to date from June 1, 1907.

II.

The second of its functions, namely, the making of suggestions which shall lead to a gradual improvement in medical education, the Council on Medical Education has also fearlessly performed. The suggestions found in the report by your Reference Committee have been considered by its members, and the following have been singled out to be presented to the House of Delegates as the educational policy of the American Medical Association.

(1) The minimum educational standard for a medical school in good standing with the American Medical Association shall be:

(a) Evidence of a preliminary education sufficient to enable a student to enter the freshman class of a recognized university or college, this education being construed to mean either graduation from a four-year high school or an amount of training equal to that given in a four-year high school course.

(b) Four years of successful work in a medical school, each year to consist of at least thirty weeks of thirty hours per week of actual work in class, laboratory, dispensary and hospital.

(2) Although the American Medical Association continues to stand by the four-year high school course adopted at the Portland session as the *minimum* preliminary educational qualification for the study of medicine for the entire United States, at the same time this Association favors beyond present requirements, as soon as conditions warrant, the enlargement of preliminary scientific education to include a thorough course in physics, chemistry and biology, and also one modern language, preferably German.

(3) Medical schools conducted solely for profit shall not be in good standing with the American Medical Association.

(4) Night schools, meaning those schools giving all or the major portion of their instructions after 4 p. m. and before 10 p. m., shall not be in good standing with the American Medical Association.

III.

The American Medical Association, through its House of Delegates, urges, both at the suggestion of its Council on Medical Education and of its Reference Committee on Education, the following:

(1) That state licensing boards be urged to make annual personal inspections of the medical schools located in their respective states.

(2) That state licensing boards be urged to award to no undergraduate a license to practice medicine.

(3) That the state licensing board of each state be urged to pass on the preliminary educational attainments of all those contemplating the study of medicine in that state, and to issue to each successful candidate a certificate entitling him to admission into any school located in that state choosing to receive that candidate.

(4) That the state licensing boards be urged to extend so far as possible the principle of reciprocity among themselves, the American Medical Association being heartily in favor of the rapid extension of the reciprocity principle.

IV.

The Reference Committee further recommends to the House of Delegates of the American Medical Association that the plan of annual conferences on medical education adopted by the Council on Medical Education be endorsed, and that conferences similar to those hitherto held be annually conducted under the auspices of the American Medical Association, each state licensing board, and each state medical society being most cordially invited to appoint at least one delegate for such annual conferences, the conference further to have as members such others as it shall seem to the Council on Medical Education advisable or necessary to invite.

The reference committee desires further to state that it is of the opinion that the Council on Medical Education can not be too highly complimented for the work which they have accomplished during the past year. Indeed, the Reference Committee is of the opinion that a very hearty vote of thanks should be given that Council for its effective work, and that the Council on Education should feel that it has the hearty cooperation of the entire medical profession as represented by the American Medical Association.

Charles Louis Mix,
Stuart McGuire,
Henry L. Elsner,
Solomon Solis-Cohen,
F. B. Lund, Chairman.

REPORT ADOPTED.

Dr. L. C. Morris, Alabama, moved the adoption of the report. Seconded and carried.

The Southern Medical Association.

Dr. F. W. McRae, Georgia:—In pursuance of the suggestion of the House of Delegates, there has been organized the Southern Medical Association. Dr. Martin of Savannah, Ga., president of that association, is here, and I would move that he be given five minutes in order to speak of this association.

Seconded and carried.

Dr. Henry H. Martin:—We have gone to work in the South and have organized the Southern Medical Association. We have brought the matter before the different state societies, so that this association now includes Georgia, Florida, Alabama, Mississippi, Tennessee and Louisiana, and it has already been acted on and endorsed, so that there now exists a Southern Medical Association. I would most respectfully request that the House of Delegates at this meeting recognize this association as a district branch of the American Medical Association. The association we have organized is a purely scientific body, having no legislative functions.

(No action was taken.)

Dr. John T. Wilson, Texas, called attention to the existence of the Southwestern Medical Association.

Resolutions in Favor of Enlarging the High School Courses in the South Adopted.

Dr. Charles L. Mix, Illinois, offered the following resolution:

> Whereas, In many of the southern states but few high schools exist, having a course extending beyond three years; and
>
> Whereas, It is therefore a hardship for some of the southern medical schools to adopt a four-year high school course, or its equivalent, as a minimum of preliminary education for the study of medicine; therefore, be it
>
> *Resolved*, That the American Medical Association lend its influence to the physicians of the southern states in their endeavor to secure an enlargement of the high school course from a three-year to a four-year course, and that the Council on Medical Education is hereby instructed to conduct active propaganda in the South with the above end in view.

Dr. L. C. Morris, Alabama, moved the adoption of the resolution, which motion was seconded and carried.

Report of Reference Committee on Hygiene and Public Health.

The Reference Committee on Hygiene and Public Health then reported as follows:

RESOLUTION ON VENEREAL DISEASES REFERRED BACK TO SECTION.

The committee begs to submit the following report on the resolution on making venereal disease reportable.

It is recommended that this resolution be referred to the Section on Hygiene and Sanitary Science for a more detailed statement as to what is meant by the expression, "control of Boards of Health."

The resolution above referred to, was offered by Dr. L. Duncan Bulkley, New York, last year. It reads:

> *Resolved*, That in the opinion of the Section on Hygiene and Sanitary Science of the American Medical Association, gonorrhea, chancroid and syphilis, should be included among diseases to be under the control of boards of health of the different states.

On motion of Dr. J. W. Grosvenor, New York, the recommendation of the committee was concurred in.

RESOLUTION OF CONTINENCE APPROVED BY COMMITTEE.

The Reference Committee on Hygiene and Public Health also submits this report on the resolution of Dr. Prince A. Morrow, a copy of which is given below, that in its opinion this resolution should be approved by the House of Delegates.

> Whereas, There exists among the laity a general impression that sexual intercourse is necessary to the health of men; and
>
> Whereas, It is claimed that the impression rests on the authority of the medical profession; now, therefore, be it
>
> *Resolved*, That in the opinion of the Section on Hygiene and Sanitary Science of the American Medical Association, continence is not injurious to health, and that this Section reprobates the contrary doctrine as a menace to the physical and moral welfare of the individual and society.

REPORT OF COMMITTEE AND RESOLUTION LAID ON THE TABLE.

On motion the report of the committee on this resolution and the resolution itself were laid on the table.

EDUCATION ON VENEREAL DISEASE.

The Reference Committee on Hygiene and Public Health submitted the following on the resolution on education concerning venereal disease offered by Dr. Liston H. Montgomery, Chicago, last year. This resolution reads:

> *Resolved*, That it is the opinion of the Section on Hygiene and Sanitary Science of the American Medical Association that it should be the duty of state boards of health to disseminate literature to educate the people on the subject of the great black plague (venereal disease), as they do regarding tuberculosis and other infectious diseases.

The committee recommends that the words, "through proper channels," be inserted after the word "literature."

With this amendment, the committee recommends the resolution for favorable consideration by the House.

On motion of Dr. Frank Billings, Illinois, the recommendation of the committee and the resolution were adopted.

RESOLUTION REGARDING MEDICAL LIBRARIES REFERRED TO BOARD OF TRUSTEES.

Dr. Reuben Peterson, Michigan, offered the following preambles and resolution:

> Whereas, The Association of Medical Librarians has been in existence for ten years and has, in its membership, some sixty-five medical libraries, including all the large medical libraries; and
>
> Whereas, These libraries are all equipped with proper rooms, have regular hours for reading medical books and periodicals; and
>
> Whereas, Many of the libraries are in public libraries, and all accessible to intelligent lay readers as well as physicians; and
>
> Whereas, These libraries can and do serve a valuable purpose in the dissemination of knowledge of medicine and sanitary science; and
>
> Whereas, The Journal of the American Medical Association is and should be the most important medium of communication in all such matters, and as such should be as accessible as possible; therefore, be it
>
> *Resolved*, That The Journal of this Association be sent free to all medical libraries, the names of which shall be submitted to the Secretary by the Medical Library Association.

On motion of Dr. C. E. Cantrell, Texas, the resolution was referred to the Board of Trustees.

Professor Carl Hess Elected an Honorary Member.

Dr. S. D. Risley, representing the Section on Ophthalmology, said that he was instructed by his Section to nominate Professor Carl Hess, of Würzburg, Germany, for honorary membership, and, on motion of Dr. C. E. Cantrell, Texas, Professor Hess was elected to honorary membership.

Anesthesia Commission Recommended.

REFERRED TO THE REFERENCE COMMITTEE ON SECTIONS AND SECTION WORK.

Dr. F. B. Lund, Section on Surgery and Anatomy, presented the following from his Section:

In the Section on Surgery and Anatomy, it was moved, seconded and carried that the Chairman of the Section be empowered to appoint a committee of five (with power to appoint subcommittees) to be known as the Anesthetic Commission of the Section on Surgery and Anatomy of the American Medical Association; the duties of this commission, to serve for five years, shall be to gather and analyze data regarding anesthetics and report annually to the section.

Further, the delegate of the Section is asked to request an appropriation from this House of Delegates for the necessary expenses (postage, stationery, etc.) of the committee.

On motion of Dr. C. S. Bacon, Illinois, the resolution was referred to the Reference Committee on Sections and Section Work, to report at the afternoon meeting. (See page 2062.)

Southern Medical Association.

REFERRED TO REFERENCE COMMITTEE ON REPORTS OF OFFICERS.

Dr. F. W. McRae, Georgia, presented a formal application of the Southern Medical Association, and moved that it be referred to the Reference Committee on Reports of Officers, with the request that the committee report on this and other pending applications at the afternoon meeting.

Seconded and carried.

Delegates to the International Association of Stomatology.

Dr. G. V. I. Brown, Section on Stomatology, said the following men have been elected delegates from the Section on Stomatology to the International Association of Stomatology, to be held in Paris, Aug. 1, 1907: Drs. E. A. Bogue, New York; G. V. I. Brown, Milwaukee; Charles O. Kimball, New York; M. L. Rhein, New York, and Eugene S. Talbot, Chicago.

Dr. Philip Mills Jones, California, moved that the election of these gentlemen be confirmed by the House of Delegates.

Seconded and carried.

Section Programs.

The following resolution was offered from the Section on Cutaneous Medicine and Surgery:

Resolved That our representative to the House of Delegates be instructed to request that the proper authorities be directed to mail copies of the complete sectional program of this Section to each member, who has registered at this meeting, from three to five days before the annual date of the next meeting.

On motion, the resolution was referred to the Committee on Sections and Section Work. (See page 2062.)

A MEMBER:—I wish to know whether this House of Delegates, through its Commitee on Organization, is empowered to district the country, or whether this is left to the states.

On motion, this matter was referred back to the Committee on Organization, to be reported on at the afternoon meeting. (See page 2062.)

The Secretary read resolutions presented by Dr. F. A. Long, president of the Nebraska State Medical Society, in regard to the giving of commissions, which were referred to the Judiciary Council.

Resolution on Pharmacopeia Revision.

The Secretary read the following resolution from the Section on Pharmacology and Therapeutics:

The following resolutions were adopted by the Section on Pharmacology and Therapeutics, and referred to the House of Delegates:

Resolution on Pharmacopeial Revision.

To provide for these improvements in the next Pharmacopeia and to give every part of this country equally full scientific and practical representation at the next Pharmacopeial Convention, we offer the following resolutions:

Resolved, That the Section of Pharmacology and Therapeutics requests the House of Delegates to establish a Committee on the Pharmacopeia, this committee to consist of six members of the American Medical Association nominated by the Section on Pharmacology and Therapeutics and elected by the House of Delegates. The object of this committee to be the collection of suggestions on desirable changes in the Pharmacopeia and the formation of subcommittees in all chartered medical societies of the country, these subcommittees to send instructed delegates subject to the rules of the Pharmacopeial Convention of 1910; and be it further

Resolved, That the Section on Pharmacology and Therapeutics nominate at the present session twelve men, of whom the House of Delegates shall elect two to serve for three years, two for two years, and two for one year, and thereafter each year this Section shall nominate four men, two of whom shall be elected by the House of Delegates to serve for three years on the above committee. This committee on the Pharmacopeia to be appointed by the House of Delegates. Be it also

Resolved, That the Section of Pharmacology and Therapeutics requests the House of Delegates to appropriate the sum of one hundred dollars annually for the necessary printing and postage expenses of this committee.

OLIVER T. OSBORNE,
WILLIAM J. ROBINSON,
H. EDWIN LEWIS.

On motion of Dr. G. Lane Taneyhill, Maryland, the resolutions were referred to the Board of Trustees. (See page 2065.)

Davis Memorial.

DR. HENRY O. MARCY, Boston:—The Davis Memorial Committee made its report yesterday morning regarding certain sums of money that have been paid up to this meeting, and I have been requested to ask the House of Delegates that $5,000 be appropriated by the American Medical Association for this special purpose. The committee believes that it can raise $15,000 from the different states.

On motion, Dr. Marcy's request was referred to the Board of Trustees. (See page 2064.)

On motion, the House of Delegates then adjourned until 2 p. m.

Fifth Meeting—Thursday, June 6

The House of Delegates reconvened at 2 p. m. and was called to order by the President.

The Secretary called the roll and 81 members responded.

Election of Officers.

After the roll-call, the election of officers was in order.

The President appointed as tellers Drs. Wisner R. Townsend, New York; S. Bailey, Iowa; George W. Webster and Robert T. Gillmore, Illinois.

The following officers were nominated, balloted for and duly elected:

President—Dr. Herbert L. Burrell, Boston.

First Vice President—Dr. Edwin Walker, Evansville, Indiana.

Second Vice President—Dr. Hiram R. Burton, Lewes, Delaware.

Third Vice President—Dr. George W. Crile, Cleveland, Ohio.

Fourth Vice President—Dr. W. Blair Stewart, Atlantic City, New Jersey.

General Secretary—Dr. George H. Simmons, Chicago.

Treasurer—Dr. Frank Billings, Chicago.

Trustees—Dr. T. J. Happel, Trenton, Tenn., re-elected; (1907-1910); Dr. W. W. Grant, Denver, re-elected (1907-1910); Dr. Philip Marvel, Atlantic City, N. J., re-elected (1907-1910).

The other members of the Board are,: Dr E. E. Montgomery, Philadelphia; Pa., 1908; Dr. A. L. Wright, Carroll, Ia., 1908; Dr. H. L. E. Johnson, Washington, D. C. 1908; Dr. M. L. Harris, Chicago, Ill., 1909; Dr. Wm. H. Welch, Baltimore, Md., 1909; Dr Miles F. Porter, Ft. Wayne, Ind., 1909.

Standing Committees Appointed.

The following nominations were made by the President and confirmed by the House of Delegates:

Committee on Medical Legislation: In place of Dr. W. L. Rodman, Dr. C. S. Bacon, Illinois.

The other members of the committee are: C. A. L. Reed, Cincinnati, O., Chairman, 1909; Wm. H. Welch, Baltimore, Md., 1908.

Council on Medical Education: In place of Dr. Charles H. Frazier, Dr. James W. Holland, Pennsylvania.

The other members of the Council are: Arthur Dean Bevan, Chicago, Ill., Chairman, 1909; W. T. Councilman, Boston, Mass., 1910; J. A. Witherspoon, Nashville, Tenn., 1911; Victor C. Vaughan, Ann Arbor, Mich., 1908.

Committee on Transportation and Place of Session: Dr. M. L. Harris, Chicago; Dr. E. Eliot Harris, New York; Dr.

W. A. Jayne, Denver; Dr. W. T. Sarles, Sparta, Wis.; Dr. John C. Munro, Boston, is chairman of this committee.

Committee on Organization: Dr. J. N. McCormack, Bowling Green, Ky.; Dr. George H. Simmons, Chicago; Dr. Philip Mills Jones, San Francisco.

Board of Public Instruction on Medical Subjects: Dr. J. G. Clark, Philadelphia, 1907-1911; Dr. F. F. Simpson, Pittsburg, 1907-1911; Dr. Frank Billings, Chicago, 1907-1910; Dr. George H. Monks, Boston, 1907-1910; Dr. L. S. McMurtry, Louisville, Ky., 1907-1909; Dr. Howard Kelly, Baltimore, 1907-1909; L. Emmett Holt, New York, 1907-1908.

Judicial Council: C. E. Cantrell, Texas; R. C. Cabot, Massachusetts; G. W. Guthrie, Pennsylvania; Thomas McDavitt, Minnesota.

Recognition of Branch Associations.

Dr. Philip Mills Jones, California:—If it is the desire of the House of Delegates, I would like to introduce a resolution. While it does not come from the Committee on Reports of Officers, it is in line with certain matters reported on by the committee, and I think embodies the previously unexpressed views of the majority of the members of that committee:

Resolved, That recognition be given to the branch associations applying for the same, subject to the adoption of the uniform constitution and by-laws, to be prepared by the Committee on Organization of this Association.

On motion, this resolution was adopted.

Professor Killian Elected an Honorary Member.

The following was presented to the House of Delegates by the Section on Laryngology and Otology:

This Section has elected Professor L. Killian, of Freiburg, Germany, an honorary member, and requests the House of Delegates to confirm the same.

W. S. Bryant, Secretary,
Section on Laryngology and Otology.

On motion of Dr. H. Bert Ellis, California, the election of Professor Killian was confirmed.

Report of the Reference Committee on Sections and Section Work.

ANESTHESIA COMMISSION.

Dr. Leartus Connor, Michigan, read the report of the Reference Committee on Sections and Section Work in regard to the Anesthetic Commission asked for in a resolution submitted by the Section on Surgery and Anatomy. (See page 2061.)

The committee suggested that the adoption of this resolution at this meeting would be inexpedient.

It was moved that the report be adopted. Seconded.

Dr. F. B. Lund, Section on Surgery and Anatomy:—As delegate from the Section on Surgery and Anatomy, I would like to know why this resolution is deemed inexpedient. I think it is a good thing to have such a commission appointed. There is no great expense involved. An objection may be raised as to the chairman of the section making the appointment, but he is willing to forego that privilege, so that the House of Delegates may designate the members of the commission, and include the members of certain other sections, such as members of the Section on Obstetrics and Diseases of Women and the Section on Stomatology, who are interested in the question of anesthetics. This subject is an important one at the present time. There is a great deal of work being done in regard to anesthetics, the adoption of new anesthetics, and there are new methods of giving old anesthetics. It is a question of vital interest to the members of this Association, and I believe that we should disseminate knowledge on this subject. It does not seem to me to be expedient. I dislike very much to object to the report of the committee, but I should be sorry not to have this resolution adopted, requesting the Board of Trustees to appropriate the small amount of money for this work, not more than $500, which would be required.

Dr. S. Solis-Cohen, Philadelphia:—On behalf of the Section on Pharmacology and Therapeutics, I would like, instead of turning the resolution down, to move as an amendment that this resolution be referred to the Board of Trustees, with the approval of the House of Delegates of its principle, and the request that the Trustees act on it in such a manner as they deem best. The question is one of sufficient importance to engage the attention of the American Medical Association. Seconded.

Dr. F. D. Gray, New Jersey:—I would like to know if any member of the committee can state briefly why the committee considers this matter inexpedient.

Dr. Frank Billings, Illinois:—This is really a section matter. It is a question in the minds of the members of the Section on Surgery and Anatomy as to the value of an investigation on anesthetics; therefore, it is a section matter. That Section has a right to appoint a committee to investigate anesthetics if it so desires; but to recommend to the Trustees that an appropriation shall be provided for it is another thing. It does not seem to me that we, as a House of Delegates, should express an opinion to the Section on Surgery and Anatomy that it is either expedient or inexpedient, and as a member of the Section on Practice of Medicine and as a member of this House of Delegates, I do not want to say to the Section on Surgery that it is inexpedient to investigate anesthetics. The report should come from the Section on Surgery that it has appointed a committee on anesthetics, and it should then ask the House to recommend an appropriation from the Board of Trustees to carry out the action.

Dr. Charles S. Bacon, Illinois:—It is desirable to discuss the principles of the motion, and I must disagree with the remarks of Dr. Billings that this is purely a section matter. The investigation of anesthetics, if undertaken by the Association, will be one of such extent and importance that it will interest the whole Association, and especially the sections that are interested in anesthetics. All sections stand on an equality so far as the appropriation of money is concerned, and certainly the Section on Obstetrics and Diseases of Women, the Section on Ophthalmology, the Section on Laryngology and Otology, the Section on Surgery and Anatomy, as well as the Section on Pharmacology and Therapeutics, are interested in this matter, so that the extensive investigation which is evidently contemplated by this motion is one that should not be under the control of one section, but of all sections. Therefore, if this matter is left with the Board of Trustees, there should be provision made for the appointment of a committee which will recognize all sections.

The original motion, as amended by Dr. Solis-Cohen, was then put and carried, and the resolution was referred to the Board of Trustees.

SECTION PROGRAMS.

The Reference Committee on Sections and Section Work made the following report on the resolution presented by the Section on Cutaneous Medicine and Surgery at a previous meeting of the House of Delegates, in regard to mailing copies of the complete sectional program to each member of the Section from three to five days before the annual meeting. (See page 2061.)

The committee recommends that, in view of the publication of the preliminary program in The Journal of the American Medical Association at least thirty days before each annual meeting, the above resolution be not adopted.

On motion of Dr. Frank Billings, the recommendation of the committee was concurred in.

Dr. Julius Grinker, Section on Mental and Nervous Diseases: On behalf of the Section on Nervous and Mental Diseases, I wish to say that this Section has adopted a resolution similar to the one just read, namely, that papers be printed thirty days in advance of the meeting, and be sent to the members who have registered in the Section on Mental and Nervous Diseases, in order that more time be given for discussions; the number of papers to be limited to thirty, provided the Secretary can publish such papers. It is anticipated that other sections will follow in the footsteps of the Section on Ophthalmology, which has been doing this for some time.

I would respectfully request that the same course be pursued in this Section as in other sections, such as the Section on Ophthalmology, etc.

On motion of Dr. L. C. Morris, Alabama, this request was referred to Reference Committee on Section and Section Work.

INVESTIGATING COMMITTEE FOR HOT SPRINGS NOT APPROVED.

Dr. Adam Guthrie, Arkansas, introduced the following resolution, and moved its adoption:

Resolved, That this House of Delegates recommends that the President of the American Medical Association appoint a committee of three members of the Association, whose duty it shall be to investigate the conditions at Hot Springs, Ark., and take such action as seems to be suggested by reference to the therapeutic value of such springs.

Dr. C. E. Cantrell, Texas, moved the adoption of the resolution, which was seconded, put and declared lost.

EX-PRESIDENTS TO BE MEMBERS OF THE HOUSE OF DELEGATES.

Dr. J. N. McCormack, Kentucky, offered the following amendment:

Amend Section 1, Article 5, of the Constitution, by adding after the words, "Public Health and Marine-Hospital Service," the words, "the Ex-Presidents of this Association." (To lie over one year.)

EMPLOYMENT OF DENTISTS IN THE NAVY ENDORSED.

Dr. W. H. Bell, U. S. Navy, presented the following resolution:

Resolved, That it is the sense of this House of Delegates that the efforts of Surgeon-General P. M. Rixey to secure legislative authority for the employment of dentists in the U. S. Navy be approved, and that the Committee on Medical Legislation be instructed to exert such influence on Congress as in its judgment may be deemed wise in support of the measures making such provision.

On motion of Dr. Jones, this resolution was adopted.

Dr. C. S. Bacon, Illinois:—Last evening I had the pleasure of making the acquaintance of Dr. Burton, representative in Congress from Delaware, who, with Dr. Barchfeld, member of Congress from Pennsylvania, and Dr. Samuels, were responsible for the rejection of the osteopathic bill before the house committee. This bill undoubtedly would have passed without the aid of those gentlemen, who gave valuable counsel to the Committee on Medical Legislation that met in Washington. I took the opportunity at this meeting with Dr. Burton to invite him to attend a meeting of the House of Delegates, thinking that it would be the wish of the members of the House of Delegates to meet this gentleman who has done so much for the Committee on Medical Legislation and for the profession; and that it would be a good thing for Dr. Burton, if he desired, to meet the delegates and to see how they do business. Dr. Burton has just come into the room, and I would like to ask that we extend him an invitation to attend the remaining meetings of the House of Delegates.

Dr. G. Lane Taneyhill, Maryland:—I move that Dr. Burton be invited to the privileges of the floor.

Seconded and carried.

Dr. Burton ascended the platform, and in introducing him President Bryant said: I desire to announce to you, sir, you have been elected one of the vice-presidents of this Association. I further desire to announce that it is not only because you are an eminent physician, but because you are eminently successful in furthering the advantages, desires and beneficent propositions of the organization.

Dr. Burton said:—*Mr. President, and Members of the House of Delegates of the American Medical Association:* I am at a loss to find words to express my great appreciation of the honor which you have conferred on me. I can hardly feel that I have deserved the consideration that I have received at your hands. There are so many men in this country who have had the privilege, and possibly disposition, to do so much more for the medical profession than I have been able to do. Living as I always have in a small country town, you will understand that most doctors feel, who live in the country, that they have a right to take a vacation to attend the meetings of the American Medical Association. I have on many occasions during my life, whenever it has been within my reach, availed myself of that opportunity, very much to my advantage, and, I think, to the very great advantage of my patrons.

I have been honored probably during my life more than I have deserved to be. I think the late Alexander H. Stevens once said that the greatest honor that can be conferred on a man was to be elected governor of his state by the votes of the people. I think he was right, probably; but no less an honor comes to the man who is elected the representative of a state that only has one member in the Congress of the United States. I have the honor to be the representative in Congress from the great state of Delaware, which you know is not large enough to have more than one representative in Congress. It has some advantages only to have one, for whenever a delegation from Delaware has a caucus the vote is always unanimous. (Laughter.)

During the last session of Congress, and I suppose others, many matters came before that body in which the medical profession of the whole country was interested. At any rate, that is the way doctors viewed it. I think it is proper to say that the people, who depend on the medical profession to protect their interests, so far as health and everything in that line are concerned, are more interested than the doctors themselves. I took occasion to say to the Speaker of the House of Representatives, who is, by the way, a good friend of mine, that the medical profession was going to wait on him and ask him to recognize one of the most important and meritorious bills that was ever introduced in Congress, and one that every man and woman in this land is interested in—a bill for the reorganization and improvement of the United States Army. He insisted on his recognition of the committee to call that bill up. I took occasion to say to him: "Mr. Speaker, the common idea that these laws that come up, as a rule, in the states generally, and also that come before Congress, are for the benefit of medical men is not true. It is not the case. We wish to disabuse your mind of that idea. Any man who gets far enough advanced in his profession to occupy the position of chairman of this legislative committee needs no legislation to protect his interests. He can do well wherever he wants to live, and any man in the medical profession who desires can make a living, no matter what kind of laws surround him. These laws are for the protection of the public."

Then came the establishment of a new school in the District of Columbia known as osteopathy. Unfortunately, a member of the medical profession favored the passage of that bill in this body, and it came to the House of Representatives with that endorsement. No member of the osteopathic school failed to make use of the argument that Senator Gallinger, New England, favored this bill, and had made a speech in favor of it. It finally came to a hearing in the District of Columbia. I found out that they were going to have this hearing, and I took the opportunity to see each member of that committee. About two weeks later the acting chairman of the committee, who takes a sensible view of everything, came to me on the floor of the house and said: "Our committee is going to have a session, and I am sure two-thirds of the committee will vote in reporting favorably on this osteopathic bill. If you want to have the opportunity to appear before the committee and speak on it, you can do so."

I went before the committee and took this position, that I believed there was something good in osteopathy; that certainly massage was a good thing, and that I looked on scientific massage as being possibly some improvement on the ordinary method; but that the American Medical Association had thrown the doors wide open, had expressed a willingness and showed it to accept any man as a member of the medical profession who could pass a board of state medical examiners and become a member of his county and state medical societies, and even a member of the American Medical Association, and be in good standing everywhere. I said I thought it was against the interests of the people of the country, and especially of the District of Columbia, as well as a bad example for the Congress of the United States to set, to introduce a new system of medicine, a new school that will cause more trouble, when the American Medical Association had been good enough to let in every other school then in existence. Only one member of the committee argued against that, taking the common view that everybody ought to have a chance and every man the privilege of either having a doctor or not for treatment when sick. I argued that unless this school taught materia medica and therapeutics it could not prepare any one to administer to the wants and needs of the sick man or woman, because it became necessary to administer drugs under certain circumstances. After that talk there were only two members of the committee who voted for the bill. It has been killed in committee, and not reported favorably.

Now, gentlemen, two medical men in a body of nearly 400 (I think there are 386 members in Congress and 7 delegates) have very little chance to do their duty toward the medical profession in this great country, and I believe it is the duty of the American Medical Association through its members to bring about a condition of things whereby more members will take an interest in politics and more of them be willing to make the sacrifice that in many cases is necessary to be made to represent their districts in the Congress of the United States. (Applause.) There ought to be, at least, 50 members in the House of Representatives of the United States to compare with other countries, where I think you will find one-fourth or one-eighth of the membership is composed of members of the medical profession. There is no reason in the world why doctors should not take an interest in political matters. I believe when any man will stand up and look in the faces of a body of medical men, he will conclude that these men have sufficient executive ability and good sense to help manage the affairs of this country; that they are the kind of men we want, and not the men who can make flowery speeches, or who are chronic objectors, but men who will work in committees. Those are the kind of legislators we need.

I thank you kindly, and if there is anything in my power I can do hereafter to repay the American Medical Association for this high honor, I am ready to do so. I thank you. (Applause.)

Resolution of Thanks to the Citizens of Atlantic City.

Dr. Philip Mills Jones, California, offered the following:

Resolved, That it is the sense of this House of Delegates that Atlantic City has been found eminently satisfactory as a meeting place, and the thanks of the Association be extended to the local medical profession and to the citizens of Atlantic City for their uniform courtesy and hospitality.

On motion of Dr. C. E. Cantrell, Texas, the resolution was unanimously adopted.

Roentgen Ray Resolution.

REFERRED TO REFERENCE COMMITTEE ON HYGIENE AND PUBLIC HEALTH.

Dr. Denslow Lewis, Section on Hygiene and Sanitary Science, said he was requested to introduce the following resolution by the Section on Hygiene and Sanitary Science:

Whereas, Time has shown that the employment of the Roentgen ray by unqualified persons is attended by danger to the public; and

Whereas, There has also been shown its marked physiologic activity and influence on metabolism; therefore, be it

Resolved, That it is the opinion of the American Medical Association, as has been shown in France, Germany, Austria and England, that the employment of the Roentgen ray on the human body for diagnosis or treatment, should be restricted to those qualified by education to practice medicine and surgery and so licensed by the medical board of the several states.

On motion of Dr. N. Fred Essig, Washington, the resolution was referred to the Reference Committee on Hygiene and Public Health.

Davis Memorial Appropriation.

Dr. T. J. Happel, Chairman of the Board of Trustees:—There has been sent to the Board of Trustees from the House of Delegates, without recommendation, a request for the appropriation of five thousand dollars toward the erection of a monument commemorating the services of Dr. N. S. Davis as the founder of the Association. That comes to us, I say, without recommendation. It calls for a large sum of money and, as Chairman of the Board of Trustees, I do not feel personally willing to assume the responsibility of saying that there shall or shall not be appropriated this amount of money. The Board of Trustees would like very much to have an expression of opinion from the House in regard to the appropriation of this money. It is your money. It does not belong to the Board of Trustees. If you have any better use for it, refuse to appropriate it; if not, I can say personally and as a member of the House I would appropriate that sum for this purpose; but as a member of the Board of Trustees I am not willing to act without advice. I would say that much.

Repeating a conversation which I had with Dr. Marcy, who made the request and motion, I will say that we have had returned to us the sum of $5,000, which was appropriated for the benefit of the California sufferers. If you remember, the House of Delegates directed the Board of Trustees to appropriate $5,000 to go toward the earthquake sufferers in California. This whole amount has been returned and deposited in the treasury of the Association. While I am personally willing to appropriate that much, I am not willing, as a member of the Board of Trustees, to assume the responsibility of voting that amount of money.

Dr. G. Lane Taneyhill, Maryland:—Those of us who have been members of the Association for many, many years—some of us forty years—revere the memory of Dr. N. S. Davis and respect his son, and those of us who knew him forty years ago and were associated with him know the great interest he took in this Association. Some of us call him the Father of the Association, although there are members in New York who think differently. Now, as the $5,000 referred to has been turned into the treasury of the Association, and as Dr. Davis was a broad, good, Christian, medical gentleman, I think this House of Delegates would do itself an honor to vote this amount of money toward the erection of a monument to his memory, and I move, sir, that this House of Delegates direct the appropriation of that amount. Seconded.

Dr. C. S. Bacon, Illinois:—There is no one who reveres the memory of Dr. N. S. Davis more than I, but I do not hesitate to say that I shall vote against this motion. I think it is unwise and very unbusinesslike, and we would not be true to our duties as delegates of the Association to act in this manner. I think it would be establishing a precedent that is very dangerous to appropriate such a sum of money from our treasury for this purpose, and this motion ought to at least receive the very serious consideration of the members of the House of Delegates.

The question is, What is the reason for asking this appropriation? This committee has been in existence for two years. It has raised (I do not know how much) a few hundred dollars. The committee's report does not convince me that all the methods and measures that should have been adopted have been taken to raise this money in another way. I feel it would be unwise to take this action at this time.

Dr. Lewis S. McMurtry, Kentucky:—I think if the sense of this house were taken, representing the entire Association, we would all be of one mind on this question. There is no doubt about that. If I understand the situation, it is this: The Chairman of the Board of Trustees (Dr Happel) has come before us and stated that the Board of Trustees does not feel like assuming this responsibility without our full knowledge, approval and suggestion. The Board of Trustees knows the resources of the Association far better than any one of us, and I therefore move, as a substitute for the motion, that the matter be referred to the Board of Trustees, with the commendation of this House of Delegates, and for the Board to make such an appropriation as it deems wise and proper. This gives them authority, and whatever they may do we will be satisfied.

Dr. Taneyhill:—I accept that.

Dr. H. Bert Ellis, California:—Appropriating money for this purpose hardly comes under the objects of this Association. While I revere Dr. Davis and recognize his distinguished services to this Association, at the same I do not think it is going to advance medicine to appropriate such a large amount of money, or any amount for that matter. This subject has come up in several states, and I do not think that this Association should spend its money in that way.

Dr. S. Solis-Cohen, Section on Pharmacology and Therapeutics:—There are times when a man must, against his feelings, object, not for the purpose of delaying business, but for the purpose of giving deliberate consideration to an important subject. It has been said on the other side that action on the part of the House of Delegates in regard to this matter would establish a precedent which may appear on deliberate consideration to be unwise. We must not permit ourselves to be carried away by sentiment, or by reverence for a member. This is a question of the appropriation of public funds. The funds are not those of the Board of Trustees, nor those of the House of Delegates. The funds are those of the medical profession of the United States as represented in this organization, and, sir, I very much doubt if it is within the province of a medical association, organized and supporting as this is to appropriate money for monuments to anybody. I should very much hesitate to vote in favor of this motion. I shall be pleased myself, now that the matter has been brought before us, to send my personal subscription for what I can afford to the committee who has this matter in charge, and if a monument can be erected by individual subscription, I think it would be much better than dipping our hands into a public fund, concerning which I think our right to expend it in that way is doubtful.

Dr. William Jepson, Iowa:—Not being acquainted with the wording of the resolution under which this committee was appointed to raise funds for the erection of a suitable memorial or monument to the late Dr. N. S. Davis in recognition of his work to this Association, I presume that this Association, through its House of Delegates, wants to extend to Dr. Davis that recognition, and through what channel can it come more appropriately or properly than here? If it is not the sense of this House of Delegates that it wants to recognize the services of Dr Davis, why has it appointed a committee for that purpose?

If it is the intention that the members of this committee shall go out and secure private subscriptions for the erection of this monument, why should the Association take any hand in it whatsoever?

As a member of this committee in our State (Iowa), I stated to the House of Delegates of the Iowa State Medical Society that it was proper that we should appropriate such a sum of money as may be necessary for the purpose, no definite sum being determined on. I said that a sum of $15,000 would doubtless be raised from different sections of the country. Our House of Delegates appropriated $300. If it is not the sense of the House of Delegates that it wants to commemorate the memory of Dr. Davis, then let us discharge the committee.

Dr. N. Fred Essig, Washington:—This is not the first time the Association has taken up the matter of erection of a monument to a member of the medical profession. This is not the first committee that has been appointed by the American Medical Association to carry out the desires and wishes of this body, but as was so clearly expressed by Dr. Cohen, I do not believe it comes within the province of the House of Delegates to appropriate the money of this Association for the purpose of erecting a monument, however, much I revere the memory of Dr. Davis. I am, however, ready, as a member of this House, to contribute my individual share of the $5,000 asked for, and to hand it to the secretary now, but I am opposed to the appropriation of the funds of this Association for the erection of a monument to Dr. Davis.

Dr. C. E. Cantrell, Texas:—This question has come home to us in our county medical society in Texas. Our county medical society donated a small amount for this purpose. The matter was brought up before the Texas State Medical Association, and the board of trustees instructed to contribute whatever it felt the association could spare for this purpose. Now, if the committee from the House of Delegates has the authority to ask county medical societies to make appropriations for this purpose, it seems to me it would be proper for this House to appropriate such funds as it thinks wise. The way we are dealing with this matter in Texas is to allow the board of trustees in its discretion to appropriate whatever sum it feels we can afford for this purpose, and if this House of Delegates can not afford to make an appropriation for the erection of this monument, I am sure we would like to have sent back what we have paid in Texas.

Secretary Simmons then read the resolution creating the Committee on the N. S. Davis Memorial Fund from the minutes of the Portland meeting.

Dr. Peter W. Tomlinson, Delaware:—It seems to me unfair that a matter so vitally important as this should be brought up at this time, when there are so few members of the House of Delegates present to transact business, and I would therefore move that the further consideration of this subject be postponed for one year.

Seconded by Dr. L. C. Morris, Alabama, and carried.

Dr. Lewis S. McMurtry, Kentucky, offered the following:

Resolved, That the Secretary be requested to have furnished to the California State Medical Association a complete card index for the physicians of the State of California, without cost to that society.

Seconded and carried.

Dr. J. N. McCormack, Kentucky, offered the following resolution:

Resolved, That the cordial thanks of the House of Delegates be hereby extended to President Bryant for the distinguished ability and impartiality and success with which he has presided over its deliberations.

The resolution was seconded by several and unanimously carried by rising vote.

Nominations for Committee on Revision of U. S. P.

Dr. S. Solis-Cohen, Section on Pharmacology and Therapeutics:—I have received from the Section on Pharmacology and Therapeutics a list of nominations for the Committee on Revision of the United States Pharmacopeia, a motion for the appointment of which I presented this morning to the Board of Trustees. I ask that this list of names be likewise so referred. This list is as follows (12 names, 6 to be elected):

E. E. Hyde, Chicago; A. L. Benedict, Buffalo, N. Y.; Geo. Dock, Ann Arbor, Mich.; J. Forchheimer, Cincinnati; Robt. A. Hatcher, New York; Reed Hunt, Washington, D. C.; P. M. Jones, San Francisco; H. Edwin Lewis, New York; O. T. Osborne, New Hampshire; W. J. Robinson, New York; W. S. Thayer, Baltimore; S. Solis-Cohen, Philadelphia.

The secretary read the following telegram from the president of the American Pharmaceutical Association:

"Hearty Greetings from American Pharmaceutical Association, wishing successful, profitable and enjoyable meeting.

Leo Eliel, President."

It was moved and seconded that the House adjourn.

The President:—Before putting the question to adjourn, I desire to say to the members of the House of Delegates, I appreciate very much indeed the expression of confidence which they have bestowed on me. If I have met your approval so far as executive ability and equity of action are concerned, I can only say that I have simply endeavored to do what was right, and I thank you for your appreciation of my success. I hope to meet you again next year, and I trust on that occasion I will have no greater difficulty than has ensued on this one. (Applause.)

The House the adjourned, *sine die*.

OFFICIAL MINUTES—GENERAL MEETINGS

First General Meeting—Tuesday, June 4

The Association met in the Auditorium of Young's New Pier. On the platform were ex-presidents, vice-presidents, members of the Board of Trustees, and distinguished foreign physicians.

President Mayo called the meeting to order at 10.40 a. m.

Prayer was offered by the Rev. H. M. Gessner. pastor of the First Presbyterian Church, Atlantic City.

Address of Welcome by Mayor Stoy.

At the close of the invocation, President Mayo introduced Mayor F. P. Stoy, of Atlantic City, who said:

Mr. President, Ladies and Gentlemen, and Members of the American Medical Association:—I feel it an honor this morning to represent the citizens of Atlantic City in bidding you welcome. I have had the pleasure of extending a welcome to you in this city once before, and it comes as a double pleasure to me this morning to welcome you in behalf of our people and to extend to you the freedom of the city.

We trust that your stay with us will be a pleasure to you, not only individually, but collectively, and that you will go from here feeling that you have done something for the benefit of humanity in many ways.

I am glad this morning that I am placed at the head of this list of speakers, because it is a lengthy program, and therefore I am not expected to make a very long speech.

I want to say to you, that we feel that in extending to you the freedom of the city, we should turn over this great city to you; but there is another delegation here to-day—not doctors but brewers (laughter). A portion of my time must be spent with both delegations (renewed laughter).

Before leaving, I want to say to you, Mr. President, that the Department of Public Safety has been apprised of your presence here, and your official badges will be recognized by those in authority. Let me say that during the last two days of your convention it will be necessary for me to be absent from the city, and I am going to turn over the town to the doctors, and especially to your President, who will have to have some one to help him out. It will be necessary for him to appoint a night-mayor (laughter), and then it will perhaps be necessary for him to have the key of the city. I am going to turn over the key of the city this morning to Dr. Mayo, and I trust that in my absence he will find a great deal of pleasure in holding office for two days. (Here Mayor Stoy presented Dr. Mayo with a large nickel-plated key amid great laughter.) I trust that in carrying around that key, Mr. President, as I have in the last two years, you will have a good deal of pleasure, and that no harm will come to you in my absence. I thank you (applause).

Address of Welcome by Dr. Marcy.

President Mayo then introduced Dr. Alexander Marcy, president of the Medical Society of New Jersey, who delivered the following address of welcome on behalf of the medical profession of New Jersey:

Mr. President, Ladies and Gentlemen:—I appreciate very much the privilege of extending to you the cordial and sincere welcome of the medical profession of New Jersey. We feel highly honored, yea, even flattered, at having you with us again so soon. I think I may safely say that it is unusual in the history of this Association for it to meet as frequently in the same place as it has met in Atlantic City, this being as you know the third meeting held here in the past seven years. We are very proud of this, and it will be our endeavor to make your sojourn here so pleasant, that you will instinctively turn your thoughts in this direction again and again during the coming years. That it is a distinction, as well as an honor to entertain this great association, none will deny, and as it continues to grow in importance and influence, fortunate indeed will be the place that secures this coveted prize. The growth of the Association has been so rapid, and its numbers are getting to be so great, that few places can offer you the accommodations necessary for your comfortable entertainment; this being so, it would seem as though sooner or later the question of a permanent meeting place would have to be considered, and when such a time does arrive, we of New Jersey will offer for your consideration our own matchless, incomparable Atlantic City, and say to you, come and abide with us permanently, and forever, and honor us in your coming.

The growth of this Association has been marvelously rapid, and truly great and the end is not yet. Little did the founders of it realize its great destiny, even though they were endowed with a prophetic vision, that looked away down the ages, and pictured to themselves an association, large in numbers, great in influence, and marvelous in results. That these results have been the work of a comparatively few years, is not surprising, when we consider how necessary the Association is to the best interests of the profession. We are as yet but in our infancy, and although we have accomplished much, there is still much to be accomplished, and the future of the American Medical Association fairly dazzles us with the brilliancy of its possibilities. The time will surely come when it will not only be an honor to be a member of this Association, but it will also be a necessity, and no reputable practitioner of medicine in this great country, will feel that he can afford to be without the fold. There is much work yet to be done gentlemen, and in order to do it as it should be done, we must all be actuated by the self-same altruistic spirit of devotion to the best interests of this Association which has been exhibited by those who have placed it where it now is. If we could all be imbued with the same spirit of devotion, and power which has been exhibited by our faithful Secretary-Editor and our peerless Organizer, I believe that the future of our Association would be so far beyond anything that we can even think, or hope, or wish, that our minds would be incapable of accepting it as the truth, every doctor in these United States a member, every member vieing one with the other, as to which could perform the greatest service, each striving to out-do the other for the advancement of the Association's best interests, each willing to take the lowest place rather than scheming for the highest, in fact sinking self and considering only the greatest good of the Association. When such conditions as these come to pass, of course, the millennium will have arrived and our Association will have been crowned with honor, with power and with usefulness, and have reached the very zenith of its glory, it will have become a blessing to suffering humanity, a veritable benediction to the profession. It is both gratifying and delightful to see so many representatives from other countries meeting with us, and we extend to them a most cordial greeting both on behalf of our state, and country, for it matters not whether they come from the countries, from the north, or from the south, from the east, or from the west, we are all united in purpose and in desire, and our energies are all put forth in the one great effort to uplift humanity, to prevent sickness and suffering and death.

Long may our Association live, yea, as long as time itself shall last, and when in the fulness thereof, death is swallowed up in victory, may this great Association of medical men appear, those of the past, those of the present, as well as those of the future, at the head of the triumphal host, that shall appear before the Great White Throne. Again Mr. President, ladies and gentlemen, I bid you welcome, thrice welcome, to our country, to our state, to our city, and I trust your stay with us will be as pleasant as I know it will be successful.

At the conclusion of Dr Marcy's address, the following distinguished foreign guests were introduced to the Association by President Mayo: Prof. Gustav Killian, Freiberg, Germany; Dr. Charles Trow, Toronto, Canada; Dr George T. Ross, Montreal, Canada; Prof. Schmieden; Prof. Patterson; Dr. D. G. Wishart, Toronto, Canada; Dr. J. W. Stirling, Montreal, Canada; Prof. Hess, Wurtzburg; Dr. Reeves, Toronto, Canada; Prof. J. G. Adami, Montreal, Canada.

Dr. Philip Marvel, Chairman, read the report of the Trustees' Committee of Arrangements.

Report of Local Committee of Arrangements.

Dr. W. Blair Stewart, Chairman, presented the following verbal report as Chairman of the Local Committee of Arrangements:

Mr. President, and Members of the American Medical Association:—On behalf of the local medical profession of Atlantic City, I extend to you a most cordial welcome, and trust that your stay here may be a pleasant one.

The Committee of Arrangements has prepared for the coming week a series of functions, arranged in such a manner as not to interfere in any way with the meetings of the Association.

The first day, Tuesday, has been set apart by the Trustees for the alumni smokers, reunions, and for the Section banquets. The alumni associations of the University of Pennsylvania, of Jefferson Medical College, of the Medico-Chirurgical College of Philadelphia, and of Rush Medical College of Chicago have all arranged for reunions this evening, beginning at 9 o'clock.

We have arranged for a steam train to leave the Pennsylvania Railroad depot at half-past 12 o'clock to-night for the accommodation of members who reside in Philadelphia and surrounding cities, who may desire to reach their homes tomorrow morning early.

The entertainments that have been arranged for Wednesday are rather limited. We have arranged through the Trustees' Committee and the Local Committee of Arrangements for the President's reception, which will be followed by a dance, which is to be held in the Steel Pier, Virginia Avenue.

On Thursday evening, you will also note by your official program, that there are two musicales to be held in separate rooms on the Steel Pier, and following these musicales two smokers will be held, one in the New Berkley Café, and the other in the Palm Garden of Hotel Islesworth. The members of the Association are expected to bring their ladies with them on this occasion (applause). The vaudeville entertainment, which has been provided for them for that occasion, is absolutely high class in every particular and fit for any assemblage of people.

On Friday afternoon and Friday evening the committee has placed at your disposal several local entertainments that will be contributed by different ones in the city. This you will find in the program.

I can not speak in too great words of praise for the Ladies' Committee. The visiting ladies are requested to be present at every entertainment, and they will be most cordially received. This committee has prepared for Wednesday afternoon a reception and tea, to be given at the Hotel Marlborough-Blenheim.

On Thursday afternoon there will be a sailing party, a reception and tea at the Atlantic City Yacht Club, Massachusetts Avenue, north.

I wish to call attention to the fact that the souvenir button of the American Medical Association that is given to every registered member of the Association, and also the guest button, with blue ribbon attached, with a monogram on it, are the official buttons recognized all over the city, and give free entrance to every function provided for the Association, as well as to the piers, during the meeting of the Association.

Again, Mr. President, we extend to you and to the members of the Association a most hearty welcome, and trust that you may see your way clear to come back to Atlantic City in the near future (applause).

President Mayo then introduced the President-elect, Dr. Joseph D. Bryant, New York City, who then delivered his address. He selected for his subject, "The American Medical Association, Its Aims and Interests." The address was punctuated throughout its delivery with applause. This address was published in The Journal, June 8. (See page 1909.)

Adjourned.

Second General Meeting—Tuesday, June 4

The Association met at 7:30 p. m., in the First Presbyterian Church, with President Bryant in the Chair.

Dr. James B. Herrick of Chicago delivered the Oration on Medicine.

Dr. William H. Wathen, Louisville, followed with the Oration on Surgery.

These were published in The Journal, June 8. (See pages 1915 and 1919.) Adjourned.

Third General Meeting—Wednesday, June 5

The Association met at the First Presbyterian Church at 7:30 p. m.

Dr. Samuel G. Dixon of Harrisburg, Pa., delivered the Oration on State Medicine.

This was published in The Journal, June 8.

This was published in The Journal, June 8. (See page 1926.)

Adjourned.

Members of House of Delegates in Attendance

[The number after the state name indicates the number of delegates to which the state is entitled.]

ALABAMA—3.

L. C. Morris, Birmingham.
W. H. Sanders, Moutgomery.
J. D. S. Davis, Birminghaun.

ARIZONA—1.

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ARKANSAS—2.

Adam Guthrie, Prescott.

CALIFORNIA—3.

H. Bert Ellis, Los Angeles.
Philip Mills Jones, San Francisco.
W. F. Snow, Palo Alto.

COLORADO—2.

J. N. Hall, Denver.
Hubert Work, Pueblo.

CONNECTICUT—2.

D. Chester Brown, Danbury.
W. H. Carmalt, New Haven.

DELAWARE—1.

Peter W. Tomlinson, Wilmington.

DIST. OF COLUMBIA—1.

George N. Acker, Washington.

FLORIDA—1.

Joseph Y. Porter, Key West.

GEORGIA—2.

Floyd McRae, Atlanta.
H. F. Harris, Atlanta.

HAWAII—1.

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IDAHO—1.

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ILLINOIS—7.

Charles L. Mix, Chicago.
George W. Webster, Chicago.
J. L. Wiggins, East St. Louis.
Frank Billings, Chicago.
C. S. Bacon, Chicago.
D. G. Smith, Elizabeth.
R. T. Gillmore, Chicago.

INDIANA—4.

E. D. Clark.
W. N. Wishard, Indianapolis.
John T. Dickes, Portland.
C. A. Daugherty, South Bend.

IOWA—3.

Wm. Jepson, Sioux City.
S. Bailey, Mt. Ayr.
W. L. Allen, Davenport.

KANSAS—3.

J. E. Sawtelle, Kansas City.
C. E. Bowers, Wichita.

KENTUCKY—3.

Lewis Samuel McMurtry, Louisville.
J. N. McCormack, Bowling Green.
W. W. Richmond, Clinton.

LOUISIANA—2.

V. A. Miller, Lake Arthur.
Chas. McVea, Baton Rouge.

MAINE—1.

E. M. Fuller, Bath.

MARYLAND—2.

Harry Friedenwald, Baltimore.
G. L. Taneyhill, Baltimore.

MASSACHUSETTS—6.

Walter P. Bowers, Clinton.
Edward H. Bradford, Boston.
C. H. Cook, Natick.
R. C. Cabot, Boston.
D. J. Brown, Springfield.
Chas. Harrington, Boston.

MICHIGAN—4.

Leartus Connor, Detroit.
H. O. Walker, Detroit.
Reuben Peterson, Ann Arbor.
A. I. Lawbaugh, Calumet.

MINNESOTA—2.

H. A. Tomliuson, St. Peters.
Thos. McDavitt, St. Paul.

MISSISSIPPI—2.

John Darriugtou, Yazoo City.

MISSOURI—4.

O. B. Campbell, St. Joe.
F. R. Anthony, Maryville.
F. E. Murphy, Kansas City.
John Green, Jr., St. Louis.

MONTANA—1.

Donald Campbell, Butte.

NEBRASKA—2.

F. A. Long, Madison.

NEVADA—1.

J. E. Pickard, Virginia City.

NEW HAMPSHIRE—1.

John M. Gile, Hanover.

NEW JERSEY—3.

Luther N. Halsey, Williamstown.
Chas. J. Kipp, Newark.
F. D. Gray, Jersey City.

NEW MEXICO—1.

W. R. Tipton, Las Vegas.

NEW YORK—11.

Wisner R. Townsend, New York City.
Abraham Jacobi, New York City.
J. W. Grosvenor, Buffalo.
H. D. Wey, Elmira.
C. F. Comstock, Saratoga.
D. C. Moriarta, Saratoga.
W. S. Ely, Rochester.
W. G. LeBoutillier, New York City.
A. T. Bristow, Brooklyn.
H. L. Elsner, Syracuse.
F. D. Reese, Cortland.

NORTH CAROLINA—3.

J. W. Long, Greensboro.
Martin L. Stevens, Asheville.
J. F. Highsmith, Fayetteville.

NORTH DAKOTA—1.

V. H. Stickney, Dickinson.

OHIO—6.

A. B. Walker, Canton.
C. A. L. Reed, Cincinnati.
J. H. Jacobson, Toledo.
C. L. Bonifield, Cincinnati.
F. D. Bain, Kenton.
Brooks F. Beebe, Cincinnati.

OKLAHOMA—2.

A. K. West, Oklahoma City.

OREGON—1.

H. W. Coe, Portland.

PENNSYLVANIA—8.

Fremont W. Frankhauser, Reading.
Wm. T. Williams, Mt. Carmel.
Samuel Wolfe, Philadelphia.
Alexander R. Craig, Philadelphia.
Geo. W. Guthrie, Wilkes-Barre.
Edward B. Heckel, Pittsburg.
Walter Lathorp, Hazelton.
John Fay, Altoona.

PHILIPPINE ISLANDS—1.

John R. McDill, Manila.

RHODE ISLAND—1.

John Champlin, Westerly.

SOUTH CAROLINA—2.

J. H. Hamiltou, Union.

SOUTH DAKOTA—1.

H. J. Rock, Aberdeen.

TENNESSEE—2.

S. W. Woodyard, Greeneville.

TEXAS—5.

C. E. Cantrell, Greenville.
J. T. Wilson, Sherman.
S. T. Turner, El Paso.
W. J. Vinsant, Pecos.
Frank O. Norris, Eagle Lake.

UTAH—1.

A. C. Behle, Salt Lake City.

VERMONT—1.

J. H. Jackson, Barre.

VIRGINIA—3.

Wm. E. Anderson, Farmville.
Wm. F. Drewry, Petersburg.
Stuart McGuire, Richmond.

WASHINGTON—1.

N. Fred Essig, Spokane.

WEST VIRGINIA—1.

J. E. Cannaday, Hansford.

WISCONSIN—3.

W. T. Sarles, Sparta.
B. M. Caples, Waukesha.

WYOMING—1.

A. C. Godfrey, Lander.

SECTIONS.

PRACTICE OF MEDICINE—1.

John H. Musser, Philadelphia.

OBSTETRICS AND DISEASES OF WOMEN—1.

W. B. Dorsett, St. Louis, Mo.

SURGERY AND ANATOMY—1.

F. B. Lund, Boston.

HYGIENE AND SANITARY SCIENCE—1.

Denslow Lewis, Chicago.

OPHTHALMOLOGY—1.

S. D. Risley, Philadelphia.

DISEASES OF CHILDREN—1.

T. S. Southworth, New York.

STOMATOLOGY—1.

G. V. I. Brown, Milwaukee.

NERVOUS AND MENTAL DISEASES—1.

Julius Grinker, Chicago.

CUTANEOUS MEDICINE AND SURGERY—1.

H. R. Varney, Detroit.

LARYNGOLOGY AND OTOLOGY—1.

Otto Freer, Chicago.

PHARMACOLOGY AND THERAPEUTICS—1.

Solomon Solis-Cohen, Philadelphia.

PATHOLOGY AND PHYSIOLOGY—1.

W. S. Hall, Chicago.

UNITED STATES ARMY—1.

Major Charles Richard, Fort Joy, New York City.

UNITED STATES NAVY—1.

Surgeon Wm. Hemphill Bell, Washington, D. C.

U. S. PUBLIC HEALTH AND MARINE-HOSP. SERVICE—1.

Surgeon R. M. Woodward, Boston.

OFFICERS OF SECTIONS

The official minutes of the sections will be given later, as will also the list of members registered. Following are the officers elected by the sections:

PRACTICE OF MEDICINE.

Chairman—C. F. Hoover, Cleveland, Ohio.
Secretary—Joseph L. Miller, 100 State St., Chicago.
Delegate—George Dock, Ann Arbor, Mich.
Executive Committee—Richard C. Cabot, Boston; Herbert C. Moffitt, San Francisco; Thomas D. Colemau, Augusta, Ga.

OBSTETRICS AND DISEASES OF WOMEN.

Chairman—Walter B. Dorsett, St. Louis.
Vice-Chairman—Charles P. Noble, Philadelphia.
Secretary—W. P. Manton, 32 W. Adams Ave., Detroit.
Delegate—F. F. Simpson, Pittsburg, Pa.
Executive Committee—C. L. Bonifield, Cincinnati; Charles S. Bacou, Chicago; J. Wesley Bovée, Washington, D. C.

SURGERY AND ANATOMY.

Chairman—Rudolph Matas, New Orleans.
Vice-Chairman—J. C. DaCosta, Philadelphia.
Secretary—Willard Bartlett, St. Louis.
Delegate—Charles N. Dowd, New York City.
Executive Committee—Maurice H. Richardson, Boston: Robert F. Weir, New York City; Arthur D. Bevan, Chicago.

HYGIENE AND SANITARY SCIENCE.

Chairman—William C. Gorgas, Ancon, Canal Zone, Pauama.
Vice-Chairman—Seneca Egbert, Philadelphia.
Secretary—S. T. Armstrong, 144 East 37th St., New York City.
Delegate—N. K. Foster, Sacramento, Cal.
Executive Committee—John S. Fulton, Baltimore; Denslow Lewis, Chicago; Prince A. Morrow, New York.

OPHTHALMOLOGY.

Chairman—William Wilder, Chicago.
Vice-Chairman—W. C. Posey, Philadelphia.
Secretary—Albert E. Bulson, Jr., Fort Wayne, Ind.
Delegate—W. Marple, New York City.
Executive Committee—C. R. Holmes, Cincinnati; Lewis H. Taylor, Wilkes-Barre, Pa.; G. C. Savage, Nashville, Tenn.

DISEASES OF CHILDREN.

Chairman—E. E. Graham, Philadelphia.
Secretary—Samuel Walker, Chicago.
Delegate—Thomas Parke, Birmingham, Ala.
Executive Committee—John Lovett Morse, Boston; W. C. Hollopeter, Philadelphia; J. Ross Snyder, Birmingham, Ala.

STOMATOLOGY.

Chairman—E. A. Bogue, New York City.
Vice-Chairman—James E. Power, Providence, R. I.
Secretary—Eugene S. Talbot, 103 State St., Chicago.
Delegate—M. L. Rhein, New York City.
Executive Committee—Vida A. Latham, Chicago; H. P. Carlton, San Francisco; M. I. Schamberg, New York City.

NERVOUS AND MENTAL DISEASES.

Chairman—T. H. Weisenburg, 2030 Chestnut St., Philadelphia.
Secretary—William Alexander Jones, Minneapolis.
Delegate—Morton Prince, Boston.
Executive Committee—J. H. McBride, Pasadena, Cal.; Wharton Sinkler, Philadelphia; Morton Prince, Boston.

CUTANEOUS MEDICINE AND SURGERY.

Chairman—M. B. Hartzell, Philadelphia.
Vice-Chairman—Granville MacGowan, Los Angeles, Cal.
Secretary—M. L. Heidingsfeld, 19 West 7th St., Cincinnati.
Delegate—R. R. Campbell, Chicago.
Executive Committee—Henry G. Anthony, Chicago; Douglas W. Montgomery, San Francisco; R. R. Campbell, Chicago.

LARYNGOLOGY AND OTOLOGY.

Chairman, H. W. Loeb, St. Louis.
Vice-Chairman—Dunbar Roy, Atlanta, Ga.
Secretary—W. Sohier Bryant, 57 W. 53d St., New York City.
Delegate—O. T. Freer, Chicago.
Executive Committee—Robert C. Myles, New York City; Otto T. Freer, Chicago; S. MacCuen Smith, Philadelphia.

PHARMACOLOGY AND THERAPEUTICS.

Chairman—M. F. Fussell, Philadelphia.
Vice-Chairman—W. W. Tompkins, Charleston, W. Va.
Secretary—C. S. N. Hallberg, 36 Twelfth Street, Chicago.
Delegate—S. Solis-Cohen, Philadelphia.
Executive Committee—Heinrich Stern, New York City; Thomas F. Reilly, New York City; H. C. Wood, Jr., Philadelphia.

PATHOLOGY AND PHYSIOLOGY.

Chairman—W. B. Cannon, Harvard Medical School, Boston.
Secretary—M. J. Rosenau, Washington, D. C.
Delegate—W. M. L. Coplin, Philadelphia.
Executive Committee—Winfield S. Hall, Chicago; Henry A. Christian, Boston; Walter L. Bierring, Iowa City, Iowa.

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Society Proceedings

COMING MEETINGS.

Medical Society of New Jersey, Long Branch, June 25 27.
Oregon State Medical Association, Seaside, July 12-13.

AMERICAN ACADEMY OF MEDICINE.

Fifty-Second Annual Meeting, held at Atlantic City, June 1 and 3, 1907.

The President, Dr. Casey A. Wood, Chicago, in the Chair.

Insurance for Defectives.

Dr. James A. Spalding, Portland, Meine, said that this topic covered both accident and life insurance, arguing that if accidents occur oftener to defectives than to those who are perfect their lives are more endangered. Having been refused renewal of an accident policy under very odd circumstances, he investigated the topic especially from the position of those who are like himself, deaf. He discovered that those who hear run many risks apparently more dangerous than those who are deaf, owing to other causes. He found that many accidents occur to all persons alike, for example, in railroad wrecks. For that reason, among others, the deaf and other defectives ought to have an adjustable insurance covering such accidents as are liable to all, and excluding special classes of accidents. In addition to the deaf, many who ought really to come under the head of less desirable risks include those with but one perfectly hearing ear, those with one bad eye, the lame, those who are highly myopic or myopic in one eye with normal sight in the other. Many people are absent-minded.

Many rush along too fast and can not recover themselves. Just as some companies ask higher rates for the syphilitic, in certain stages, so accident insurance should be more carefully overhauled and better provision made for the defectives. It is considered desirable that standards should be set for a proper insurance both for accident and for life, by going into the minute defects rather than into so many family defects which might be called gross.

DISCUSSION.

Dr. James Evelyn Pilcher, Carlisle, Pa., had had an experience somewhat similar to Dr. Spalding in the rejection for insurance. He agreed with Dr. Spalding that people who are defective more than compensate for their lack in the added care which they take or in the added excitation of some other sense. He does not think it necessary that there should be an extra premium for the insurance of defectives, but if such insurance can not be obtained otherwise, he feels that a movement in this direction should be started.

The Academic Training for Medicine.

The committee appointed to investigate the value of the first degree in American colleges referred to the previous reports: To the first, in which the academic culture really to be desired, was discussed. To the second, in which the legal requirements were set forth and the obstacles in them, to a proper interscholastic relation of the schools. Some points presented in the report were: The faulty curriculum of the medical school; the time element, making it desirable to shorten the preparatory studies either from philosophic or economic grounds; the plans for condensation or shortening; the difficulties in the way of co-ordination of secondary, collegiate and technical education. An outline course is suggested, involving changes in each class of schools.

To make the suggestions effective the committee recommends: 1. That the academy hold a meeting for the full discussion of these problems, to which representatives of educational institutions be invited for a full discussion of the subject. 2. An outline program for this meeting. 3. That the American Academy of Medicine act as a central bureau to give efficiency to the conclusions of the conference.

The Communal Life of Physicians; Its Cultivation and Value.

Dr. Leartus Connor, Detroit, defined the communal life of physicians, outlined methods for its cultivation and presented estimates of its value under the following heads: 1. The individual physician. 2. Physicians as a unit. 3. Physicians' outside communal life. 4. The laity. 5. Medical science and art. It was shown that individual growth, professional development and medical triumphs await a clearer perception and unswerving obedience to the obligations of the communal life of physicians.

Officers Elected.

The following officers were elected: President, Dr. Thomas D. Davis, Pittsburg; vice-presidents, Drs. James K. McBride, Pasadena, Cal.; F. T. Rogers, Providence; Lewis S. McMurtry, Louisville, and A. M. Holmes, Denver; secretary and treasurer, Dr. Charles McIntire, Easton, Pa.; assistant secretary, Dr. Alex. R. Craig, Philadelphia.

(To be continued.)

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at Washington, D. C., May 7-9, 1907.

(Continued from page 1984.)

Desirability of Early Operation in Ischemic Paralysis.

Dr. Leonard Freeman, Denver, Colo., stated that energetic massage, passive and active movements, electricity, etc., should be given a faithful trial, but if improvement in nerve function does not begin promptly and progress satisfactorily, an early operation should be done to relieve the nerve trunks from pressure before they become hopelessly injured, and also for the purpose of aiding the recovery of the muscles by improving their innervation. If this rule were followed the author is convinced that the usefulness of many hands would be preserved. Sometimes the removal of a section of hopelessly damaged muscle may be of service in relieving pressure.

Case of Oidiomycosis (Blastomycosis) Resembling Giant-celled Sarcoma.

Dr. William B. Coley, New York, reported the case of a male, aged 27 years, who was suddenly seized with an attack of severe pain in the lumbar region. Two to three days later he had severe pain in the dorsal region of the left foot, which became markedly swollen and a few days later fluctuation developed. At the end of ten days a small sinus appeared between the great and second toes, from which exuded a dirty, pus-like fluid. A week later a similar lesion developed in the dorsum of the other foot, while in the outer aspect of the right thigh two small flat papillary tumors appeared in the skin itself. These were irregularly circular in shape, depressed in the center, with indurated edges, slightly elevated. They quickly became covered with crusts which, on removal, showed pus-like material in the center. Five to six similar lesions somewhat larger and more protuberant, shortly afterward developed on the face and nose.

Almost simultaneously with the appearance of the skin lesions there developed numerous subcutaneous tumors, widely distributed over the various parts of the body, varying from the size of a hazelnut to that of a small egg. They always began subcutaneously, within the deep layers of the skin, appearing first as smooth, spherical tumors of moderately firm consistence, but slightly elevated above the level of the skin. After a few days they would grow rapidly in size, become much more protuberant and soon begin to show fluctuation. In a few days the entire tumor would seem little more than a thick-walled abscess cavity. If left to themselves they usually ruptured after a wek or ten days, discharging a cream or chocolate-colored material. Coincidentally with the appearance of the first tumors the patient developed a dry, hacking cough, which has persisted up to the present time. Two weeks after the beginning of the symptoms one of the small subcutaneous tumors was removed for microscopic examination. The pathologist pronounced it giant-celled sarcoma. Altogether there were about 20 subcutaneous tumors in different parts of the body in addition to the skin lesions. Pure cultures of the fluid developed the blastomyces. Similar subcutaneous lesions were produced on dogs from pure cultures of the organism. The patient has developed 60 lesions similar to those described throughout the body. He has become greatly emaciated; his temperature sometimes falls as low as 95 F., and he has recently begun to raise a purulent looking sputum in which the organism has been found. He has also had a purulent discharge from the rectum which has, likewise, shown pure cultures of blastomyces.

Multiple Carcinomata Following Chronic Roentgen Ray Dermatitis.

Dr. C. A. Porter and **Dr. C. J. White**, Boston, reviewed 10 cases found in the literature and reported an additional case. They stated that for the atrophic condition of the skin and the telangiectases nothing can be done. Hypertrophic changes, keratoses and warts may, with safety, be treated in the usual manner. If such treatment fails, excision with or without skin grafting, will probably relieve the pain and result in a cure. Excision and grafting will prove to be the best treatment for recurrent fissures. All ulcerations, which, under ordinary treatment, remain open, after three months, should be thoroughly excised, and very carefully examined. The subsequent treatment, to be determined by the result of the microscopic examination, should be skin grafting, further excision and grafting, or amputation. Almost all of these cases of severe and chronic dermatitis date back to early exposure. With the protection which our present knowledge demands, it is to be hoped that the number of victims of too enthusiastic work in an untried field will steadily diminish. In the meantime there is no hesitation in recommending the early excision of all persistent Roentgen ray ulcerations, in order that subsequent malignant degeneration may be prevented.

Brain Surgery.

Dr. Stephen H. Weeks, Portland, Maine, stated that operations may be performed for the relief of Jacksonian epilepsy, for the cure of imbecility, for the removal of clots, for the opening of abscesses, for the excision of tumors, for the relief of intracranial pressure with or without drainage of the lateral ventricles, and for the cure of traumatic insanity.

Dr. Weeks stated that the question of anesthesia in brain operations is a very important one. His experience has been limited to general anesthesia. He has never made use of intraspinal injection of cocain. Shock may be in great part avoided by dividing the operation into two stages, the interval between them being about five days. To avoid septic invasion the less drainage the better, and consequently every effort should be made to close the skin wound as early as possible.

(*To be continued.*)

Marriages

Albert L. Hertel, M.D., to Miss Lydia E. Nagel, both of St. Louis, Mo., June 5.

Page Edmunds, M.D., Baltimore, to Miss Millicent Geare of Annapolis, Md., May 30.

Andrew C. Smith, M.D., to Miss Anna L. McDonald, both of Portland, Ore., May 27.

Burton D. Parker, M.D., to Miss Tilla Louise Swales, both of Detroit, Mich., June 11.

George B. Foster, M.D., Lynn, Mass., to Miss Alice Allen McAuley of Boston, recently.

Porter Norton, M.D., Mangum, Okla., to Miss Myat Beauchamp of Bowie, Texas, May 25.

Frank Hyatt Raley, M.D., to Miss Beatrice Davis, both of Salt Lake City, Utah, June 12.

Oscar Owre, M.D., Minneapolis, Minn., to Miss Katherine E. Riis, of New York City, June 5.

Albert Nicholas Baggs, M.D., to Miss Aberline McKean Henry, both of Philadelphia, June 5.

George Gregory Belden, M.D., to Miss Anna Pauline Dunston, both of Spokane, Wash., May 29.

James Gavin Field, M.D., surgeon, U. S. Navy, to Miss Laura Field of Dallas, Texas, May 11.

Nicholas Henry Kern, M.D., Thawville, Ill., to Miss Jennie L. DeSelm of Kankakee, Ill., May 28.

Arthur J. Gillette, M.D., to Miss Katherine Harvey Kennedy, both of St. Paul, Minn., May 29.

Paul Vincent Woolley, M.D., to Miss Meroe Royston Moies, both of Kansas City, Mo., June 5.

Eugene E. Northcutt, M.D., McMinnville, Tenn., to Miss Sadye Bales of Morristown, Tenn., May 9.

H. Bert Ellis, M.D., to Mrs. Florence E. Chandler, both of Los Angeles, Cal., at Philadelphia, May 20.

Robert G. McCarthy, M.D., to Miss Celia S. McAndrews, both of Chicago, at Valparaiso, Ind., June 5.

Francis A. Carmichael, M.D., Goodland, Kan., to Miss Rose May McCloskey of San Antonio, Texas, May 15.

William John Le Hunte Lyster, M.D., assistant surgeon, U. S. Army, to Miss Alice Chase Bissell, at Detroit, Mich., May 28.

Deaths

Robert Augustine Marmion, M.D. University of Pennsylvania, Philadelphia, 1868; medical director, U. S. N., retired; a member of the American Medical Association and of the Association of Military Surgeons of the United States; who was appointed to the Navy from Pennsylvania in 1868; a member of the Naval Examining and Retiring Boards, and prior to retirement president of the U. S. Naval Medical School, and in charge of the Naval Museum of Hygiene, Washington, D. C., died at the Emergency Hospital in that city, June 8, from cerebral hemorrhage, after an illness of a few hours, aged 62.

Charles E. Swasey, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1861; assistant surgeon, U. S. V.; later brevetted colonel, and at the close of the war medical director and medical purveyor of the District of the Frontier, and in charge of the U. S. General Hospital, Little Rock, Ark.; city physician of Somersworth, N. H., for eight years, died at his home in that city, May 30, from cerebral hemorrhage, after an illness of four days, aged 77.

Cornelius Edward Van Horne, M.D. Western Pennsylvania Medical College, Medical Department of Western University, Pittsburg, 1896; a member of the American Medical Association; a member of the medical staff of Passavant Hospital, Pittsburg, and a well-known practitioner of East End, Pittsburg, was found dead near the Exposition Hotel, Conneaut Lake, June 2, supposedly from heart disease, aged 39.

Josephus R. Corbus (Illinois Army Board, 1865); M.D. Charity Hospital Medical College, Cleveland, Ohio, 1866; a veteran of the Civil War; formerly surgeon of the Chicago, Rock Island & Pacific Railroad at La Salle, Ill.; a member of the United States pension examining board at Chicago for several years, died at the home of his son in Chicago, June 8, aged 64.

Leonard Arthur Hines, M.D. Fort Wayne (Ind.) College of Medicine, 1892; of Warsaw, Ind.; a member of the Indiana State Medical Association and Kosciusko County Medical Society, died at Hope Hospital, Fort Wayne, May 29, from intestinal obstruction, due to tuberculosis, for which a surgical operation had been performed three days before, aged 34.

Lloyd Elwin Spear, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1869; a member of the American Medical Association; a veteran of the Civil War, and for more than 25 years a resident of Shirley, Ill., died at his home, June 1, from cerebral hemorrhage, after an illness of one year, aged 66.

Nathaniel K. Whittemore, M.D. Bellevue Hospital Medical College, New York City, 1872; a member of the American Medical Association; for several years a member of the local pension board and of the board of education of Elk River, Minn., died May 31, from nephritis, after an illness of six months, aged 59.

Peter J. Weber, M.D. Washington University, Medical Department, St. Louis, 1906; president of the City Hospital Medical Association, St. Louis, and interne at the City Hospital, died May 29 in that institution, from septicemia due to an operation wound, after an illness of five days, aged 30.

Samuel W. Given, M.D. Rush Medical College, Chicago, 1890; a member of the Michigan State and Genesee County medical societies; a member of the school board of Flint, Mich., for eight years, and last year president of the board, died at his home, May 28, from nervous collapse, aged 43.

Robert E. Campbell, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1866; for many years a prominent practitioner of Buffalo, N. Y., died at the Park Hotel in that city, May 27, after an illness of three months, from heart disease, aged 65.

Alpheus A. Bush, M.D. Bellevue Hospital Medical College, New York City, 1875; a member of the American Medical Association, and a practitioner of Brushton, Pittsburg, died suddenly at Columbia Hospital in that city, May 30, from angina pectoris, aged 57.

John H. Burchmore, M.D. Harvard University Medical School, Boston, 1875; a member of the Illinois State and Cook County medical societies; for 30 years a practitioner of Evanston, Ill., died suddenly at his home in that city, from heart disease, June 8, aged 57.

M. D. Baldridge, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1844; a pioneer practitioner of Batavia, Iowa, died at his home in that place, June 1, from senile debility, after a long period of invalidism, aged 80.

John W. S. Norris, M.D. Jefferson Medical College, Philadelphia, 1859; surgeon in the Army during the Civil War; formerly of Philadelphia, but of late years a resident of Paris, France, died in that city, May 31, from rheumatic arthritis, aged 69.

Joseph L. Prentiss, M.D. Rush Medical College, Chicago, 1866; surgeon during the Civil War, and for 30 years a practitioner of Canon City, Colo., died at Seattle, Wash., May 31, from heart disease, after a long period of invalidism, aged 65.

Max J. H. Koetter, M.D. University of Nebraska, College of Medicine, Omaha, 1903; a member of the American Medical Association, and secretary of the Burlington (Wyo.) Commercial Club, died at Burlington, February 23, aged 28.

Edwin Franklin Kessler, M.D. Independent Medical College, People's Institute, Chicago, 1897; license, Wisconsin, 1899; is reported to have committed suicide by strangulation in his room in Milwaukee, May 30, aged 52.

Maurice K. Griffin, M.D. Kentucky University, Medical Department, Louisville, 1905; of Ashland, Ky., died May 28, in a hospital at Tampa, Fla., from rheumatic endocarditis, after an illness of five months, aged 25.

James H. Hammond (Act of 1887, Minn.); for more than 20 years a practitioner of Minneapolis, was found dead in his rooms in that city, May 31, aged about 60. Death is thought to have been due to heart disease.

George Boice Durrie, M.D. Medical Institution of Yale College, New Haven, Conn., 1865; a veteran of the Civil War, and for 35 years a practitioner of New York City, died from heart disease at his home, June 1.

John J. Reaburn, M.D. Medical Department, University of Iowa, Keokuk, 1869; a member of the Illinois State and Hancock County medical societies, died at his home in Carthage, Ill., May 28, aged 74.

Joseph C. Bessette, M.D. Harvey Medical College, Chicago, 1899; was found dead in his room in Chicago, June 1, from poison by cyanid of potassium, supposed to have been self-administered, aged 42.

M. J. Kelly, M.B. Toronto University; M.D., LL.B.; for 30 years inspector of Brant County schools, and for a number of years a practitioner of Brantford, Ont., died at Montreal aged 74.

H. W. Thornton, M.D. McGill University Medical Faculty, Montreal, 1882; L.R.C.P. London, 1882; of New Richmond, Que., was recently suffocated in a fire which destroyed his house.

Chester Ira Thacher, M.D. Cleveland (Ohio) Homeopathic Medical College, 1880; of Chicago, died suddenly at the home of his sister-in-law in New York City, May 31, from heart disease.

George P. Young, M.D. Manitoba Medical College, Winnipeg, 1895; formerly of Sandon B. C., but for several years a practitioner of Vancouver, B. C., died suddenly in that city, May 27.

John Garthwaite Pierson, M.D. New York University Medical College, 1874; formerly a practitioner of Southampton, L. I., died at the home of his daughter in Westfield, N. J., May 29.

Charles H. Turner, M.D. Medical School of Harvard University, Boston, 1898; formerly of Holyoke, Haverhill and Blackinton, Mass., died in a hospital in Worcester, May 29.

John Hutchison, M.D. Licentiate Faculty of P. and S., Glasgow, Scotland, 1881; died at his home in Glenfell, Sask., May 5, from pneumonia, after a short illness, aged 54.

George Waterman Mason, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1849; died at his home in Stafford, Ohio, April 1, aged 80.

William D. Strother (License, Mo., 1883); a resident of Lee's Summit, Mo., for 30 years, died at his home, April 21, after an illness of several days, aged 80.

George M. Fuerth, M.D. University of Halle, Germany, 1883; a well-known practitioner of Detroit, died suddenly, June 3, at his home, from heart disease, aged 48.

Thaddeus J. Brown, M.D. Beaumont Hospital Medical College, St. Louis, 1898; died from pneumonia, at his home in Novelty, Mo., recently, aged 30.

Louis A. Fecteau, M.D. New York University Medical College, New York City, 1887; died at his home in Natick, R. I., June 2, after a prolonged illness.

Emil Bories, M.D. University of Vermont, College of Medicine, Burlington, 1885; of Seattle, Wash., died in Vancouver, B. C., May 31, aged 54.

Thomas W. Walsh, M.D. Bellevue Hospital Medical College, New York City, 1891; died at his home in Halifax, N. S., May 11, after a long illness.

Henry Tremayne (Years of Practice, Mich., 1900); a resident of Ionia County, Mich., since 1863, died at his home in onia, June 3, aged 69.

Colin MacKenzie, M.D. Kansas City (Mo.) Medical College, 897; of Minneapolis, Minn., died at the Russell Sanitarium, May 18, aged 39.

George Henry Watson (Years of Practice, Mass.); formerly f Bridgewater, Mass., died at his home in Flatbush, N. Y., May 26, aged 59.

Noyes Newton Learned (Years of Practice, Mass., 1894); a ative of Vermont, died at his home in Charlestown, Boston, May 11, aged 82.

Christopher C. Thompson (License, La.); a practitioner for bout 50 years, died at his home in Ada, Grant Parish, La., pril 16, aged 80.

William H. Schildknecht (License, Neb., 1891); a pioneer of ass County, Neb., died in Plattsmouth, February 21, aged 71.

S. F. Wilson, M.D. McGill University Medical Faculty, Montreal, 1893; of Montreal, died recently, aged 51.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Chronic Gastritis.

Chronic gastritis presents various indications for treatment. The principal of these are: 1. The removal of irritants and protection of the mucous membrane. 2. The restraint of excessive secretion and the neutralization of excessive acidity. 3. The prevention of fermentation. 4. The stimulation of the appetite and the relief of symptoms.

The removal of irritants is best accomplished by lavage, which is particularly indicated if there is any tendency to retention of food. It is customary to add alkalies to the water to dissolve mucus and an antiseptic to help cleanse the stomach. A mixture like the following may be used:

℞. Sodii bicarbonatis ....ʒx 40|
Sodii chloridi ....ʒv 20|

Sig.: Add one teaspoonful to 2 quarts (2 liters) of water.

The following antiseptics have been recommended:

Acidum salicylicum	gr. vii to water Oi—	1 to 1,000
Thymol	gr. iv to water Oi—	1 to 2,000
Acidum butyricum	gr. xl to water Oi—	6 to 1,000
Resorcinol	gr. xv to xxxv to water Oi—	2-5 to 1,000
Benzol	gr. xxxv to water Oi—	5 to 1,000
Acidum hydrochloricum	m. xxxv to water Oi—	5 to 1,000
Potassii permanganas	gr. ss to water Oi—	0.05 to 1,000

Instead of lavage a suitable mineral water may be drunk freely, the liquid passing into the duodenum and carrying mucus and food remnants with it. Instead of natural mineral waters the various artificial substitutes may be employed. Of these the National Formulary contains a considerable number. The chief salts of value in these waters are the bicarbonates which have a solvent action on mucus, and the sulphates which assist by their laxative effect. These waters are usually indicated in the early stages of gastritis, when there is an excess of acid, and are contraindicated in conditions of low acidity. Waters containing chlorids appear to be serviceable in lessening the toughness of the mucus and are thought to have the power of increasing the secretion of gastric juice. Boas has recommended the following prescription of L. Wolf:

℞. Sodii sulphatis
Sodii chloridi, āā........................℥i 30|
Sodii carbonatis ....ʒvi 24|
Sodii boratis..............................ʒiiss 10|
Potassii sulphatis ....ʒi 4|

M. Sig.: Take half a teaspoonful in lukewarm water three times a day, before breakfast and two hours before the midday and evening meals.

Most authors have credited silver nitrate with some power to influence the progress of gastric catarrh. Its action is a purely local one on the mucous membrane and certain conditions are essential to its manifestation. The first is that the stomach should be empty of food, and the second is that the mucous membrane should be clear of its coating of mucus. As the object is to affect the mucous membrane of the stomach, it is much better that the drug should be given in solution so that it may immediately come in contact with the part it is to affect. It should be given before meals, and the best way to apply it is through the tube at the end of lavage by which the food and mucus have been removed. A 1 to 2,000 solution may be used and gradually increased to 1 to 1,000. The solution should be allowed to remain in the stomach for two minutes, after which it may be removed by lavage, and it may be advisable to add some sodium chlorid to the wash water. If lavage is impracticable the drug may be given in pill form or preferably in solution. Rodari gives the following formulas:

℞. Argenti nitratis..................gr. v-vii |3-45
Kaolini q. s. ut. f. pil. No. xxx |

Sig.: One pill with half a glass of water three times day, an hour before meals.

℞.	Argenti nitratis	gr. iii-v		2-3
	Aquæ dest	℥v	150	

M. detur ad. vitr. nigr. Sig.: Take a tablespoonful three or four times a day, an hour before meals, in half a glass of water.

The treatment with silver nitrate is most appropriate to cases in which there is increased acidity.

Bismuth salts are applicable for their astringent properties. The most appropriate are the subcarbonate, the subnitrate and the subgallate. The subsalicylate is objected to by Rodari on the ground that the salicylic acid injures the stomach more than the bismuth aids it. He recommends the following in acid gastritis:

℞.	Bismuthi subnitratis	ʒiiss	10	
	Sodii carbonatis			
	Magnesii oxidi, āā	ʒv	20	
	Extracti belladonnæ	gr. ii		15

M. Ft. pulvis. Sig.: Take a level coffee spoonful suspended in half a glass of water, three times a day, two hours before eating.

Reed recommends the combination of silver nitrate, gr. ¼ (0.015) and bismuth subnitrate, 5 to 10 grains (0.3 to 0.6) as occasionally useful.

Alkalies are useful in acid gastritis and in place of the alkaline mineral waters one may employ sodium bicarbonate, magnesium oxid, magna magnesiæ (N. F.), calcium carbonate, or a combination of these. When the bowels are constipated one may give the following:

℞.	Sodii bicarbonatis	ʒx	40	
	Magnesii oxidi	ʒiiss	10	

M. Sig.: Take from half a teaspoonful to a teaspoonful at mealtimes.

If diarrhea is present calcium carbonate may be substituted for the magnesia, or the following may be given:

℞.	Bismuthi subnitratis	ʒiiss	10	
	Sodii carbonatis			
	Magnesii oxidi, āā	ʒv	20	

M. Ft. pulvis. Sig.: Take a teaspoonful in water three times a day, two hours before meals.

The risk of fermentation of food in uncomplicated gastritis is not great. It is probable that antiseptics introduced into the stomach are not particularly useful. It is more rational to sterilize the food and disinfect the mouth. The following combinations are recommended by Hemmeter for disinfection of the mouth. They should be applied by the brush to the teeth and the roof of the tongue, and also used as a mouth wash:

℞.	Thymol	gr. iv		25
	Acidi benzoici	gr. xlv	3	
	Tincturæ eucalypti	fʒiiiss	15	
	Alcohol	f℥iiiss	100	
	Olei menthæ pip	m. xii		75

M. Sig.: Pour sufficient into one-half a glass of water to produce turbidity. If much decomposition be present, 0.8 hydrargyri chloridum corrosivum may be added.

℞.	Spiritus lavandulæ			
	Spiritus myrciæ, āā	fʒxiiss	50	
	Tincturæ myrrhæ	fʒi	4	
	Benzosulphinidi (saccharin)			
	Menthol, āā	gr. xv	1	

M. Sig.: From one-half to one teaspoonful to a glass of water.

Resorcinol is commonly regarded as one of the best gastric antiseptics. It may be given in doses of from 2 to 5 grains.

℞.	Resorcinol	gr. iss		1
	Benzosulphinidi	gr. ss		03

M. Sig.: One powder three times a day, half an hour before eating.

Resorcinol may be combined with stomachics thus:

℞.	Resorcinol	gr. xxx	2	
	Acidi hydrochlorici dil.			
	Fluidextracti condurango, āā	fʒiiss	10	

M. Sig.: From 20 to 30 drops half an hour before meals (Rodari).

The relative value of some gastric antiseptics is given as follows: Sodium salicylate stops fermentation in a concentration of less than ⅛ per cent; thymol, between ⅛ and ½ per cent.; mentnol, between ½ and 2 per cent.; ichthyol at 1 per cent.

Thymol may be given as follows:

℞.	Thymol	gr. xv	1	
	Alcohol	fʒiiss	10	
	Benzosulphinidi	gr. iss		1

M. Sig.: Take 10 drops half an hour before or after the meal. Or:

℞.	Thymol	gr. xv	1	
	Extracti gentianæ q. s. ut. ft. pil. No. xx			

Sig.: Take one or two pills before meals. Or:

℞.	Thymol			
	Resorcinol, āā	gr. xii		75
	Extracti gentianæ q. s. ut. ft. pil. No. xx			

Sig.: One or two pills before meals.

Menthol may be given as follows:

℞.	Menthol	gr. xv	1	
	Thymol	gr. v		3
	Alcohol			
	Syrupi, āā	f℥i	30	

Sig.: Take a teaspoonful before meals.

If we consider the proportions in which these substances exert an antiseptic action, it is manifestly unreasonable to expect them to act on a mass of food. In the proportion given we would need to take of thymol 2 grains or of menthol 8 grains to disinfect an ordinary meal (1 liter or one quart of food). These are quantities larger than should be given.

The best gastric antiseptic is hydrochloric acid. It may be given in large doses after meals.

℞.	Acidi hydrochlorici dil	f℥i	30	
	Syrupi zingiberis q. s. ad	f℥iv	120	

Sig.: Take a teaspoonful in half a glass of water after meals.

The acids may be given with other stomachics before meals with a view to exciting appetite.

℞.	Acidi hydrochlorici dil	fʒiiss	10	
	Tincturæ cinchonæ comp	fʒiv	15	
	Syrupi rubi	f℥i	30	
	Aquæ q. s. ad	f℥iv	120	

M. Sig.: Take a teaspoonful in water before eating.

Hemmeter recommends the following:

℞.	Strychninæ sulphatis	gr. 1/3		02
	Acidi hydrochlorici dil	fʒv	20	
	Elixir gentianæ	f℥vi	180	

M. Sig.: A tablespoonful in two ounces of water after meals, through a glass tube.

Condurango is highly esteemed by many as a stomachic.

℞.	Fluidextracti condurango	℥iss	45	
	Elixir gentianæ			
	Glycerini, āā	f℥viii	240	

M. Sig.: Take one to two teaspoonfuls before meals.

Hare recommends as a tonic:

℞.	Acidi hydrochlorici dil	f℥ss	15	
	Tincturæ cinchonæ comp	f℥vi	180	

M. Sig.: Take a dessertspoonful three times a day, after meals, well diluted with water.

For pyrosis, silver nitrate is the best remedy. Nausea is relieved, according to Boardman Reed, by diet and lavage, but when this is impracticable minute doses of calomel and ipecac may be given. He recommends the following:

℞.	Bismuthi subnitratis	ʒi	4	
	Glyceriti phenolis	ʒss	2	
	Spiritus chloroformi			
	Tincturæ cardamomi comp., āā	fʒiss	6	
	Aquæ menthæ pip. q. s. ad	f℥ii	60	

M. Sig.: One teaspoonful in water or lime water every two hours until relieved.

Extremely advanced chronic gastritis affords an opportunity for the use of digestive agents. The most commonly used is pepsin, but given alone it is ineffective and it is usually superfluous, since if hydrochloric acid be given, sufficient pepsin will be secreted by the gastric glands in the majority of cases. If given at all, it should be in combination with hydrochloric acid, as in the following examples:

℞. Acidi hydrochlorici dil..................f℥i 30
Pepsini ....ʒss 2
Aquæ q. s. ad.............................℥iv 120

M. Sig.: Take a teaspoonful in two ounces of water, half an hour, one hour and an hour and a half after meals.

℞. Acidi hydrochlorici dil..................fʒiv 15
Liquoris pepsini q. s. ad.................℥iv 120

M. Sig.: Take two teaspoonfuls in water after meals.

Such large doses of hydrochloric acid are necessary to render the pepsin active, that it is impracticable to use it. In case of total lack of acid in the gastric juice, pancreatin may be given guarded by alkali to insure an alkaline medium.

Thus one may give:

℞. Pancreatini ....ʒii 8
Sodii bicarbonatis ....℥i 30
M. et. ft. pulveres No. xxiv

Sig.: Take one powder after each meal.

Preservation of the Teeth in Pregnancy.

Barton C. Hirst, in the *Therapeutic Gazette*, states that in order to preserve the teeth the pregnant woman should use milk of magnesia as a mouth wash morning and evening, and take a course of syrup of lactophosphate of calcium, 2 drams (8.0) three times a day, for two weeks at a time, off and on during the whole period of gestation.

Medicolegal

Liability of Father Calling Physician for Adult Son—Fees Which May be Charged—Neither Wealth of Patient Nor Reputation of Physician to be Considered.

The Supreme Court of Missouri, Division No. 1, recently passed on the case of M. P. Morrell vs. Joseph J. Lawrence. The plaintiff sued on an alleged implied contract of the defendant to pay him the reasonable value of his services as a physician rendered to the defendant's adult son at the defendant's request. The facts were as follows: The defendant and his son, Frank Lawrence,, both former residents of St. Louis, were at the time in question living in New York City. The son, 42 years of age, was not living with his father, but at a hotel. He was a man of considerable means, carrying on a business of his own. The plaintiff was a physician residing in St. Louis. While the defendant and his son resided in that city the latter became in bad health and came under the care of the plaintiff. The relation of physician and patient had existed between them for several years. The plaintiff's bills for medical services rendered in St. Louis to Frank Lawrence were presented to and paid by him.

When the services in controversy were rendered the plaintiff received a telegram from the defendant in the following words: "Frank is quite sick. We would like to have you come and treat him. Leave on noon train Sunday, via Big Four. Answer at once." The plaintiff answered: "Will leave on Big Four at noon to-day." When he arrived in New York he was met at the station by a messenger of the defendant, conducted to the latter's residence, and after tea was conducted to the hotel where Frank Lawrence lay very ill. The plaintiff remained in constant attendance on the sick man, ministering to him day and night, until he died. The particular character of the services rendered was in evidence, and there was testimony on the part of the plaintiff tending to show that the services were worth $300, $400, $500 and $1,000 a day. The amount of the bill sued for was $16,000, itemized at $400 a day for forty days. The evidence on the part of the defendant was that from $4,000 to $6,000 would be ample pay for the services rendered. The verdict was for the plaintiff for $12,666. The trial court, however, sustained the defendant's motion for a new trial, on the ground of error in the instructions, and that the verdict was excessive. That order is affirmed by the Supreme Court.

1. The Supreme Court says that, before reaching the points on which the trial court based its ruling, the point first presented in the brief for the defendant must be considered; that is, that the plaintiff made out no case to go to the jury. The defendant's proposition was that from the facts and circumstances shown by the plaintiff's evidence, the law implied no promise or obligation on the part of the defendant to pay for the services rendered. There was no express contract on the part of the defendant shown; if he was liable, it was on an implied contract. According to the defendant's estimate of the evidence, there was shown a request by the defendant of the plaintiff to render services for the benefit of another, and nothing more.

From certain decisions cited counsel drew the conclusion that a promise to pay the bill is not implied from the fact that a father calls a physician to attend his sick son, who is a man of mature age, and to that extent this court thinks the conclusion justified; but it does not go with counsel to the extent of holding that a father calling a physician to attend his adult son can be rendered liable only on an express contract, because it holds that the circumstances or conditions may be such as to lead the physician to believe, and to charge the father with knowledge that the physician does believe, that the father is undertaking to pay for the services to be rendered. Whilst the calling of a physician to the bedside of a sick man has in the nature of the case its own elements of exception to the general rule, yet it is not put so far in a class to itself as to exempt it entirely from the category of implied contracts.

The court thinks the evidence for the plaintiff in this case tended to prove a condition of affairs from which the triers of the fact, if they should see fit to draw the inference, might with reason do so, that the defendant intended the plaintiff to understand, and the plaintiff did understand, that he would pay for the services which the telegram called the plaintiff to render. This was not a call on the plaintiff for services in the field of his daily work. It called him away from his established field of action. It called him, in effect, to resign his practice, to dedicate himself for the time being solely to the service of the defendant's son, whatever the consequence might be to his general practice. This was altogether outside of the category of the cases above referred to. The patient was not one of twenty or more for whom the physician might prescribe in a day. He was one for whom the physician must give up all other patients. The call was a very unusual one and it involved unusual financial consequences.

There was no room to question at least one fact: that is, that the plaintiff went to New York and entered on this service at the request of the defendant. The telegram was not couched in form of a message from the sick man. The writer was not in the character of the conveyor of a request from another, and did not assume to express merely another's wish, or merely make the announcement that there was a sick man there needing attention. He expressed his own desire, uniting his own with that of his son, or possibly of some other member of the family, under the first person plural of the pronoun: "Frank is quite sick. We would like to have you come and treat him. Leave on noon train Sunday, via Big Four. Answer at once." If the plaintiff's testimony gave the correct version of the controversy or misunderstanding as to the defendant's liability for the services rendered on the trip to Europe, the defendant should have known that the plaintiff would understand that telegram as carrying by implication a promise to pay, or at least that he was liable to put that construction on it. The telegram was to be interpreted in the light of the relation of the parties and of their past transactions with each other. Whether in that light the defendant had reason to believe that the plaintiff would understand the telegram to imply an agreement to pay, and the plaintiff did so understand, were questions for the jury under proper instructions, and, if the jury should so find, the verdict should be for the plaintiff.

2. It was shown in evidence, over the objection of the defendant, that he was a very wealthy man, and on the measure of damages the trial court in its instructions authorized the jury to take that fact into account. The instructions covering that point were as follows: "2. In determining what is the reasonable value of the services rendered by the plaintiff,

the jury should take into account the circumstances and conditions under which the services were rendered; the length of time employed; the professional character and standing of the plaintiff; the absence of plaintiff from his residence and place of business; the nature of the ailment of the patient; the nature of the services themselves; the danger, if any, of infection or contagion incident thereto; the professional skill and experience required for their proper rendition; the ability of the person liable therefor to pay; together with all other facts and circumstances shown in evidence, relative to such services; and, having considered all such facts and circumstances, the jury should fix the value of the services at such an amount as under all the evidence they believe to be reasonable and proper. 3. The jury are instructed that the evidence touching the financial ability of the defendant may be considered by the jury, not to enhance the fees above a reasonable compensation, but solely to determine whether the defendant if they find, under the other instructions, he is liable at all, is able to pay a fair and just and reasonable compensation for the services rendered to his son." The trial court sustained the defendant's motion for a new trial on the ground partly that those instructions were erroneous. In that ruling that court was correct.

This court was referred to some decisions as sustaining the proposition that the fact that a man is amply able to respond to a judgment for a debt sued for is one to be taken into account in determining the amount to be awarded against him; but, to the extent that those cases so hold, it does not agree with them.

Ward vs. Kohn, 58 Fed. 462, was cited. There the court commented on the well-known practice in the legal profession of charging a poor man less for legal services rendered than those services are worth, and, on the other hand, of charging a wealthy client a full, fair and reasonable compensation.

That is to say, in estimating the value of the services, the jury should not take for a standard of measurement the fees a lawyer would charge a poor man, in consideration of his poverty, but should estimate the services at their full, fair value.

That is sound doctrine, as far as it goes; but it does not authorize the plaintiff to show to the jury the defendant's wealth as an element, to be taken into the account in the measurement of the value of the services, unless it is in rebuttal of evidence from the other side attempting to show the custom of a lower standard.

In the case at bar there was no effort on the part of the defendant to prove that the plaintiff or other physicians were in the habit of charging smaller fees for like services. Hence there was no occasion for rebuttal evidence to show that smaller fees were charged out of consideration for the poverty of the patients, and that the defendant's financial condition did not entitle him to that indulgence. The instruction justified the jury in believing that there was a difference between the reasonable value of services rendered a rich man and those of the same kind rendered a poor man. There is no such difference.

3. Over the defendant's objection, testimony went in to show that the plaintiff was a physician of good reputation in the community, and instruction authorized the jury, in assessing the value of the services, to take that fact into account. That was error. The plaintiff's general professional reputation was not drawn in question, and the jury had no right to consider it in estimating the value of the services. The plaintiff's professional reputation in the community would doubtless have some influence on the amount of income derived from his practice, and if that was in dispute, and if he was suing for loss of income caused by absence from home in the service of the defendant, evidence of that reputation would be admissible. But there was no question of that kind in the case. The plaintiff testified that his income was $6,000 to $10,000 a year, and there was no dispute of that. Besides, he was not suing for compensation for loss of income occasioned by absence from home in the service of the defendant. His petition was short and to the point. In it he said that, at the request of the defendant, he rendered professional services to the defendant's son, and that the services rendered were reasonably worth $16,000. It was the value of the services alone that he sued to recover. It was competent for the plaintiff to show that he was a physician of learning and skill, and that fact should be taken as an element in estimating the value of the services rendered; but the plaintiff's general reputation as a physician had no more to do with the case than his general reputation as a man.

4. The trial court excluded evidence offered by the defendant to show that the defendant's son, Frank Lawrence, was a man of considerable fortune and amply able to pay for the services. It was error to exclude that testimony. The testimony showed that the plaintiff, the defendant and the defendant's son were well acquainted with each other. The plaintiff knew in a general way the financial standing of the father and the son. If it had been the fact that the son was impecunious, and the plaintiff knew it, and the defendant knew that the plaintiff knew it, would not that fact have naturally influenced the plaintiff in drawing the inference that the defendant intended to pay for the services he called him to perform? And, on the other hand, if it was known to both parties that the son was himself a man of considerable wealth, would that not naturally render the inference less violent? It was a fact by no means conclusive, but it was one of the many facts in the case to be taken into account and given such weight as the jury should see fit to give it.

5. The trial court also assigned as a reason for granting the new trial that the verdict was excessive. That was a point peculiarly within the province of the trial judge. It was one that he was better qualified to judge than an appellate court. The law puts that important responsibility on him, and it advances the cause of justice when the trial judge courageously performs that duty. The Supreme Court sees nothing calling for a review of the ruling of the trial court on this point.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

May 30.

1 *Gallstones Without Symptoms and Symptoms Without Gallstones. M. H. Richardson, Boston.
2 *Use of Tuberculin in the Early Diagnosis of Tuberculosis. J. B. Hawes and C. Floyd, Boston.
3 Submucous Resection of the Nasal Septum. G. H. Powers, Jr., Boston.
4 Vocal Nodules in Children. A. Coolidge, Jr., Boston.
5 Prophylaxis of Postoperative Diphtheria. H. A. Barnes, Boston.
6 Submucous Resection of the Nasal Septum. G. L. Tobey, Jr., Boston.
7 Fatal Meningitis After Removal of Anterior End of Middle Turbinate. H. P. Mosher, Boston.
8 Fatal Result from Intranasal Operation. G. L. Tobey, Jr., Boston.

1. **Gallstones and Their Symptoms.**—Richardson calls attention to the large number of apparently incorrect diagnoses of gallstone, in which all classical symptoms seem to be present, and yet, on opening the gall bladder, no gallstones are found. An abnormal condition of the gall bladder inviting infection, causing colic, and in his belief, making the gall bladder the nidus of future gallstones are the conditions present. Richardson holds that the only error in such cases is in limiting the cause of symptoms to an actual crystalline formation. On the other hand, the absence of gallstone pain and discomfort in the patient's history must not be given too much weight in eliminating gallstones from the diagnosis. He believes gallstones may exist and may cause serious anatomic lesions with few, if any, symptoms of pain or any of its manifestations. He believes also that the right upper quadrant of the abdomen is a field far from satisfactorily explored and understood.

2. **Tuberculin in Early Diagnosis of Tuberculosis.**—From the study of a number of cases Hawes and Floyd, who report in detail thirty-seven cases, reach the following conclusions: 1. Tuberculin is an agent of great value in the early diagnosis of tuberculosis. 2. It should be used only as a last resort. 3. It should be used only in carefully selected cases. 4. It should be given by men trained and qualified to do the work.

5. When so used, in an initial dose of not over 0.1 mg. it is not in any way dangerous.

New York Medical Journal.

June 1.

9 Morphologic Diagnosis of Pathogenic Protozoa. J. Ewing, New York.
10 *Acute Unilateral Septic Infarcts of Kidney. G. E. Brewer, New York.
11 Pyocyaneous Ulcer of Cornea. P. Fridenberg, New York.
12 *Diagnosis of Tumors of the Bladder. H. Cabot, Boston.
13 Eyestrain in School Children. W. S. Cornell, Philadelphia.
14 The Scranton Typhoid Epidemic. J. M. Wainwright, Scranton, Pa.
15 Modern Methods of Improving Milk Supplies of Cities. C. B. Lane, Washington.
16 *A New Saccharimeter. L. E. Walbum, Copenhagen, Denmark.

10. **Acute Unilateral Septic Infarcts of Kidney.**—Brewer gives a brief history of thirteen cases of this disease, variously treated. As diagnostic points he states that toxemia is marked from the first and with the high fever may suggest lobar pneumonia, or one of exanthemata. Tenderness and muscular rigidity over the region of the appendix or gall bladder often leads one to believe these organs to be the seat of the disease. As the urine from the infected kidney is greatly diminished and largely diluted by the abundant secretion from the unaffected kidney, urinalysis frequently fails as a diagnostic element. Urine examination, therefore, should be more than ordinarily thorough. One pathognomonic sign, which Brewer claims is present in all cases, is a marked unilateral costovertebral tenderness. His own statistics show that with nephrotomy and drainage, in five patients having the severe type, all died. With nephrectomy, performed on eight patients having the severe type, all recovered. Nephrectomy decapsulation and drainage in five patients having the milder type all recovered. Expectant treatment in four or more patients having the mildest type all recovered.

12. **Diagnosis of Bladder Tumor.**—Failure to take advantage of well-known diagnostic methods, Cabot believes to be the cause of fatally late diagnoses of bladder tumors. He urges all practitioners in the presence of painless hematuria, hematuria accompanied by pain which may seem to localize it elsewhere, or in cases of disturbance of bladder function of doubtful origin, to make use of the cystoscope.

16. **A New Saccharimeter.**—Walbum describes an easy and quick way of making a quantitative determination of sugar in the urine. The apparatus consists of a graduated tube, two dropping bottles and a pipette. The method is based on the decolorization of Fehling's solution. The results, for clinical purposes, are said to be approximately accurate.

Medical Record, New York.

June 1.

17 *Physiologic Action of Pancreatic Enzymes. M. A. Cleaves, New York.
18 *Eyestrain and Other Diseases Due to Crossing, Crowding and Damming of Retinal Vessels. G. M. Gould, Philadelphia.
19 *Acid Intoxication or Acidosis. E. S. Talbot, Chicago.
20 Intestinal Obstruction Due to Persistence and Anomaly of Urachus. A. Fanoni, New York.
21 Roentgen Ray as Applied to Prostatic Enlargement. L. B. Bangs, New York.

17. **Physiologic Action of the Pancreatic Enzymes.**—Cleaves divides her cases into those of intestinal surgical interference, postoperative and inoperable cases, metastases and non-malignant cases. The preparations used are prepared from the fresh pancreas, and contain trypsin and amylopsin. They are used hypodermically by preference, by injection into the subcutaneous tissues, or directly into the growth, or by rectum and by mouth. The pathologic condition and the condition of the kidneys determine the dose. The poisonous symptoms sometimes produced by the trypsin are controlled by the amylopsin. Pain, she states, is relieved, discharge and odor are lessened, metabolism is improved, and mental and physical vigor are increased. The growth in some instances is absorbed.

18. **Eyestrain Due to Damming of Retinal Vessels.**—Vision depends primarily, Gould says, on the vascularization and nutrition of the intraocular tissues. The stability of the globe is determined by the intraocular pressure. The arterial circulation will be impeded if the larger vessels circle around or cross each other, and the nutrition of the retina thus will be impaired. Vision is seriously disturbed and eyestrain follows the damming of the vessel supplying the macula or the region near the macula.

19. **Acidosis.**—The abnormal degree of urinary acidity results, according to Talbot, in colds, headache, backache and important lesions during pregnancy. Pyorrhea alveolaris, he believes, is the result of faulty nutrition, kindred to acidity. Lessened blood alkalinity sets up inflammation of the coats of the arterioles and ends in arteriosclerosis and nerve degeneration. In the eruptive diseases, pneumonia and typhoid, a high degree of acidity has been shown to exist.

Lancet-Clinic, Cincinnati.

June 1.

22 *Multiple Pregnancy. J. W. Rowe, Cincinnati.
23 Pubiotomy and Its Relative Indications. E. B. Montgomery, Quincy, Ill.
24 *Secret Commissions. E. S. McKee, Cincinnati.

22. **Multiple Pregnancy.**—Rowe discusses the causes and gives what he terms the certain and uncertain signs of this condition. He holds that the human female being uniparous, multiple pregnancy must be regarded as pathologic. The maternal mortality is four times as high as in single births, and the commonness of abnormal presentations increases the danger of sepsis.

24. **Secret Commissions.**—McKee deprecates the frequency with which commissions are taken and given by physicians. Tribute, he claims, has been laid on the pharmacist by physicians. Sanitaria, mineral springs and proprietary medicine companies frequently offer physicians shares of stock for the business sent them. He cites some specific cases.

St. Louis Medical Review.

May 25.

25 Value of Opsonic Index in Diagnosis and Treatment of Tuberculosis. O. H. Brown, St. Louis.
26 Drunkenness as Depicted in Ancient Writers. A. Rose, New York.

Annals of Surgery, Philadelphia.

May.

27 *Severe Burn of Top of Head. W. W. Keen, Philadelphia.
28 *Surgical Treatment of Trifacial Neuralgia. F. Martin, Baltimore.
29 *Case of Hemophilic Knee Joint. J. T. Rugh, Philadelphia.
30 *Stab Wounds of the Heart. R. H. Harte, Philadelphia.
31 *Hernia of the Stomach Through the Diaphragm into the Thorax. G. S. Gordon, Phoenix, British Columbia.
32 *Carcinoma of Cardiac End of the Stomach. G. McConnell, St. Louis.
33 *Review of Series of Operations on the Stomach. G. E. Brewer, New York.
34 *Lesions Associated with Gunshot Wounds of the Stomach W. Martin, New York.
35 *Duodenal Fistula: Its Treatment by Gastrojejunostomy and Pyloric Occlusion. A. A. Berg, New York.
36 *Ileocecal Intussusception Due to Myoadenoma of the Ileum. M. Salzer, Cincinnati, Ohio.
37 *Surgical Treatment of Splanchnoptosis. B. B. Davis, Omaha, Neb.

27. **Severe Burn of Top of Head.**—Keen reports the case of a boy 14 years of age, who, when seven months old, sustained a severe burn of the top of the head. Six months later the whole top of the head sloughed off, including a large portion of both frontal bones, the two parietal bones in their entirety, and a part of the squamous portion of the right temporal bone. A year after the burn the scalp was healed, and a tin cap covered with silk was recommended for protecting the top of the head from blows, but could not be used, as it annoyed the child. Since then the scar has been alternately healed and opened. Soon after the accident the boy had convulsions, then distinct epileptic attacks, and these have continued ever since, increasing in severity and frequency. They occur at any time regardless of any known influence, and number about 400 a year. The boy was very bright and had an excellent memory until he was about 11 years old, when his epileptic attacks became more frequent, and he became stupid. There was no localization of the convulsions. Keen did a complete linear subcutaneous craniotomy so as to separate the entire top of the skull from the lower portion, making eight incisions. The epileptic attacks became lessened in frequency and the boy's intelligence appears to be returning gradually.

28. **Surgery of Trifacial Neuralgia.**—Martin reports eight cases of trifacial neuralgia in which he did a resection of the Gasserian ganglion. In six cases there was complete recovery, there being no recurrence of the pain. Two patients died, one from shock, the other from pneumonia.

29. **Hemophilic Knee Joint.**—Rugh reports a case of this kind, occurring in a man 22 years of age. His family history was negative. Previous to his last illness the patient had had several severe hemorrhages following slight injuries. He had suffered constantly from pain and soreness in his left knee, the result of a fall. The knee would become tender on slight provocation and finally it became so swollen as to impair function. Other measures failing to give relief, the joint was opened and the necessary surgical work was done. In spite of everything that could be done the bleeding from the wound was profuse, when the dressings were changed and the stitches removed. The patient was given gelatin and adrenalin solution internally; an interrupted plaster splint was applied, but constant bleeding was present. Finally, thyroid extract, in 5-grain doses, three times daily, was begun and immediate benefit resulted. Within a week the bleeding had ceased entirely, and the patient's recovery from then on was speedy.

30. **Stab Wounds of Heart.**—Harte reports a case of stab wound of the heart in which an incision in the left auricle one-half inch in length was sutured successfully. The third day after the operation the patient's general condition was good. On the following day there was evidence of infection in the chest. In spite of prompt measures taken to remove the infection, the patient died about twenty-four days after the injury. The autopsy showed an empyema of the left chest and bronchopneumonia. There were extensive pericardial adhesions, with no sign of the stab wound. The endocardium and valves were healthy.

31. **Hernia of Stomach Through Diaphragm.**—Gordon's patient was 31 years of age. He was stabbed in the left flank and two years afterward began to suffer from symptoms referred to a weak stomach. The entire stomach was within the thoracic cavity; it was greatly dilated and hour-glass in form. The hernia was reduced and a gastrojejunostomy was done, but the patient died.

32. **Carcinoma of Stomach.**—McConnell reports a case of primary carcinoma of the cardiac end of the stomach, in which the stomach was much contracted, and displaced so greatly to the left side that the pylorus was to the left of the midline.

33. **Operations on Stomach.**—Brewer reports on seventeen cases in which operation was done, because of a supposed chronic gastric ulcer, or benign pylorus stenosis. He divides these cases into two groups of twelve and five respectively. In the first group eleven patients recovered and were immediately relieved of their symptoms, and one patient died on the sixth day, from pneumonia. Of the eleven, nine are known to have remained well, one died after six months, and one other continues to suffer. Of the second group, five cases in which no lesion was found at operation, one patient was immediately relieved of an hysterical pseudo-tetany, one died from persistent vomiting, one continued to suffer from the gastric crises of locomotor ataxia, and two patients suffered from what was considered a gastric neurosis. Brewer says that he has had no reason to change his belief, enunciated a year ago, as to the indications for treatment in benign lesions of the stomach.

34. **Gunshot Wounds of Stomach.**—Martin makes a very careful analysis of twenty-five reported cases of gunshot wounds of the stomach, and adds three cases to the list.

35. **Duodenal Fistula.**—Berg reports a case, which proves conclusively that when the pylorus is patent a gastrojejunostomy will not divert the chyme from the duodenum into the jejunum, and that when we have to do with a duodenal fistula it is necessary not only to establish a gastrojejunostomy, but also to occlude the pylorus. He does this by means of a broad band of tape held in position by silk ligatures, the knot of the latter resting on the tape.

36. **Ileocecal Intussusception.**—Salzer's patient was 16 years old. She was seized suddenly with severe cramps, but did not vomit, nor was she nauseated. The patient complained of constant pain over the whole abdomen, with acute exacerbations of a colicky character, which were not localized. A swelling was typical and palpable in the region of the cecum. An operation disclosed an ileocecal intussusception, evidently caused by a pedunculated myoadenoma of the ileum. The tumor was about half again as large as a hazelnut.

37.—See abstract in The Journal, Sept. 15, 1906, page 884.

American Journal of Medical Sciences, Philadelphia.

May.

38 *Diagnosis and Treatment of Cardiac Degeneration Apart from Valvular Disease. R. H. Babcock, Chicago.
39 *A Proper Shoe as an Aid to Treatment in Flat (or Weakened) Feet. J. M. Berry, Troy, N. Y.
40 *Treatment of Compressed Air (Caisson) Illness. H. H. Pelton, New York.
41 *Study of Five Hundred Cases of Pleurisy. F. Fraley, Philadelphia.
42 Relation of Kidneys to Gastroenterology. A. L. Benedict, Buffalo.
43 *Heart Block (Adams-Stokes Disease). G. R. Butler, New York.
44 *Position of Motor Areas of the Human Cortex. H. C. Gordinier, Albany.
45 Pathology of Refrigeration Facial Palsy. L. P. Clark, New York.
46 *Changes Produced in Kidneys by Roentgen Irradiation. A. S. Warthin, Ann Arbor, Mich.
47 Pathogenesis of Reflexes Apropos of a Case of Tuberculoma of the Spinal Meninges. A. Gordon, Philadelphia.
48 *Scleroma of Larynx. E. Mayer, New York.
49 Heredity of Form as Illustrated in Pathology by Study of Cysts of Middle Turbinated Bone. J. Wright, New York.
50 Occurrence of Neoplasms in Wild Mammals. H. Brooks, New York.

38. **Cardiac Degeneration.**—Babcock divides myocardial degeneration into two classes: 1, Cases in which the diagnosis is comparatively easy and certain; 2, cases in which the diagnosis must be made by exclusion or inference. The symptoms of both these classes are discussed fully, as is also the treatment. The author's views are so well known that it is not necessary to repeat them in an abstract.

39. **Treatment of Flat Feet.**—Berry describes the Sampson last and shoe, which is so constructed that the line of body weight projected on from the middle line of the leg and ankle falls over the center of the last. Berry says that a proper shoe should have a low heel, with little or no spring to the sole, thus allowing the toes to come to the ground. They should be broad enough in the ball of the foot to give full play to the weight-bearing portion. The shank should be to the outer side of the shoe, where the weight of the foot comes, instead of in the middle, as in the ordinary shoe. The front part of the shoe should have the same angle of adduction as is normal to the individual foot.

40. **Caisson Disease.**—Pelton says that in the treatment of all types of compressed air illness the patient must be subjected to the further influence of compressed air. For this purpose so-called hospital locks should be provided. Pelton describes the apparatus and its use.

41. **Pleurisy.**—As the result of a thorough study of 500 cases of pleurisy Fraley formulates the following conclusions: 1. Pleurisy occurs at all ages, but most frequently from 20 to 30. 2. Pleurisy is most frequent in the spring and least in the fall. 3. Pleurisy affects children under 15 with equal frequency for boys and girls, but is four times as frequent in men as in women. 4. The colored race is particularly susceptible. 5. Occupation seems to have a decided predisposing effect. 6. Croupous pneumonia is the most frequent cause of empyema, and bronchitis or simple exposure to dampness and cold, seems to be more frequently the exciting cause of pleurisy than tuberculosis or rheumatism (as far as clinical evidence is found). 7. Complications are frequent in hospital practice. 8. Aspiration shortens appreciably the course of the disease, and usually requires to be performed at once to effect a cure. 9. Examination of the blood is but moderately helpful and of doubtful value, as also are cytodiagnosis and inoscopy. 10. Empyema is always dangerous, and its natural course almost invariably fatal. Resection and free drainage constitute the proper method of treatment.

43. **Heart Block.**—Butler reports a fatal case in which it was possible to hear faint fluttering sounds over the third interspace to the left of the sternum, which sounds were distinctly synchronous with the visible auricular pulsations. The bundle of His was infiltrated with fat, and had undergone fatty degeneration to such an extent that it was atrophied to not more than one-fifth of its normal size.

44. **Motor Areas cf Human Cortex.**—From a careful study of his own cases and others collected from the literature, Gordinier concludes that there is a determined area in the cerebral cortex presiding over motor functions, and that area is a precentral convolution and its paracentral annex.

46.—See abstract in The Journal, Sept. 15, 1906, page 889.

48. **Scleroma of Larynx.**—Mayer states that scleroma of the larynx is a chronic incurable affection, contagious to a certain degree. Therefore, the subjects of this disease should not be admitted to this country, and every patient with long-standing hoarseness, with or without dyspnea, especially when associated with chronic catarrhal conditions, should be detained until such time as some expert authority can determine the presence or absence of scleroma.

Annals of Ophthalmology, St. Louis.

January.

51 Intravenous Injections. A. Darier, Paris, France.
52 *Ocular Complications of Mumps. J. H. Woodward, New York.
53 Bilateral Metastatic Ophthalmitis in Puerperal Pyemia. G. E. de Schweinitz, Philadelphia.
54 Fundus Lesions with Normal Vision. J. F. Burkholder, Chicago.
55 *Unusual Ocular Manifestations of Gonorrhea. W. C. Posey, Philadelphia.
56 Two Cases of Parinaud's Conjunctivitis. F. Krauss, Philadelphia.
57 Ocular Symptoms in Case of Tumor of Pituitary Body. H. F. Hansell, Philadelphia.
58 Conjugate Palsy of Upward and Downward Movements of Eyes. C. E. G. Shannon, Philadelphia.
59 Modified Paquelin Cautery for Ophthalmic Use. E. B. Coburn, New York.

52. **Ocular Complications of Mumps.**—Among the ocular complications of mumps Woodward mentions the following: Optic neuritis and neuroretinitis; optic atrophy; iritis; keratitis; conjunctivitis; dacryoadenitis; iridocyclitis; abscess of eyelid; paralysis of accommodation and of the extraocular muscles; narrowing of fields of vision and of color fields, and dimness of vision. Appended to the article is a complete bibliography of the ocular complications of mumps.

55. **Unusual Ocular Manifestations of Gonorrhea.**—Posey reports several cases of gonorrheal conjunctivitis, one of which was a metastatic conjunctivitis and not a direct infection.

The Laryngoscope, St. Louis.

April.

60 Importance of Early Diagnosis of Malignant Disease of Larynx. O. J. Stein, Chicago.
61 *Rapid Convalescence After Mastoid Operations. W. S. Bryant, New York.
62 *Mastoid Blood Clot Operation. H. G. Langworthy, Dubuque, Iowa.
63 Intranasal Drainage of Frontal Sinus. E. F. Ingals, Chicago.
64 Prof. Gustav Killian and His Work. W. E. Chenery, Boston.
65 Case of Lateral Sinus and Jugular Thrombosis with Abscess Development in Neck. J. J. Thompson, New York.
66 *Cystic Polyp. J. H. Abraham, New York.
67 Case of Laryngeal Urticaria. C. E. Cooper, Denver, Colo.
68 A Guarded Burr for Septal Resection. R. H. Brown, Chicago.
69 Reinforced Freer-Grünwald Forceps and New Patterns of Elevators and Retractors for Submucous Resection of Nasal Septum. O. T. Freer, Chicago.
70 Safest Method of Using Paraffin Subcutaneously. S. H. Large, Cleveland.

61. **Rapid Convalescence After Mastoid Operations.**—Bryant reports seven cases to show the results of treatment by blood clot for simple mastoid, drained blood clot for simple mastoid, the results of an infected mastoid wound after the use of a drained blood clot, the results in a mastoido-tympanic operation treated by blood clot, and one treated by the drained blood clot, and an infected case after mastoido-tympanic operation treated by blood clot. Five of the cases show rapid and satisfactory healing by first intention and two by second intention after infection and sloughing of the wound. The case of epidural abscess treated by the drained blood clot was followed by rapid and uneventful healing by first intention.

62. **Id.**—Langworthy says that at present the experiments in blood-clot operation teach us not so much the value of the blood clot in the mastoid as the fact that it is also unnecessary to leave a large wound gaping throughout its length to heal by granulations. Therefore, it is more practical to close the wound almost entirely and to cover as much bone as possible, leaving only sufficient space for drainage.

66. **Cystic Polyp.**—The interest of the case reported by Abraham lies mainly in the fact that the patient was operated on twice in five years for nasal polypi, the tumors being removed at both operations. One of the polyps had undergone cystic degeneration. The cyst was lined throughout by columnar ciliary epithelium.

Archives of Otology, New York.

February-April.

71 Case of Leptomeningitis with Complications. C. N. Spratt, Minneapolis.
72 Dionin in Chronic Catarrhal Deafness. B. A. Randall, Philadelphia.
73 Case of Mastoiditis Complicated by Thrombosis of Left Lateral Petrosal and Cavernous Sinuses. R. Lewis, Jr., New York.
74 Mastoiditis in Diabetics. J. D. Richards, New York.
75 Prognosis of Operative Procedures on Mastoid Process of Diabetics. E. L. Meierhof, New York.
76 Progressive Spongification of Labyrinthine Capsule (Otosclerosis). N. H. Pierce, Chicago.
77 Faulty Methods of Brain Localization in Intracranial Lesions. Complicating Aural Diseases. S. M. Smith, Philadelphia.

Archives of Ophthalmology, New York.

March.

78 Anatomic Changes in Ophthalmia Sympathetica. E. V. L. Brown, Chicago.
79 Neuritis of Intracranial Portion of Optic Nerve. H. Gradle, Chicago.
80 Bilateral Painless Dilatation of Frontal Sinuses Due to Death of Lining Mucous Membrane. J. Dunn, Richmond, Va.
81 Causation of Glaucoma by Intraocular Tumors. B. Pusey, Chicago.
82 Case of Glioma Retinæ. McC. Radcliffe and H. G. Goldberg, Philadelphia.

American Practitioner and News, Louisville.

April.

83 Heredity. G. B. Jenkins, Louisville.
84 Industrial Insurance. A. H. Falconer, Louisville.
85 Operation for Repair of Complete Laceration of the Perineum. C. E. Ristine, Knoxville, Tenn.
86 Certain Manageable Phases of Insanity. J. L. Pomeroy, New York City.

Medical Herald, St. Joseph, Mo.

April.

87 Nervousness: Its Significance and Treatment. J. Punton, Kansas City, Mo.
88 Scarlet Fever. J. K. Phipps, Grant City, Mo.
89 Sympathetic Ophthalmia. E. H. Cary, Dallas, Texas.
90 Appendicostomy. Internal Hernia. A. L. Blesh, Guthrie, Okla.

Virginia Medical Semi-Monthly, Richmond.

April 12.

91 Lavage of Renal Pelvis in Pyelitis and Kidney Conditions. L. W. Bremerman, New York.
92 Acute Frontal Sinusitis. C. M. Miller, Richmond, Va.
93 Therapeutic Suggestions. G. F. Butler, Chicago.
94 So-called Wild Hairs in the Eyes. O. B. Dunn, Ironton.
95 Placenta Prævia, with Report of Cases. J. B. Jones, Petersburg, Va.
96 Value of Roentgen Ray in Diagnosis. A. L. Gray, Richmond, Va.
97 Therapeutic and Food Value of Breast Milk. St. G. T. Grinnan, Richmond, Va.
98 Principles of Surgery. S. McGuire, Richmond.

Journal of the Medical Society of New Jersey, Orange.

April.

99 Neurasthenia. Some Types and Their Management. T. P. Prout, Summit, N. J.
100 Tetanus. A. S. Ross, Camden, N. J.
101 The Medical Man in Politics for the Public Good. L. M. Halsey, Williamstown, N. J.

Montreal Medical Journal.

April.

102 Modern Methods in Renal and Ureteral Surgery. G. E. Armstrong, Montreal.
103 Treatment of Rheumatism at Caledonia Springs. E. S. Harding, Montreal.
104 Cystopexy for Falling of the Bladder. A. L. Smith, Montreal.
105 Rupture of Subclavian Artery and Brachial Plexus by Direct Violence. J. Bell.
106 Puerperal Convulsions Due to Intracranial Pressure—Lumbar Puncture—Recovery. H. L. Reddy, Montreal.
107 Shock Simulating Cerebral Hemorrhage. J. A. Hutchinson, Montreal.

Yale Medical Journal, New Haven, Conn.

April.

108 Etiology of Dementia Paralytica. A. R. Diefendorf, New Haven.
109 Colon and Paratyphoid Infection. D. M. Lewis, New Haven.
110 Normal Body Temperature. V. C. Myers.
111 Immunity in Tuberculosis. D. R. Lyman, Wallingford, Conn.

Ophthalmic Record, Chicago.

April.

112 Case of Epithelioma of the Chorioid. J. E. Weeks, New York.
113 Acute Rise of Intraocular Tension Following Injection of Cyanid of Mercury. G. E. de Schweinitz, Philadelphia.
114 Hemorrhages within the Orbit. F. T. Tooke, Montreal.

115 Hysteria in which Accidental Trauma was Simulated by Placing Pieces of Glass in Conjunctival Sac. C. W. Heath, Chicago..
116 Coloboma of Lid with Anomalous Condition of Tissues at Outer Commissures. W. C. Posey, Philadelphia.
117 Ulceration of Cornea from Diplobacillus of Morax-Axenfeld. H. McKee, Montreal.
118 Case of Cyclitis with Radical Change in Refraction. C. R. Elwood, Menominee, Mich.
119 Case of Persistent Hyaloid Artery and Canal of Cloquet. F. Krauss, Philadelphia.
120 Progress of Retinitis of Presumable Rheumatic Origin. J. A. Patterson, Colorado Springs, Colo.
121 Staining from Argyrol, Employed in Diseases of Conjunctiva and Lachrymal Apparatus. H. Moulton, Fort Smith, Ark.
122 Case of Embolism of Cilioretinal Artery. F. Krauss, Philadelphia.

Southern California Practitioner, Los Angeles.

April.

123 The Opsonic Index: Its Possibilities and Limitations. J. E. Pottenger, Monrovia, Cal.
124 Medical vs. Surgical Treatment in Diseases of the Stomach. L. G. Visscher, Los Angeles.
125 Relation of Carcinoma to Ulcer of the Stomach. S. P. Black, Los Angeles.
126 Occult Blood in Stomach Contents and Feces: Its Value in Diagnosis and Treatment. B. Reed, Los Angeles.
127 Indications for Surgical Treatment of Diseases of the Stomach in Absence of Perforation or Hemorrhage. W. A. Edwards, Los Angeles.

Vermont Medical Monthly, Burlington.

April 15.

128 Etiology and Pathology of Nephritis. F. E. Clark, Burlington.
129 Nephritis. W. H. Lane, Brattleboro.
130 Nephritis—Complications and Sequelæ. J. H. Blodgett, Saxtons River, Vt.
131 Treatment of Chronic Nephritis. S. W. Hammond, Rutland.

Buffalo Medical Journal.

May.

132 Relation of Tuberculosis to Municipal and Industrial Life. C. Stover, Amsterdam, N. Y.
133 Epiphyseal Separation of the Ends of the Humerus. M. M. Lucid, Cortland, N. Y.
134 Diseases of Nasopharynx in Infancy. J. L. Morse, Boston.

Journal of the Kansas Medical Society, Lawrence.

April.

135 Operative Intervention in Eclampsia. G. C. Mosher, Kansas City.
136 Appendicitis During Pregnancy. E. F. Robinson, Kansas City.
137 Prevention of Epilepsy. M. L. Perry, Parsons, Kan.
138 Eye Lesions Important to the General Practitioner. J. G. Dorsey, Wichita.
139 Gonorrheal Eye Lesions. J. F. Gsell, Wichita.
140 Indications for Thoracentesis in Treatment of Pleurisy with Effusion. J. G. Sheldon, Rosedale.
141 Aduison's Disease. S. B. Langworthy, Leavenworth.

Wisconsin Medical Journal, Milwaukee.

March.

142 *Static Foot Disorder. H. E. Dearholt, Milwaukee.
143 *Medical Aspects of Exophthalmic Goiter. W. H. Washburn, Milwaukee.
144 *Surgical Treatment of Goiter. H. A. Sifton, Milwaukee.
145 Psoriasis. G. H. Lawrence, Galesville, Wis.

142, 143, 144.—See abstracts in The Journal, July 14, 1906, page 145.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 18.

1 *Chronic Splenomegalic Polycythemia. R. Saundby.
2 *Case of Splenic Leukemia with Gout and Albuminuria. G. Parker.
3 Local Anesthesia by Novocain. J. W. Pare.
4 *Regeneration of Nerves with Regard to Treatment of Certain Paralyses. C. J. Bond.
5 *Morphinomania Successfully Treated with Atropin and Strychnin. M. S. P. Strangman.
6 *Physiologic Action of Whisky on the Circulation. F. J. Charteris and E. P. Cathcart.
7 *Calcium Salts in Penumonia. J. D. Cree.
8 New Method of Isolating Bacillus Typhosus from Infected Water. W. J. Wilson.
9 *Structure and Secretion of Parathyroid Glands in Man. D. Forsyth.
10 Helmitol in Acute Cystitis in an Infant. J. A. Williams.
11 Case of Infanticide. O. H. Garland.

1. **Splenomegalic Polycythemia.**—Saundby believes that the toxins of influenza and many other infections are directly responsible for the occurrence of splenomegalic polycythemia. He believes the condition to be a cerebrospinal neurasthenia, causing vasomotor spasm, with engorgement of the capillary and venous circulation, and congestion of the internal organs, especially of the liver and spleen, with muscular weakness, loss of knee-jerks and mental impairment, shown by loss of memory, apathy and drowsiness. He reports two cases.

2. **Splenic Leukemia Complicated by Gout and Albuminuria.**—Parker's patient had first an attack of malaria and a year later one of gout. Several years afterward he applied for treatment, suffering with pyrexia, joint pains, marked anemia and breathlessness. The urine at that time showed a trace of albuminuria. Marked improvement in the blood and a very considerable diminution in the size of the spleen followed the use of the Roentgen ray.

4. **Regeneration of Nerves.**—Bond cites the case of a man who sustained a fracture dislocation of the lowest dorsal and first lumbar vertebræ, with crushing of the cord and complete paraplegia. Laminectomy was performed, and, finding the cord completely divided, Bond cut the last dorsal nerve roots intact above the crush, on the right side, as low down as possible, before their exit, through the theca, and also divided the first lumbar nerve roots found intact below the disorganized portion of cord, and turning these latter upward, he united the cut proximal ends to the cut proximal ends of the dorsal nerve roots previously divided. The patient died seven weeks after the operation. There had been no evidence of any recurrence of voluntary movement.

5. **Atropin and Strychnin for Morphin Habit.**—Strangman reports a case of morphinism of over 30 years' standing that was treated successfuly with atropin and strychnin. The patient latterly took two wineglassfuls of laudanum in the day. This was withdrawn completely when treatment was begun, and within two weeks the craving for opium had disappeared and the patient's condition was very much improved. Strangman began with 1/100 grain atropin sulphate and 1/60 grain strychnin nitrate, three times a day, increasing as rapidly as the patient could stand it, until on the eighth day he was given atropin sulphate 1/50 grain and strychnin nitrate 1/20.

6. **Physiologic Action of Whisky on Circulation.**—Charteris and Cathcart found that the action of whisky on the pulse and blood pressure depends on its alcoholic content and not on any special body distilled over.

7. **Calcium Salts in Pneumonia.**—Cree concludes that in the symptomatic treatment of pneumonia calcium is a valuable drug in the hemorrhagic type of cases, but not in the dry type, in which class of cases he thinks it is more rational to prescribe citrate of sodium or potassium. In the type of cases in which heart failure is feared, unless there is a special call for calcium, he considers that there are drugs of more value.

9. **Structure and Secretion of Parathyroid.**—Forsyth summarizes his views as follows: 1. The parathyroid gland, like other glands, presents the histologic variations of activity and rest. The so-called oxyphile cells are cells distended with granular secretion, and the so-called principal cells represent the exhausted stage. Intermediate forms are common. 2. The granular secretion of the cells is extruded into the surrounding lymphatic spaces and often the product of many cells runs together to form a drop. This may either lie in an irregular space between the cells or occupy a central position around which the cells are grouped to form a vesicle. In either case the secretion passes into the smaller lymphatic vessels and gradually flows along larger vessels to reach the surface, whence it drains away from the gland. 3. The secretion of the parathyroid, both in its physical characters and in its microchemical reactions, appears indistinguishable from the colloid of the thyroid. 4. During the first few months of life the parathyroid glands show few if any signs of activity. By the end of the third month at latest colloid secretion may be found, though the infantile type may persist for some years.

The Lancet, London.

May 18.

12 The Cancer Problem. J. Bland-Sutton.
13 Pelvic Appendicitis with Para-appendiceal Abscess and Cystitis. G. Barling.
14 Control of Supernormal Arterial Pressure. G. Oliver.
15 *Case of Chloroma. F. M. Pope and W. E. Reynolds.
16 Diseases of Upper Respiratory Passages in Relation to Life Assurance. W. H. Kelson.
17 Mucomembranous Colitis. J. Liddell.

18 Case of Confluent Hemorrhagic Eruption in Varicella. C. R. Porter.
19 Albuminous Bodies Present in Pathologic Effusions. W. C. Bosanquet.

15. **Chloroma.**—Pope and Reynolds report a case of chloroma in which they succeeded in demonstrating a bacillus, which markedly resembled the *Bacillus mallei*, both morphologically and in staining affinities. Its distribution is precisely that of the pigment and it is chiefly abundant in the nuclei of the cells immediately adjacent to the growth, in the nuclei of the cells forming the growth, and in the cytoplasm of the hepatic cells and of the endothelial cells in every organ; in these last the bacilli appear to be exceedingly numerous; in places the cells are plugged with them, in others two or three are contained within vacuoles; some are free in the blood and in the intercellular spaces of the growth. The bacillus is variable in size, usually of the size of a tubercle bacillus but somewhat thicker; some are larger, slightly curved and sometimes show clubbing of one or both extremities, and their protoplasm is often broken up into a number of deeper stained bands; others are smaller, of about the same thickness, and exhibit marked bipolar staining; they all possess rounded ends so as to give the shorter forms a spindle-shaped character. The authors were unable to detect any definite spore formation or to stain them by Gram's method. The bacillus is stained faintly and with difficulty by basic stains and is easily decolorized with weak acids and less so with alcohol. Cultivation was unsuccessful both from the blood taken during life and from the blood and organs postmortem. Inoculation with blood taken during life was unsuccessful.

Dublin Journal of Medical Science.

May.

20 Case of Maniacal Chorea. J. M. Finny.
21 Our Debt to Ireland in Study of Circulation. G. A. Gibson.
22 Detection of Organic Poisons in Animal Matter. M. Esposito.

Presse Médicale, Paris.

23 (XV, No. 26, pp. 209-216.) Dislocation of Patella and Radiography. (Luxations de la rotule.) L. Chevrier.
24 Hydrotherapy in Pneumonia. (Traitement hydrothérapique de la pneumonie.) F. Levy.
25 The "Critical Age" in Men. (L'âge critique chez l'homme.) V. de Mouilliac and R. Romme.
26 (No. 27, pp. 217-224.) Cardiac and Pulmonary Reflexes. (Réflexes cardiaque et pulmonaire.) A. Abrams.
27 Presence of Lecithins in Hypernephromata. (Présence de lécithines dans les hypernéphromes.) G. Delamare and P. Lecène.
28 *Amputation with Retained Function. (Moteurs plastiques.) G. Vanghetti.
29 Respiratory Neuroses in Hysteria. (Névroses resp. Le hoquet.) I. Duscian.

28. **Amputation of Arm with Retained Approximate Function.**—The Journal summarized on page 180 Ceci's report of three cases in which an arm had been amputated above the elbow, but the functional use of the artificial hand approximated normal. This was due to its being fastened to loops formed of the stumps of tendons over which the patient still had volitional control. The illustrations of the article showed the patients holding a lamp at arm's length, wielding an ax or suspending heavy weights. The idea of this "cinematic prothesis" or "plastic orthopedic amputation" with loops of the tendon stumps was credited to Vanghetti, a physician of Florence, Italy. He here states that the best results are obtained when no attempt is made to complete the operation at one sitting, unless absolutely certain of asepsis. After the amputation the stumps of tendons and muscles are prepared for the later plastic operation. In order to prevent their retraction he sutures them temporarily against the bone or otherwise inside or outside of the stump, having observed that a muscle does not retract after it is severed if the stumps are sutured together again. He adds that it is not necessary to wait until the tendons have entirely healed before completing the operation to supply a living, functioning support for the artificial hand, pivoting in the hollow forearm prothesis. The tendons and muscles should not be isolated, but used with all their natural protections.

Revue de Chirurgie, Paris.

Last indexed, page 1891.

30 (XXVII, No. 2. pp. 161-328.) Technic of Exposure and Resection of Cervical Sympathetic. (Symp. cerv.) P. Sebileau and A. Schwartz.
31 Surgical Forms of Ileocecal Tuberculosis. (Iléo-cec. tub.) H. Hartmann.
32 Autoplastic Intestino-parietal Suture for Certain Perforations of Large Intestine. (Mode spécial de suture, etc.) Soubeyran.
33 Subserous Appendectomy. (App. de Poncet.) L. Thévenot.
34 True Adenoma in Ectopic Testicle. (Adénome vrai dans le testicule ectopique.) P. Lecène and M. Chevassu.
35 Round Ligament in Femoral Hernia. (Lig. rond dans les hernies crurales.) L. Chevrier.
36 *Crushing Injuries of Leg. Amputation or Conservative Measures? (Ecrasements du membre inférieur.) L. Imbert.

36. **Crushing of Leg: Amputation or Not.**—Imbert's careful study of this subject concludes with the recommendation never to amputate in the first few hours after the accident. Hemorrhage and shock should first be controlled, and immediate amputation would only aggravate the shock. In one case on record the leg was hanging only by a flap of skin and the physician cut this without anesthesia. The patient died the second day, before signs of infection appeared. This was the effect of a railroad accident. The toilet of the injured leg should be made at once, with extreme care, removing all bone splinters and opening all recesses that have formed, under a constant flow of antiseptic fluids, and the limb should be placed in a wire splint, waiting for further developments. When the temperature begins to go up the question of amputation becomes pressing. In Imbert's twelve cases he was forced to amputate in eleven of them during the stage of infectious complications, which includes the first week or two after the accident. Three of the eleven patients died. If the temperature shows pyemic fluctuations, surgical intervention should be prompt, but decision is difficult when the secretion is not actual pus, but the temperature is high, letting up a little in the morning, the pulse rapid, the complexion livid, the tongue dry. In the three fatal cases the amputation was done during this stage, and he thinks it came too late. When the organism is impregnated with septic products, removal of the focus does not suppress them and amputation comes too late even if done as early as the fourth day. Fever alone is not an indication, but when it is accompanied by pallor, rapid wasting, persistently rapid pulse and, especially, by dryness of the tongue, he advises not to wait further. This date is usually the third or fourth day after the subsidence of shock. Thanks to antitetanic serum, there need be no fear of tetanus.

Berliner klinische Wochenschrift.

37 (XLIV, No. 14, pp. 385-416.) *False Epidemic Cerebrospinal Meningitis. (Men. cer.-spin. pseudoepidemica.) A. Baginsky.
38 *Advantages of Distilled Water as Beverage in Nephritis. (Wirkung des Trinkens von dest. Wasser bei einem Falle von chron. Nierenentzündung.) Marcus.
39 *Outfit for Quantitative Tests of Sense of Taste. (Gustometer zur klin. Zwecken.) W. Sternberg.
40 Improved Technic for Determination of Pale Spirochetes in Smear Cultures with the Silver Method. (Spir. pall. im Ausstrich.) M. Stern.
41 *Abnormally High Blood Pressure not a Contraindication to Carbonated Baths. (Uebernormaler Blutdruck und kohlensäurehaltige Solthermen.) Baur.
42 Historical Sketch of Mineral Waters in Therapeutics. (Badewesen.) A. Martin.

37. **False Epidemic Cerebrospinal Meningitis.**—Baginsky describes several cases which apparently presented the typical syndrome of epidemic cerebrospinal meningitis, but terminated favorably and the specific meningococcus could not be discovered.

38. **Advantages of Distilled Water in Nephritis.**—Marcus tabulates the findings in regard to the metabolism in a patient with chronic nephritis during periods in which she drank ordinary water and others in which distilled water only was taken. During the ten days during which the patient, a woman of 35, drank only distilled water—a total of twelve liters—the output of urine was twice the amount voided during the corresponding periods with ordinary or mineral water. The specific gravity of the urine dropped to nearly one-half. The total amount of albumin eliminated increased a trifle during the ten days, while the blood became more condensed. The increased diuresis was not accompanied by an increase in the amount of solid constituents in the urine, but rather the reverse. This speaks against von Noorden's conception of the "flushing out" of the system under copious diuresis.

39. **Tests for Sense of Taste.**—Sternberg's little case contains jars with ether, chloroform and acetic acid, and a device

for applying them to test the sense of taste. He thinks that the close relations between the behavior of the stomach and tongue suggest the therapeutic application of measures to influence the former through the latter, especially in combating loss of appetite. He believes that the stomach specialist, the neurologist and the rhinologist might profit by "gustometry."

41. **Carbonated Baths in Treatment of Abnormally High Blood Pressure.**—Baur's experience at Nauheim has been that fully 75 per cent. of such patients were benefited by the carbonated thermal baths.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed, page 1552.

43 (XC, Nos. 1-2, pp. 1-210.) *Experimental Studies of Toxic Nephritis. (Tox. Nephritis.) Schlayer and Hedinger.
44 *Nature and Treatment of Chlorosis. (Wesen der Chlor.) O. Wandel.
45 *Perpetual Arrythmia. (Arythmia perpetua.) J. Theopold.
46 *Experimental Study of Dropsy in Kidney Affections. (Hydrops bei Nierenkrankheiten.) A. Heineke and W. Meyerstein.
47 *Pernicious Anemia. (Aplastische Anämie.) R. Blumenthal.
48 *Diagnosis of Perforation into Bronchi of Bronchial Glands Softened by Anthracotic Process. (Perf. Bronchialdrüsen.) A. Schmidt.
49 Study of Percussion Resonance. (Perkussionschall.) T. Selling.
50 Experimental Study of Relations Between the Filling of, and Pressure in the Aorta. (Füllung und Druck in der Aorta.) T. Fürst and F. Soetbeer.

43. **Study of Toxic Nephritis.**—The researches reported demonstrate that acute toxic nephritis may be vascular or tubular, and that functional tests are able to differentiate the disturbances from these causes. Serious injury of the vessels manifests itself in reduced diuresis and negative response to the phloridzin test. Acute vascular nephritis is accompanied by low blood pressure.

44. **Nature and Treatment of Chlorosis.**—Wandel's extensive study of this subject leads him to announce that a combination of electric light baths, to induce sweating, followed by cold douches and other measures to promote a reaction, have no influence on chlorosis when used alone. When combined with iron they are of powerful assistance in promoting the assimilation of the iron and its transformation into hemoglobin. He ascribes the chlorosis to defective synthesis of hemoglobin, and the combination of physical measures with the intake of iron stimulates the cells whose insufficiency is revealed in the inability to construct the hemoglobin molecule.

45. **Perpetual Arrhythmia.**—Theopold discusses the three forms of irregular pulse: That due to infantile conditions, that due to extrasystoles, and the so-called perpetual arrhythmia. He gives the tracings and clinical history of a number of cases in the latter category. They show that the perpetual arrhythmia is generally associated with systolic venous pulse. This systolic venous pulse is not always dependent on tricuspid insufficiency. In the majority of cases it is the result of primary arrest of the auricle. Mixed forms occur still more frequently, as in case of arrest of the auricle the valves probably do not close so promptly as in the case of an active auricle. The arrest of the auricle is not always associated with failing compensation, and it may or may not be accompanied by dilatation. In one of the cases related, with pronounced tricuspid insufficiency and arrest of the auricle, the irregularity in the pulse disappeared entirely under digitalis, while the ventricular venous pulse was not influenced by the drug. The venous pulse picture does not change with the degree of failing compensation and dilatation so long as the pulse remains regular. In the milder cases the conditions resemble a form of infantile arrhythmia independent of the respiration. In the severer cases the picture is complicated by frequent intercurrent extrasystoles. In the favorable cases digitalis abolishes the small systoles and the arrhythmia assumes the infantile type. It seems as if the sudden influx of blood at the beginning of the diastole favors the development of extrasystoles. Various cases of perpetual arrhythmia differ in many respects.

46. **Experimental Study of Edema in Kidney Affections.**—Among the conclusions of the research described is one to the effect that rabbits with experimental nephritis had edema twice as frequently and twice as severely when they were fed much salt. The influence of the salt in inducing dropsy was unmistakable in the experimental nephritis of various origins. The proportion of salt in the urine may be less than that in the blood, even when the urine is scanty and there is an excessive proportion of salt in the blood. The epithelium of the convoluted tubules is always found much degenerated in such cases, suggesting that the salt is eliminated by this epithelium. This assumption is confirmed by the clinically established fact of the close connection between the lesser proportion of salt in the urine and affections of the epithelial apparatus of the kidneys.

47. **Case of Pernicious Anemia.**—Blumenthal's patient was a woman of 42 with a tendency to rather excessive menstrual hemorrhage. Symptoms of pernicious anemia developed: Hemoglobin, 25 per cent.; reds, 740,000; whites, 3,600, with relative lymphocytosis. Among the symptoms were hemorrhages suggesting purpura and progressive dyspnea, with a fatal outcome in six weeks. The hemoglobin percentage was very low and the erythrocyte-producing function seemed to be entirely suspended, although there were no marked signs of degeneration of the corpuscles. The myeloid tissue in the bone marrow had been almost completely supplanted by lymphoid tissue. The blood picture during life was an accurate reflection of the arrested activity of the bone marrow. The prognosis in such conditions is not inevitably bad. By improving the nourishment of the bone marrow it might prove possible to restore the chemical environment which it requires for normal blood production, and the aplasia would then be arrested.

48. **Perforation of Bronchial Glands Softened by Anthracosis.**—Schmidt says that this occurrence is by no means rare at Dresden, where he practices. It is generally associated with anthracosis and tuberculosis of the lungs. The consequences of the perforation of the coal dust into the bronchial passages are very serious. Sometimes aspiration pneumonia results, with ultimate gangrene, but occasionally the perforation heals and a resulting putrid bronchitis may retrogress. The patients are generally advanced in years and the putrid bronchitis or pneumonia which may develop in an acute or subchronic form is generally unilateral and restricted to a single lobe. If the perforation is into the trachea the resulting process in the lung may be bilateral. Sometimes circumscribed, spontaneous pain is felt, especially during swallowing, or tenderness in the region of the manubrium. Circumscribed dulness or a shadow in the radioscopic picture may develop at the point. The sputa may contain black masses which the microscope shows to be detritus with particles of coal pigment. If associated with a traction diverticulum, the patient should be fed through a sound for a long time. In case of unilateral putrid bronchitis, artificial pneumothorax or hydrothorax might be found useful.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

51 (XXXIII, No. 17, pp. 665-704.) Reflex Symptoms Under Influence of the Mind. (Psycho-reflektorische Krankheitssymptome.) Goldscheider.
52 *Sphygmobolometer for Testing and Recording Force of Pulse. (Neue Untersuchungsmethode der Zirkulation.) H. Sahli. Commenced in No. 16.
53 *Two-minute Stain for Pale Spirochete. (Färbung in Ausstrichpräparaten.) G. Giemsa.
54 *Treatment of Ischemic Muscle Contraction and Pseudarthrosis. (Ischämische Muskelkontrakturen, etc.) P. Kleinschmidt.
55 Mountain Hay-Fever Resorts. (Alpine Heufieberstationen.) R. Baerwald.
56 *Differentiating Test for Tuberculous Pus. (Einfaches Hilfsmittel zur Unterscheidung tub., etc.) H. Kolaczek and E. Müller.
57 Progress in Organization of Army Medical Corps. (Entwicklung des Pr. Sanitätsoffizierkorps.) Werner.

52. **Sphygmobolometer for Testing Force of Pulse.**—Sahli gives an illustrated description of a new means of investigating conditions in the circulatory apparatus. A broad inflatable Riva-Rocci cuff is applied to the upper arm, with constricting band below. A float on the surface of the mercury in the connected manometer rises and falls with the pulse. To the float is fastened a cord passing over a pulley above; the outer end of the cord is connected with a recording index which traces the excursions of the float as it rises and sinks with the pulse wave. The entire pulse wave is registered, the force corre-

spondingly greater than when examined at the wrist below. The registering apparatus works by pneumatic action, and the pulse tracings can be compared and the force of the pulse computed by a simple formula.

53. **Two-Minute Stain for the Pale Spirochete.**—Giemsa has modified the technic so that it is now possible to show up the pale spirochete in the serous fluid from a syphilitic lesion in less than three minutes. The fluid is smeared in an even, very thin layer on an object glass. No fixation is necessary unless the material is very fresh when it should be passed three times through a gas flame or alcohol flame. It is then stained with a fresh preparation of the Giemsa stain (10 drops in 10 c.c. of distilled water). The fluid is poured over the material and the object glass is held 5 cm. above a flame until it just begins to steam. It is then removed for fifteen seconds. The stain is then poured off and fresh stain is poured over the moist preparation, which is heated again and again removed from the flame for fifteen seconds. This procedure is repeated four times, leaving the stain in contact with the preparation for a whole minute the last time. It is then rinsed, when it is ready to examine. He adds a number of minor points which enhance the effects, among them the necessity for preparing the stain only just before it is to be used, and refraining from shaking and from the slightest admixture of any acid in the water or clinging to the dishes used. He gives a view of a preparation stained with this technic in two minutes.

54. **Treatment of Ischemic Muscle Contraction and Pseudarthrosis.**—Kleinschmidt's patient was a child of 7 and the contraction was the result of a fracture of the humerus above the condyle, treated by immobilization in a plaster cast. After its removal the forearm was found paralyzed and the hand and fingers were permanently contracted. After failure of months of massage, etc., he performed a Henle operation, resecting 3 cm. of both radius and ulna and using the excised bone to make two small rods to fit into the marrow cavities and thus hold the bones together. Healing proceeded very slowly, and a pseudarthrosis developed. To remedy this the cicatricial tissue that surrounded the stretch of bone was removed, and a flap of periosteum was taken from the tibia and wrapped around the stumps of the bone in contact where they were bare of periosteum. Healing then proceeded rapidly and the lad has almost normal use of his hand, although the arm is 3 cm. shorter than its mate. A year has passed since the final operation, with no signs of recurrence of the paralysis.

56. **Differentiation of Tuberculous from Other Pus.**—Kolaczek and Müller announce a simple means of rapid differentiation of pus, which will be found universally practicable. It is based on the different chemical reactions of Millon's solution to pus of various origins. A very small, moderately deep china dish is filled to the edge with Millon's reagent and a drop of the pus is deposited in the center of the surface. A solid film forms over the surface of the solution under the influence of tuberculous pus and the color of the fluid below is not altered. With pus of other origin no film forms and the fluid turns a bright red. Pus from an untreated tuberculous process does not induce the biuret reaction, but if the lesion has been treated with iodoform there is a marked positive reaction. Iodoform has evidently an unmistakable action in promoting autolytic processes in tuberculous lesions. The proteolytic enzymes thus liberated loosen up the contents of the abscess and enable them more readily to be absorbed. [Millon's reagent is a solution of 10 gm. (150 gr.) of mercury, and 20 c.c. (5½ drams) of nitric acid, diluted with an equal volume of water and decanted after standing twenty-four hours. This reagent gives a red color with proteids and most nitrogenous compounds in solution.]

Jahrbuch für Kinderheilkunde, Berlin.

Last indexed, page 1643.

58 (LXV, No. 4, pp. 393-518.) *Cirrhosis of Liver in Children After Scarlet Fever. (Lebercirrhose im Kindesalter.) A. Bingel.
59 *Dyspnea in Infants. (Dyspnoe beim Säugling.) F. Philips.
60 Skiagraphic Study of Ossification of Child's Hand. (Ossifikation der kindlichen Hand.) A. Heimann and K. Potpeschnigg.
61 *Fifteen Years' Experience with Intubation. (15 Jahre Intubation.) P. Reich. Concluded.
62 *Treatment of Congenital Stenosis of the Pylorus. (Angeborene Pylorus-Stenose.) C. E. Bloch. Concluded.

58. **Cirrhosis of Liver After Scarlet Fever.**—Bingel describes the postmortem findings in eight cases of children who had died of scarlet fever. They suggested unmistakable degeneration of the liver from scarlatinal infection, with evident efforts on the part of the organism to repair the damage. He found similar conditions in two other cadavers in which the cause of death was some other infection. Possibly the pains noted in some instances in the right side were the manifestation of the degenerative process in the liver.

59. **Study of Dyspnea in Infants.**—Philips gives a number of tracings to illustrate the various types of respiratory disturbances observed in infants.

62. **Treatment of Congenital Stenosis of the Pylorus.**—Bloch has encountered twelve cases of congenital stenosis of the pylorus in infants, and relates his experiences with them. The first six infants were treated with gastroenterostomy and four died. The last six were treated according to Heubner's principles, that is, feeding with abundance of nourishing food, so that the amount which passes the pylorus may be exceptionally nourishing. Sedatives and cataplasms are given to control the assumed spasmodic contraction. He has never witnessed any benefit from lavage of the stomach. He insists on breast feeding for such children. In case breast milk is not attainable Bloch advises buttermilk, as it does not ferment in the stomach even when it is long retained, and does not seem to irritate the stomach like cow's milk under the same conditions. In the fatal cases the walls of the pylorus were always found abnormally thick and the walls of the stomach also showed a tendency to hypertrophy. The pylorus was always closely contracted, but the evidence tends to show that when this spasmodic contraction is overcome the normal lumen of the pylorus is permanently restored. The little patients once cured remain cured. He thinks the trouble is a persistence of fetal conditions which in time spontaneously subside. The abdomen is soft and sunken, but the stomach protrudes.

Monatsschrift f. Geb. u. Gynäkologie, Berlin.

Last indexed, page 1554.

63 (XXV, No. 4, pp. 434-570.) *Attempt to Predetermine Sex by Feeding Rabbits with Ovary Substance. (Fütterung mit Ov.-Substanz. Geschlechtsbildung.) H. Peham.
64 *Hemorrhages at Puberty. (Blutungen am Beg. der Pubertät.) J. Fischer.
65 *Infrapubic Drainage of Bladder. (Infrasymphysäre Blasendrainage.) M. Sperling.
66 Experiences with Pubiotomy; 12 Cases. (Pubiotomie.) P. Baumm.
67 *High Application of Forceps. (Hohe Zange.) C. Riemann.
68 *Prophylaxis of Puerperal Fever. (Wochenbettfieber.) A. Dünges.
69 *Abortion and Sepsis Induced by Intrauterine Pessary. (Intrauterinpessar und sept. Abort.) G. W. Wagner.

63. **Experimental Study of Means to Predetermine Sex.**—Peham writes from Chrobak's clinic to relate the negative results of a long series of experiments during which rabbits were fed daily for two years with tablets of ovarian substance from animals of the same species.

64. **Hemorrhages at Onset of Puberty.**—Fischer recently had two cases of this kind; in the first the hemorrhages were referable to hemophilia and in the other to purpura hemorrhagica. In the first case, a girl of 12, uterine hemorrhage kept recurring notwithstanding the most energetic measures, but stopped at last after the uterus was curetted. The second patient, a girl of 14, had almost continual uterine hemorrhage which finally ceased after curettement. The child succumbed not long after to a profuse epistaxis. There were no symptoms on the part of the joints in the case of hemophilia, and the coagulating properties of the blood were rather above the average. Fischer reviews the cases on record of fatal hemophilic menstrual hemorrhage, and adds twelve cases from his gynecologic service in which excessive hemorrhage accompanied the first menstruation. The genital and general findings were normal in these cases; in three instances the tendency seemed to be inherited, with possibly a predisposition to fibroma formation. In every case there was obstinate constipation, which might possibly act as an adjuvant factor in maintaining hyper-

emia in the pelvis. In two cases the children were addicted to masturbation.

65. **Infrapubic Drainage of Bladder.**—Sperling comments on the benefit of drainage through the symphysis to hasten the healing of a vesicovaginal fistula by diverting the flow of urine. He reviews the technic, advocating the use of a curved trocar with a bulge near the tip to keep it from slipping out after it has been introduced into the bladder. He fills the bladder with from 250 c.c. to 300 c.c. (8½ oz. to 10 oz.) of fluid, and introduces the trocar between the urethra and clitoris, the convexity turned toward the symphysis. The hole made by the trocar closes at once as it is withdrawn and no urine oozes through afterward. Every vesicovaginal fistula thus treated to date has promptly healed. In Sperling's own experience he was able to remove the trocar in from twelve to fourteen days.

67. **Results of High Application of Forceps.**—Riemann gives the particulars of the use of the "high forceps" at Baumm's maternity in 100 cases. There was no mortality among the women, but 16 per cent. had a febrile puerperium and in 7 per cent. there was serious injury of some kind, while of the children 22 per cent. were born dead and 10 per cent. presented serious injury. The best results were obtained when the indications were on behalf of the mother. In such cases viable children could be delivered even with a conjugate diameter of only 8 cm. or less than 9 cm. Good results were also obtained with multiparæ with conjugate diameter of 9 cm. to 10.5 cm., but the results were less favorable as the pelvis decreased in size.

68. **Prophylaxis of Puerperal Fever.**—Dünges suggests that it might be possible to avoid carrying germs from the vagina into the uterus in intrauterine manipulations by greasing the hand in sterile soft fat or thick oil. This would prevent escape of germs in the hand and as the grease would be rubbed off as the hand entered the vagina, germs caught on the grease would be retained with it. Another suggestion is to wrap the hand in a greased square of gauze, held by the finger tips in such a way that when the hand is ready to enter the uterus, by letting go of the gauze the square could be drawn out of the vagina by the other hand. It might be possible, he adds, to have rubber gloves made in this way or like a mitten open at the top, that could be slipped back toward the wrist as the hand entered the uterus.

69. **Septic Abortion from an Intrauterine Pessary.**—Wagner writes from Chrobak's clinic at Vienna to comment on the danger of general sepsis from the use of intrauterine pessaries, sounds, etc., by the laity. In the case described, the pessary, with a broad obturator base, was used by a multipara to prevent conception—which it failed to do. It was considerably shorter than the uterus, and yet the tip had evidently, under pressure, produced an erosion in the opposite wall of the uterus, with resulting fatal sepsis. He learns that such pessaries can be bought in the department stores.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Morris' Human Anatomy. A Complete Systematic Treatise by English and American Authors. Edited by Henry Morris, M.A., etc., President of the Royal College of Surgeons of England, and J. P. McMurrich, A.M., Ph.D., Professor of Anatomy, University of Michigan. Illustrated, Partly in Colors. Fourth Edition, Revised and Enlarged. Part I. General Morphogeny, Osteology, Articulations. Cloth. Price, $1.50 net. Part II. The Musculature, Organs of Circulation. The Lymphatics. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co., 1907.

Infectious and Parasitic Diseases, Their Cause and Manner of Transmission. By Millard Langfeld, A.B., M.B. (Johns Hopkins); Professor of Bacteriology and Clinical Medicine, Creighton Medical College, Omaha. With an Introduction by L. F. Barker, Professor of Medicine, Johns Hopkins University. Illustrated. Cloth. Pp. 260. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co., 1907.

Care of the Baby. A Manual for Mothers and Nurses, Containing Practical Directions for the Management of Infancy and Childhood in Health and Disease. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the University of Pennsylvania. Fourth Edition, Thoroughly Revised. Cloth. Pp. 455. Price, $1.50 net. Philadelphia: W. B. Saunders Co., 1907.

Foods and Their Adulteration. Origin, Manufacture and Composition of Food Products; Description of Common Adulterations, Food Standards and National Food Laws and Regulations. By Harvey W. Wiley, M.D., Ph.D. Illustrated. Cloth. Pp. 625. Price, $4.00 net. Philadelphia: P. Blakiston's Sons & Co., 1907.

Manual of Personal Hygiene. Proper Living on a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, A.M., M.D., Fellow of the American Academy of Medicine, etc. Third Edition, Revised and Enlarged. Cloth. Pp. 451. Price, $1.50 net. Philadelphia: W. B. Saunders Co., 1907.

Second Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum, Africa. Andrew Balfour, M.D., B.Sc., etc., Medical Officer of Health, Khartoum, Director. Cloth. Pp. 254. Department of Education, Sudan Government: Khartoum, 1906.

Manual of Operative Surgery. By John Fairbairn Binnie, A.M., C.M. (Aberdeen), Professor of Surgery, Kansas state University. Flexible Leather. Pp. 743. Price, $3.00. Philadelphia: P. Blakiston's Son & Co., 1907.

The Efficient Life. By Luther H. Gulick, M.D., Director of Physical Training in the New York City Schools. With Double-page Frontispiece. Cloth. Pp. 195. Price, $1.20 net. New York: Doubleday Page & Co., 1907.

Stories of a Country Doctor. By Willis P. King, M.D., Author of "Perjury for Pay." Revised and Enlarged Edition. Illustrated. Cloth. Pp. 410. Price, $1.50. Kansas City, Mo.: The Burton Co., 1906.

Second Annual Report of the Jewish Consumptives' Relief Society at Denver, Colo. For the Year Ending Dec. 31, 1905. Paper. Pp. 64. Denver, 1906.

NEW PATENTS.

Recent patents of interest to physicians, etc.:

850994. Artificial leg. Ferdinand Buchstein, Minneapolis, Minn.
851510. Massage apparatus. George W. Fitz, Boston, Mass., and F. W. Hitchings, Cleveland, Ohio.
851530. Vaginal douche. Edward J. Lamport, Cape Town, Cape Colony.
851306. Ointment. Jeannette W. Nesmith, Gilpin County, Colo.
851562. Spraying nozzle. Joseph H. Ruff, Hollywood, Cal.
850978. Nose-shaper. Ignatius N. Soares, Framingham, Mass.
851265. Atomizer. Jacob Waldman, New York, N. Y.
851048. Nostril-expander. Henry R. Woodward, New York, N. Y.
852154. Syringe. Martin Bariffi, New York, N. Y.
852163. Massage implement. Leonard B. Buchanan, Woburn, Mass.
852110. Vaginal syringe. Daniel O. Fosgate, Chicago, Ill.
851758. Spraying device. Eli F. Kauffman, York, Pa.
852065. Syringe. Benjamin F. Keller, Camden, Ohio.
851941. Surgical instrument. John E. Kennedy, New York, N. Y.
852122. Air-purifying apparatus. John H. Kinealy, Ferguson, Mo.
851950. Ankle supporter. Raoul F. Le Mat, Washington, D. C.
852280. Device for handling invalids. Wallace N. Mason, Richburg, N. Y.
852133. Electrotherapeutical instrument. James W. Moliere, Oakland, Cal.
853165. Apparatus for generating and administering gases for general anesthesia. Clarence R. Cummins, Erie, Pa.
852827. Eye massage apparatus and medicator combined. Frank C. Dorment, Detroit, Mich.
852828. Atomizer. Frank C. Dorment and G. C. McVoy, Detroit, Mich.
852423. Air-purifying device. Charles E. and R. Dressler, New York, N. Y.
852549. Massage apparatus. Daniel C. Fisher, Boston, Mass.
853096. Depilatory instrument. Henry H. Lewis, Louisville, Ky.
852901. Sanitary automatic cuspidor. Arthur Porter, Galena, Ill.
12648. Aseptic drinking-cup, Re-issue. John J. Shea, Beverly, Mass.
852807. Mounting anatomical specimens. Oakley G. Smith, Iowa City, Iowa.
852915. Treating casein and compound obtained therefrom. Julius Taluau, Philadelphia, Pa.
853431. Inhaler. Albert B. Allen, Chicago, Ill.
853434. Automatic disinfecting or odorizing apparatus. Henry S. Blackmore, Mount Vernon, N. Y.
853435. Automatic apparatus for sterilizing, disinfecting, and odorizing vehicles. Henry S. Blackmore, Mount Vernon, N. Y.
853913. Apparatus for disinfecting, odorizing, or other purposes. Henry S. Blackmore, Mount Vernon, N. Y.
853498. Sterilizer. Wilmot Castle, Rochester, N. Y.
853439. Inhaler. Albert C. Clark, Chicago, Ill.
853626. Inhaler. Charles H. Coles, Sandwich, Ill.
853402. Regenerating and purifying air. Richard von Foregger, New York, N. Y., and G. F. Brindley, Niagara Falls, Ont., Canada.
853410. Surgical appliance. Ernest D. Huebner, Milwaukee, Wis.
853887. Poison bottle. David and H. G. La Tremouille, Oswego, N. Y.
853559. Desiccating air. Proper A. Maignen and T. I. Crane, Philadelphia, Pa.
853708. Catamenial sack. Frank X. Mathis, Jr., and L. Simon, Philadelphia, Pa.
853645. Vibratory apparatus for ear treatment. Eugene Meyer, New York, N. Y.
853934. Solidified diastatic malt extract. Isidor Pollak, Vienna, Austria-Hungary.
853265. Preventing oxidation of formaldehyde and product thereof. Ludwig H. Reuter, New York, N. Y.
853829. Therapeutic and other electric lamps. Charles M. Robinson, New York, N. Y.
853659. Pasteurizing apparatus. Frank Tyson, Canton, Ohio.
853528. Prescription cabinet. Edward F. Wallace, Burgess, Miss.

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Original Articles

IMMEDIATE AFTER-TREATMENT OF PATIENTS OPERATED ON FOR CATARACT (WITH BANDAGE).*

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The result of cataract operation is so frequently dependent on the skillful after-treatment of the case that the importance of this subject can not be overestimated. It is my purpose in considering it to limit whatever I have to say to the results I have had and the judgments I have formed from a fairly large experience, rather than to quote from literature the conclusions of others whose larger experience gives them claim to authority.

To begin, the after-treatment should be started before the operation by preparing the patient in much the same way as for operation under a general anesthetic. A thorough bath, shampoo of the head and cleansing of the face and field of operation are, of course, necessary, but, in addition to this, a complete emptying of the bowels by a good cathartic the night before and an enema on the morning of the operation is a practice that should be pursued in every case. This usually insures the bowels remaining closed for several days after the operation, which is desirable.

Patients who are restless or excitable, or who have an excessive nervous fear of the operation should receive a hypodermic injection of morphin, 1/4 gr., together with 1/120 gr. of atropin about one hour before the extraction, unless for some reason it should be contraindicated.

The same remedy in smaller doses, or codein, may be administered some time after the operation if there is any excitability or tendency to coughing. This will aid also in keeping the bowels inactive for several days.

The dressing used after the operation should be of such a kind that it will keep the eyes closed. Personally, I do not see the *rationale* of the treatment of leaving the eyes open after such an extensive injury of the cornea as that made in the incision for cataract extraction.

Furthermore, both eyes should be closed for a time, for if one is left uncovered and the patient looks around, as he certainly will do, the operated one will move under the dressing much more than it should. This is avoided by placing the dressing over both eyes.

The kind of dressing used varies according to individual preference, and there is no fixed rule about this, except that it should accomplish the purpose of keeping the eyelids closed without exerting undue pressure on the globe. My own practice is to place a couple of layers of thin gauze moistened with boric acid solution or sterilized water over the closed lids; on this the pads of absorbent cotton are carefully arranged so that there may be no difference of thickness to make unequal pressure, and then the bandage applied as a figure of eight over the eyes and around the head.

In this connection, and thinking it may not be known to all, I want to mention the value of the moist netting bandage used at the Illinois Eye and Ear Infirmary, and which, so far as I know, originated there. It is made of a fairly good quality of mosquito netting, cut into strips about three inches wide and four or five yards long, rolled, and then sterilized with dry heat. Just before use it is moistened and applied as a starch bandage. There is just enough sizing in the fabric to make the layers adhere when it dries, and yet it is not as cumbersome or as irritating as the ordinary starch bandage. It is lighter and will keep its place better than the gauze or muslin bandage. The edges on the cheeks, nose and forehead may be stuck down with collodion, after the manner of my colleague, Dr. Beard, to prevent the patient from inserting his fingers beneath the dressing. Further protection can be given by some form of shield, either the wire shield of Fuchs, or, better in my judgment, the light but firm mask of Ring.

If the operation has been done on a table or chair the patient is not allowed to walk to the ward, but is placed on a stretcher or ambulance and taken to his bed. If a folded sheet has been placed under him on the table he can easily be lifted by this from the table to the cart and from that to the bed without his making any exertion or being disturbed. He is cautioned to lie quietly in bed and not to disturb the dressings. The room should be darkened. If there is much restlessness sedatives may be given.

If the patient disregards the injunction to keep the hands away from the face, they must be tied with a bandage to the sides of the bed so that he can move them but can not reach his face. If there is any doubt about the patient's self-control this precautionary treatment should not be neglected. The patient should be enjoined to lie quietly in bed, and particularly not to move the head about. This is not an easy thing to do, and the nurse or attendant must be ready to relieve discomfort by shifting his position slightly or partially turning him and supporting him with pillows.

The dressing is changed on the next day after the operation, this being done with the patient in bed, and with antiseptic precautions. It is exposing the patient to a needless risk to have him brought to the surgical dressing room in a hospital, even if he is transported on a stretcher. The edges of the lids are gently wiped with pledgets of cotton moistened with boric acid solution or sterilized water. Unless there is some evidence of conjunctival secretion or edema of lids or some indication of prolapse of the iris, such as pain, the eye is not opened at the first dressing. Should there be a suspicion that all is not well the eye may be carefully opened, after cleansing the edges of the lids, and the wound inspected.

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* This paper, and those of Drs. Scales and Callan complete the Symposium on Cataract, which was read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, June, 1907. The discussion on the symposium appears under Section Discussions in this issue.

The conjunctival sac is not irrigated unless there is evidence of infection or an undue secretion of mucus. I have found it better to abstain from cleansing the conjunctiva with any solution unless there is a positive indication for it, such as would be given by considerable secretion. However, a drop of 1 per cent. atropin solution may be instilled at this time and also at each subsequent dressing. Both eyes are bandaged as at first and the protective shield replaced. Each day the eyes are dressed in the same way, and, barring complications, nothing more is done than to wipe the edges of the lids and the surrounding parts of the face with moistened gauze or cotton, instil atropin and apply the dressing to both eyes.

At the end of the fourth day, if all is well, the unoperated eye may be left uncovered and the patient allowed to sit up, at least for part of the time. If the bowels have not moved, and usually the treatment before the operation and the light diet for the first two days after keep them closed, a laxative or an enema may be used at this time to induce a free movement.

If, at the end of the fifth day, it is clear that the wound is firmly healed, the bandage is left off entirely and the eye is covered with a dark shield so constructed that it will not touch the eyelids but will protect the eye entirely from the light. Such a shield can be made by cutting the Ring mask in two, trimming it so that it fits the contour of the nose and cheek and sewing on tapes with which to hold it in place. Or a shield can be made of light pasteboard or cardboard, shaping it in such a way by cutting out a narrow wedge-shaped piece from the upper edge, that it will stand away from the eye, and then blackening or covering it with some dark fabric. The purpose of this protective shield is to avoid the irritation that comes from keeping the eyelids closed with the gauze and cotton dressing under a bandage, and, therefore, no dressing should be placed under this shield to interfere with the motions of the eyeball or lids.

I have observed that my patients recover with less reaction and have less discomfort with this dressing than with the bandage. Naturally it would not be used until one was reasonably sure that there had been firm union of the wound. If there is no great reaction at the end of ten days the patient is allowed to accustom the eye to the light by taking off the shade for short intervals, and usually at the end of two or two and a half weeks he is ready for the discission of the capsule.

GENERAL TREATMENT, DIET, ETC.

As stated in the beginning, I think cataract cases should be prepared as for an operation of greater magnitude under narcosis. If the bowels are thoroughly emptied prior to the operation, and a light diet given for two days after, there is less danger of toxic substances absorbed from the intestines affecting the healing of the wound. Furthermore, the resulting constipation, which may even be favored in certain cases by hypodermic injection of morphin, is an advantage because many of these patients use the bed pan with difficulty, and any attempt to have them sit up may jeopardize the prompt healing of the wound.

By light diet I mean milk, weak broths, toasted bread or crackers, custards, certain cooked fruits—such as apples or peaches, and in rather small quantities; in other words, easily digested foods that leave very little residue. At the end of the second day full diet is usually allowed.

GENERAL COMPLICATIONS.

Many elderly people have bladder disturbances and can not void the urine while lying down. In the case of men this is frequently due to stricture of the urethra or the enlargement of the prostate, while in both sexes a spasm of the sphincter may prevent it. Such patients will probably require catheterization, and the physician should be prepared for it and instruct the nurse accordingly, so that for the first two days at least, the patient would not have to even turn on his side. In case of a difficult stricture it might be necessary to aspirate the bladder.

As said before, constipation, at least for a few days, is rather to be desired than dreaded. If the patient has not had a natural movement by the fourth day a laxative or an enema should be given, and after he is sitting up it is important that the bowels should move regularly. After the period of enforced constipation there may be irregularity, but this should, if possible, be corrected by diet and proper treatment.

Mania.—It should not be forgotten that in some elderly people there is a disposition to great mental excitability or even mania when both eyes are closed with a bandage. Many of the old people are childish, and, finding themselves in the dark and unable to see anything, are seized with terror or dread that is uncontrollable. The physician or attendant should be on his guard concerning this, for the patient might get out of bed and spoil the eye. In such cases it may be necessary to reassure the patient by removing the dressing from the sound eye, or he may have to be quieted with sedatives or hypnotics. I prefer to try this latter measure first, but frequently they are more quickly and effectively pacified by uncovering the healthy eye, and it may be better to do this than to run the risk of the other being injured by attempts to get out of bed.

Vomiting and Indigestion.—If the case has required a general anesthetic the vomiting after the operation may be annoying. Previous general preparation of the patient will do much to prevent this, but it should be checked as quickly as possible, if necessary with sedatives, so as not to jeopardize the eye which has been operated on.

Cough.—Cough is to be dreaded and should be promptly controlled for fear the wound will be opened by violent efforts. For this reason if the patient has a bronchitis or a considerable cough from any cause it would be best to postpone the operation until the diseased condition is relieved. If, however, after the operation the patient develops a cough, every reasonable effort should be made to relieve it. If the trouble is pharyngeal or laryngeal, sedative sprays may do good, sipping ice water or eating shaved ice will help. Bronchial cough may be controlled by heroin, codein, or, even if necessary, hypodermic injections of small doses of morphin until the patient has been tided over two or three days, when probably the wound will have healed.

LOCAL COMPLICATIONS.

Leakage of the Wound.—If the lips of the wound are not perfectly coapted the aqueous humor may drain away and the anterior chamber not reform for several days. This should be looked for at the first inspection of the eye, and if the anterior chamber appears shallow the eye should be dressed with the utmost care, so that there will be just enough pressure on the globe to insure immobility. The patient should also be cautioned against making any movement for fear of opening the wound. Such a condition would naturally delay the time when it would be safe to allow the patient to sit up.

Prolapse of the Iris.—This usually occurs as the result of some movement on the part of the patient or from coughing, sneezing or pressure on the eye. It is favored, of course, by an imperfectly coapted wound, and so might occur more readily after a faulty technic. It usually announces itself by more or less pain, which, if at all marked, is strong enough evidence to indicate immediate removal of the dressing. Sometimes, however, there is not much complaint of pain, and the prolapse is not discovered until the next regular dressing of the case. The sooner it is discovered the better. If the accident is very recent and the prolapse is slight, an attempt may be made, after thorough cocainization of the eye, to gently replace the prolapsed iris, but in most cases this will be unsuccessful and it must be excised. In doing this care should be taken to gently free the iris at the angles of the wound, so that when the prolapsed portion is excised, the rest will draw back into the anterior chamber. This may be facilitated by gently stroking the wound with a spatula. After cleansing the wound with mild irrigation, the dressing is reapplied and additional precaution taken to prevent a recurrence of the accident.

If prolapse occurs after an extraction by either the simple or combined method made with a large conjunctival flap, we frequently find that the conjunctival wound has held perfectly and the prolapsed iris is covered by the conjunctiva. If in such a case the knuckle of incarcerated iris is small I prefer to leave it rather than to remove its covering of conjunctiva and excise it, and so expose the eye to the additional risk of infection. A slight additional pressure of the bandage and dressing may help it to heal firmly.

An incarceration of the iris in a part of the wound without a prolapse would be treated similarly. In all cases of this kind, if seen recently, an attempt may be made to draw the iris away from the wound by eserin, but the continued use of this drug should not be practiced because of its liability in such cases to excite iritis.

Hemorrhage.—Hemorrhage into the anterior chamber or vitreous, either with or without partial opening of the wound, is a serious complication. It is usually the result of some trauma, but it may occur in persons with high arterial tension in whom the arteries of the eye are frail, and in such persons it may occur spontaneously or may be brought on by coughing, sneezing or straining at stool. If a thorough examination of the heart, arteries and kidneys is made prior to the operation the surgeon will be on his guard if a high arterial tension is present and there is evidence of hardened or rigid vessels.

In the treatment of this complication, additional precaution will be taken to keep the patient quiet and arterial tension will be lowered by nitroglycerin or other arterial sedatives, measures to promote flow of blood to the extremities and leeches to the temple to prevent further hemorrhage. The absorption of the blood in the eye should be encouraged by pilocarpin sweats, dionin and hot applications, although the latter should be used with great caution in these cases.

Infection.—Infection of the wound is the worst complication that can befall a cataract case, for unless promptly checked it is almost certain to result in loss of the eyeball or, failing this, in a plastic iridocyclitis that will obliterate vision. A suspicious grayness of the edge of the corneal flap is the first sign noticed, and usually by the second day this increases and the wound begins to gap. Chemosis and hypopyon appear. In the secretion from the conjunctiva, which may be scanty or considerable, one may usually but not always find germs of a virulent type, such as pneumococcus or some of the pus formers.

At the first sign of infection vigorous general and local treatment should be instituted. A brisk cathartic with calomel should be given. Liberal but easily digested food should be allowed, and such tonics or stimulants as will improve the general tone and increase the vital resistance should be prescribed. Quinin, strychnin and small doses of whisky might be mentioned.

Irrigation of the eye every few hours with boric acid solution or bichlorid of mercury solution, 1/6000, should be practiced. One should not neglect the cleansing of the lachrymal sac, particularly if there is any evidence of retained secretion there. Subconjunctival injections of physiologic salt solution or cyanid of mercury solution, 1/1000, may be tried. Hot applications, continued for fifteen or twenty minutes, should be applied three times a day. Local blood letting, by natural or artificial leeches applied to the temple, may be of some benefit.

In spite of all such measures, if the infection is a virulent one or the vital resistance is much lowered, the eye almost certainly will be lost and the question of evisceration or enucleation will come up.

Iridocyclitis.—The reaction that follows after cataract extraction is not always easy to explain. In some cases, where the operation has been done exceptionally well and every precaution used in the treatment, severe reaction will follow, while in others, in spite of accidents and complications, there will be so little disturbance as to be surprising to the surgeon. I am sure that I formerly had more reaction than was necessary by too zealously treating the eye with irrigation or continuing the bandaging for too long a time. Too early an exposure to the light is wrong and probably accounts for some of the cases of prolonged irritation and iridocyclitis.

But in addition to these more apparent reasons, such as local irritation of the eye of any kind, there must be some deeper underlying cause, which I am inclined to believe is of a toxic nature. This, acting on an eye whose resistance is more or less affected by the injury of an operation, in certain cases with a predisposition to uveitis, or in others already having uveal changes, might cause a severe irritation or even an iridocyclitis of a plastic nature.

In such cases the signs would vary from slight sensitiveness to light and lachrymation up to a severe reaction with ciliary pain and considerable plastic exudate. In these cases I have come to place considerable reliance on the administration of salicylic acid as proposed by Gifford, and I know of nothing that will more quickly influence the condition than large doses of this remedy, 20 grains of salicylate of soda every three hours.

In addition to this, active elimination by means of cathartics and diuretics is valuable, and in some cases I have had good results from the use of pilocarpin sweats, administering hypodermically 1/12 gr. of pilocarpin muriate at the time of the preparation of the patient for the sweat. Locally, hot applications, dionin, and subconjunctival injections of salt will tend to stimulate circulation in the inflamed eye and help to eliminate the toxic elements, whatever these may be.

The continuous use of atropin, in cases where there is unyielding adhesion of the iris to the capsule, will frequently keep up ciliary injection because of the dragging on the synechiæ. The division of the bands that prevent the free dilatation of the pupil and the free action of the iris will often correct this condition.

Vitreous Opacities.—In cases such as we have been considering, where there has been considerable reaction, one usually finds, on examination, evidences of the inflammation and of the causes that have brought it about, in the shape of vitreous opacities which more or less obscure the vision even after the needling. Among the different means for causing absorption of these I have found syrup of hydriodic acid in one-dram doses three times daily one of the most efficient and most easily tolerated of the iodin preparations.

In conclusion, much of the success in the management of the cataract case will depend on the skillful after-treatment, and of this too great emphasis can not be placed on the importance of general conditions and their appropriate treatment. Furthermore, much will depend on the previous preparation of the case to prevent both local and general complications. While every precaution should be taken and every possible care bestowed on the numerous details in the management of the case, it should be remembered that too much zeal in local applications may sometimes lead one into error.

IMMEDIATE AFTER-TREATMENT OF PATIENTS OPERATED ON FOR CATARACT (WITHOUT BANDAGE).*

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In view of the fact that the postoperative treatment of cataract cases depends to some extent on the technic of the operation, I consider that it will not be amiss to review briefly the technic, or rather a certain feature of the technic, which appeals to me as being most rational, and which in my hands has stood the test of experimentation. The point to which I refer is the construction of an ample conjunctival flap as the knife emerges from the incision, the employment of which seems to produce the most rapid resolution and recovery, minimizes the risk of infection, and at the same time obtains the best possible vision and the greatest comfort to patients during convalescence.

The great fundamental proposition which confronts the ophthalmic surgeon in the treatment of every cataract operation is how he may best prevent infection. This may be reduced to a minimim by a strict observance of the aseptic means at our disposal, with or without a bandage. It is a well-known fact that when the flap is employed the mucous membrane will reattach itself, under favorable conditions, in only a few hours, and it is also a logical deduction that a prompt reattachment is the most important requisite for producing aseptic healing. Since pathogenic bacteria have been proven to exist normally in the cul-de-sac, the secretions of the conjunctival sac being a culture medium for bacteria, and there being no effective means at our disposal by which we may rid the sac of these bacteria, it naturally follows that the prompter the union the less the risk of infection. The question whether or not we shall employ a bandage and at the same time be able to protect the eye from external injury during the after treatment of these cases, is one which has been agitating the minds of a few ophthalmic surgeons for some time. Suffice it to say that the majority of surgeons still adhere to the use of the bandage. I have long since discarded the bandage, save in exceptional cases in which there may be something out of the ordinary to demand it.

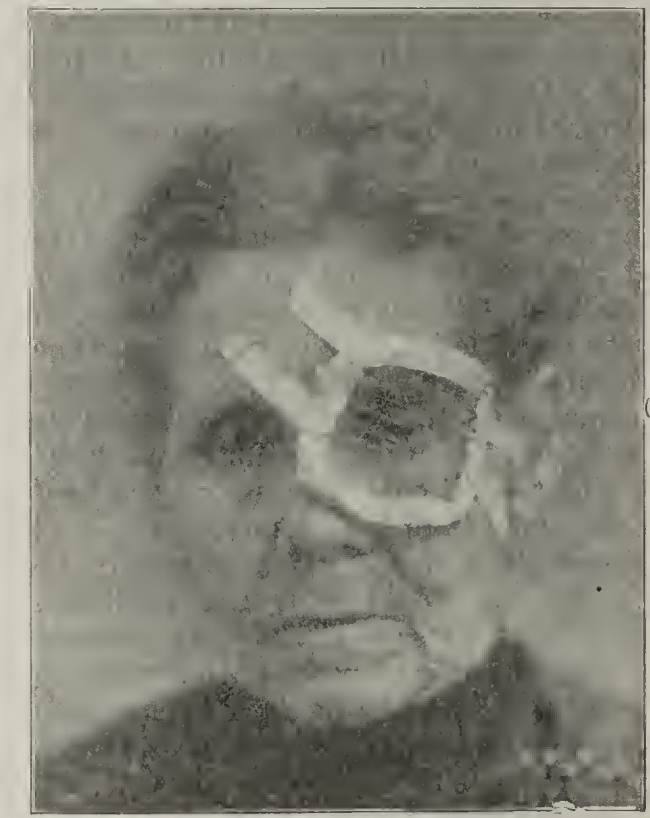
Why should we advise the non-use of the bandage? There are five essential reasons:

First.—The bandage interferes with natural drainage and brings about a retention of secretions which is to be avoided.

Second.—The bandage interferes with uniform pressure on the wound and ball of the eye, such as would be maintained by the natural position of the lid itself.

Third.—It creates a feeling of discomfort and restlessness, which interferes with the healing process in that it increases the involuntary mobility of the eye.

Fourth.—It is a factor in producing entropion of the lower lid, which in many cases is exceedingly difficult to avoid.



Method of using screen after cataract operation.

Fifth.—It is a factor in producing conjunctivitis, iritis and cyclitis, which will be shown later.

The necessity of bandaging is obviated by the use of a wire screen. This screen is constructed before the operation and made to conform to the bridge of the nose, the brow, the temporal and malar processes. It consists of a wire hoop rather quadrangular in shape and is bridged across with numerous wires forming meshes not large enough to admit the patient's fingers. The rim is cushioned on the proximal side with gauze to add to its comfort. The screen is bent into a concave shape that it may be amply out of the way of the lids and lashes. In adjusting it, it may be held in place by strips of adhesive plaster or by strips of gauze tied at the occiput. After the operation is completed the flap is smoothed into apposition, the retractors are removed and the lid is allowed to ease into its natural position. If we feel that the lid may not have fully recovered from the influence of the retractors, and that the lips of the wound may have been disarranged thereby, after a few moments the lid is gently raised to see that apposition is maintained. A single or double layer of moist bichlorid gauze is then placed over the eye and the screen adjusted. After six hours we have a right to presume that union is well established, so at this juncture the gauze is removed and the screen readjusted.

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*Read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

I allow my patients to sit up throughout their convalescence; the recumbent posture is conducive to a state of nervous restlessness, to say nothing of more aggravated symptoms, all of which concur to interfere with uneventful healing. These patients are more submissive and quiet when they are permitted to sit in a comfortable chair; however, they are forbidden to walk unguarded around the room for the first and second days.

This feature in the management of the convalescent stage is especially advantageous in those patients who, in a state of senility, are predisposed to hypostatic congestion of the lungs during rest in recumbent position, or what is equally as frequent, to chronic bronchial catarrh with cough, or to some bladder trouble.

Again, not infrequently we are confronted on the second or third day or later with the onset of iritis or cyclitis. Whether these complications are due to some nonpyogenic bacteria which have entered into the eye during or after the operation or to a chemical irritation, or what is more probable to the iris being encroached on by the jagged edges of the capsule or by some unremoved particles of lens substance, it matters not. As the eye is not a perfect sphere, being longer in its anteroposterior axis than any other, it is impossible for a bandage to be applied, no matter how carefully, so that it will not disturb the relation of the iris with that of the edges of the capsule or with some particles of the lens substance which may have been left, so long as the eye is permitted to move from one position to another. Certainly a mechanical irritation is more liable to set up under the constant disturbance of such relations than while the eye is undisturbed in its position under the natural influence of the lid only. In my experience the unbandaged freedom of the eye has seemed decidedly to hasten recovery and to minimize the complications.

In conclusion, I will relate briefly the history of one case, which will illustrate the treatment and the results which may be obtained by adopting the methods outlined in this paper. The deduction and conclusion at which I have arrived were not based alone on my own cases (except that of allowing the patient the pleasure of sitting up if desired), but on an ample observation while attending Professor Sattler's clinic at Leipsic in 1902; having obtained like results in seventy cases in my own practice subsequently, I have become a staunch advocate of the method here outlined.

A patient, aged 64, was operated on at 10 a. m. January 12. An iridectomy and also a conjunctival flap about 2 mm. in length was made, a double layer of wet bichlorid gauze was placed on the lid and the wire screen applied as shown in the accompanying illustration. At 6 p. m. I removed the dressing, instilled one drop of atropin and readjusted the screen, leaving off the gauze. The patient was put to bed. At 9 a. m. the next day the patient was allowed to sit up in a reclining chair as on the previous afternoon. On the third day the patient was allowed to move about in the room, the fourth day to walk about in the house, the fifth day to return home, seventy-five miles away. After five weeks the patient returned for refraction. Vision = 20/27. In two months vision = 20/25.

It is important to use a drop of atropin when first examining the eye after the operation. Every one who employs a bandage will admit that the early use of atropin is justifiable on account of the frequent occurrence of an iritis, for it is important to obtain a dilated pupil before redness of the eye takes place, or before any adhesions between the iris and the capsule, which, when set up, is often of from two to four weeks duration. These complications tend to produce an exudation which interferes with good vision, and are aggravated, if not produced, by the constantly disturbed relation of the iris with its adjacent parts during the movement of the eye when bandaged. If the eye is left protected by the lid and screen only, and atropin is used when the patient is first seen after the operation, such complications do not often occur, and if they do are very slight.

OPERATIONS FOR SECONDARY CATARACT.*

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The ideally perfect cataract extraction should consist of a method involving a minimum of risk, without sequelæ demanding subsequent interference to obtain good vision.

The extraction of the opaque lens within its capsule appeals to us all, but the consensus of opinion regards this operation as not safe as a routine method. Most ophthalmic surgeons extract cataracts without the capsule, leaving the latter to cause subsequent operative measures necessary in the majority of cases.

Various capsular forceps have been devised to obviate the formation of secondary cataracts. With the forceps the attempt is made to remove the anterior capsule within the area of the pupil, so as to secure a clear opening after the removal of the opaque lens. I have never been able to satisfy myself that the forceps had rendered subsequent secondary cataracts less numerous than when the cystotome had been used, but this may have been the fault of the operator. The percentage of secondary operations varies with the education and calling of the patients.

Taking the statistics of cataract extractions done in different ophthalmic hospitals for a given year, and the secondary operations done within the same period, it will be found that 50 per cent. require subsequent interference in order to get good vision. The majority of these patients are of the laboring class, who do not need very acute vision, so that if the statistics were gathered from an educated, intelligent class the percentage would be 75 per cent. The most expert operator, no matter how perfect the technic, using capsular forceps and washing out the débris, can not avoid secondary cataracts in the majority of his operations.

Secondary membranes or cataracts may be divided into simple and complicated. The former consists of a thin, diaphanous veil, which, owing to folds or rumpling of the anterior capsule, seriously interferes with good vision. The latter varies in degree from an opaque membrane within the pupillary area to the most dense mass which shuts off all communication between the chambers. The density of the membranes depends on the cortical lens matter left after the extraction, the cellular proliferation of the anterior capsule and the inflammatory deposit due to iritis, etc. In the complicated cases, we must add incarceration, prolapse of the iris and considerable loss of vitreous humor.

A secondary operation should not be performed until the eye has fully recovered from the effects of the cataract extraction. When the extraction has been performed *secundum artem,* with uneventful healing and no sequelæ, a period of six weeks is quite long enough to elapse prior to further interference, when necessary.

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*Read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

Not infrequently conditions are encountered in which the eye does not become perfectly free from inflammation and interference becomes imperative where delay would mean disaster. Dense exudate resulting from protracted iritis, completely occluding the pupil, preventing all communication between the chambers of the eye and extensive incarceration (or prolapse of iris) call for surgical relief. Otherwise the eye goes on to disintegration. Such conditions keep up the inflammatory process and the surgeon is forced to interfere sooner than would ordinarily appear justifiable. Operating under these conditions does not always give a permanent opening, but, even so, the traction on the iris is removed and some communication is secured between the two chambers, so that after complete quiescence does take place some visual power may be obtained by further operative measures.

There are three sources of danger in operating on secondary cataracts, as follows:

1. Infection.
2. Traumatism.
3. Relighting inflammation due to the extraction.

To my mind, the danger of infection is the least formidable of the three, provided the usual necessary aseptic technic is carefully observed.

Traumatism is usually due to the choice of the wrong procedure in securing an opening through the obstructing membrane. The objective point is a clear pupillary opening, and to secure this no method ought to be employed that simply depends on tearing. I firmly believe that most of our disasters following secondary operations are due to traumatism resulting from improper methods. We should never attempt to tear dense or tough obstructing membranes. Always cut them, inasmuch as the tearing means traction on the iris and ciliary processes, with glaucoma, or iridocyclitis, or panophthalmitis, as a result.

The chief danger is due to overhaste in operating before the eye has fully recovered from the effects of the cataract extraction. The eye is in the state of passive congestion and it takes but little to relight an active inflammatory process.

Not infrequently the surgeon is importuned by the patient to operate soon after the cataract extraction—he lives at a distance—he must return to work—he is anxious to see, etc. Further, as time goes on, the secondary membrane often becomes more dense. However, experience teaches us the wisdom of being patient until there is but little chance of reaction following the second operation, provided the correct method is chosen.

Chiselden was the first to make an artificial pupil, about 1728. He introduced a knife needle on the temporal side one and one-half lines from the clear cornea into the posterior chambers, pushed the point through the iris about one line to the outer side of pupil, carried the knife across the anterior chamber to inner angle and cut through iris to the original point of cutting, a sufficient distance to secure an opening. The iris on temporal side was permitted to remain intact up to the point of the knife-needle entrance into anterior chamber. This was done in cases of occluded pupil, following couching operations.

Gendron performed a corneal incision, having observed that a single line cut was not enough for visual purposes.

Baron Wenzel performed, instead of the straight-line incision, a flap, and removed a small piece of iris. To do this he introduced a pair of scissors into the anterior chamber.

Scarpa did an iridodialysis, and removed by cutting or tearing any capsular membrane within the area of the opening.

Professor Maunoir, of Geneva, in 1802, performed the first iridotomy. He used scissors with cutting blades fifteen to eighteen mm. long, one blade probe-pointed and the other sharp-pointed. The blades were bent forward near the joint 140 degrees. The closed scissors were entered through a corneal opening into the anterior chamber. They were then opened and slightly tilted with the sharp blade below. Then this was pushed through a suitable place in the iris tissue and the cut or cuts made as desired.

Various operators during the last century devised knife needles to operate on secondary membranes.

Bowman's method consists in the use of two needles and does not depend on cutting—it simply tears.

De Wecker, in 1873, devised his pince ciseaux, which is practically Maunoir's idea, only seventy years later.

At present there are three methods generally used in performing secondary cataracts, as follows:

The knife needle, preferably Knapp's, for thin membranes.

The narrow Graefe cataract knife for thick bands or dense pupillary deposits.

The forceps scissors for all cases when the knife is likely to cause dangerous traction.

The choice of an operative procedure must be entirely guided by the characteristics of the obstructing membrane. In dealing with a thin, diaphanous membrane —which, owing to wrinkled, crumpled or pleated surface, does not give satisfactory vision—we choose a knife needle and perform a discission. The knife needle must have a slight taper of the shank toward the handle to prevent the escape of aqueous; the cutting edge should have a convex surface six mm. long and not to exceed one mm. in breadth. The pupil ought to be fully dilated and the membrane cut within its area.

Enter the cornea at the upper or outer limbus with the needle and, as T-shaped incisions are to be made, cut the membrane entirely across its upper third. Then carry the needle down to the lowest margin of the pupil and cut upward to the center of the first incision. Two cuts are made—the first in the horizontal, the second in the vertical plane. If a conical form of opening is preferred the two incisions make a right angle at the center of the proposed pupil.

Frequently a tough or resilient band prevents either one of these discissions in the manner indicated. No attempt should be made to cut these obstructing bands with the knife needle, for they do not cut without exerting a dangerous amount of force on the iris and ciliary processes. Make the incisions in the point of the thin, clear membrane giving the largest clear surface.

It has been my fortune to have seen five cases where these tough, resilient bands caused glaucoma. Four of these cases were in my own practice. On two of them I had operated for cataracts and performed secondary operations and avoided cutting the tough bands. The first case became blind from glaucoma at the end of the second year following the last operation. The second had good sight for four and a half years, when she returned with a subacute attack of glaucoma, which lasted two months. A free division of the band saved some sight. The third case was a needling of the right lens done in Russia to enable the young man to escape military duty. I saw him eighteen months after the needling and, as he did not wish to have any operation performed, nothing was done until two years later, when I found the eye blind T + 2—simple glaucoma. The fourth case was that of a young boy with a traumatic cataract, where four years after the injury the lens had absorbed and an attack of acute glaucoma set in. Another ophthalmic surgeon made an iridectomy upward, but this did not stop the process until I cut freely a tough, broad band that was exposed by the upward iridectomy. The fifth was Dr. Dwight Hunter's case, in which some months following a successful cataract operation the patient returned to the doctor with an acute attack of glaucoma, which rapidly disappeared after a broad band, which was stretched across the pupil, was severed by Dr. Hunter.

The full extent of the thickened capsular bands is very difficult to determine. Owing to iritic adhesions, full mydriasis is not possible. In none of these cases, however, was there either incarceration or prolapse of capsule, lens or iris, as far as I could see.

Looking this matter up I find that Priestley Smith has referred to a case in which a band from corneal cicatrix to ciliary processes caused glaucoma.

In my first two cases of glaucoma caused by capsular bands I failed to recognize the connection, but within a very short interval the third case presented in which an iridectomy had been made without benefit. The iridectomy showed a broad capsular band indicating evident tension, but in cutting this the severed ends immediately sprang apart. In other words, the conclusion was forced on me by the third case that the overlooked, apparently trivial, thickened capsule was the cause. How many of my previous cases of glaucoma were similarly caused I can not tell.

Bowman's method of operating on dense capsular membranes consisted in the use of two needles. The cornea is penetrated in the vertical or horizontal plane at the outer and inner third of its diameter. The point of each needle is gently pushed through the center of the proposed opening in the capsular mass. Then the handle of each needle is elevated and slowly approximated, splitting the thickened membrane. The immediate result is a vertical or horizontal opening through the secondary cataract, which subsequently is apt to become small. This operation by many authors is considered quite safe. They base their approval on the fact that by the use of the two needles the traction on the iris and ciliary processes is removed. This I deny, inasmuch as the operation is essentially a tear with the pull in the line of cleavage. The tougher the membrane the greater the pull on the iris, etc., exerted at right angles to the movement of the plane of the needles. In other words, to split the secondary cataract as the needle's points are separated, the opening is made at the expense of traction in the line of cleavage on the ciliary processes.

There is another method of operating on these dense secondary cataracts which is advocated at the present time by a number of able ophthalmic surgeons.

The cornea is penetrated near the limbus with a thin Graefe cataract knife, the cutting edge of which is directed to the iris and carried across the anterior chamber to the nasal side. The knife point is pushed through the iris into the vitreous humor and the iris and secondary membrane are cut toward the temporal side. In cutting an opening the knife handle must be elevated and the back of the blade is held in close contact with the cornea opening, which is to act as a fulcrum and prevent the escape of aqueous. The movement is of two kinds—either a sawing motion going more or less deeply into the vitreous, or a drawing of the cutting edge against the membrane. The thick dense membrane requires a sawing motion to cut an opening.

When there is a dilated pupil the iris is not cut, or in severing tough resilient bands across an otherwise gauze-like membrane the cutting is entirely confined to the secondary cataract. In many instances the pupil is too small and bound down, so that it is necessary to include the iris in the section, otherwise the opening will be too small. In performing this operation only one incision can be made at a sitting, and in case that cut does not retract its opening will not suffice and a second attempt must be made at some future time. The second incisions must be placed at right angles to the first in order to obtain a sufficient aperture. This operation is not entirely free from danger, due to the traction in cutting through the tough membrane.

Bearing in mind that all traction is to be avoided in cutting through secondary membranes, I know of no method quite so satisfactory in complicated cases as an iridotomy done with the forceps scissors. For the correct performance of this operation two instruments are essential—a narrow, bent keratome (Agnew's) and a forceps scissors. With the keratome an opening is made through the cornea and secondary cataract. The location of the corneal opening depends in the main on the iris. With a mobile intact iris it is necessary to make the corneal incisions 3 to 4 mm. from the limbus. This is especially the case in the young, as the iris quickly contracts after the withdrawal of the keratome and the loss of aqueous humor.

If an iridectomy was done at the time of the extraction the corneal opening may be placed at the limbus. In other words, the corneal opening should be so placed that after the scissors have passed through it into the anterior chamber they may be freely used without the heel of the scissors unnecessarily wounding the iris.

In operating with the scissors when there is a band or bands covering an otherwise gauze-like membrane dilate the pupils ad maximum. Cut the cornea with bent keratome 4 mm. from limbus, carrying the point through the thin secondary membrane 15 degrees below corneal section into vitreous humor. Move the point from side to side so as to enlarge the opening in membrane. Withdraw keratome and insert closed scissors into anterior chambers. Slightly tilt the blades and insert one behind the band or bands to be severed, and the scissors should be carried down to the lowest margin of the proposed pupil. The incisions do not include any iris tissue, but are confined to the secondary cataract within the area of the dilated pupil. It is well to bear in mind that the more extensive the incisions are made the greater the central aperture, which should be V-shaped. In case we have to deal with secondary cataracts complicated with extensive iritic adhesions where the pupil is contracted or occluded the iris tissue must be included in the incisions, otherwise there will not be secured an adequate opening for visual purposes. Place the corneal opening at upper limbus, incise iris as near the corneal incision as possible for free working of the forceps scissors within the anterior chamber. The iris opening should be enlarged laterally 5 mm., either by keratome or scissors. Then with forceps scissors cut downward from middle of iris opening until the lowest border of sphincter is included. It is usually necessary to include the sphincter below the incision, otherwise the V-shaped opening is not large enough to serve as a permanent pupil.

In dealing with incarcerations or prolapse of iris the lateral incisions must be made with the forceps scissors and carried to inner and outer angles so as to free the iris from all traction. The downward vertical cut must be carried far enough through the sphincter and iris tissue to place the opening in normal position of pupil.

CONCLUSIONS.

Secondary membranes, consisting of capsule, gauze-like in texture, readily yield to a discission performed with the knife needle under artificial illumination.

Thin secondary membranes, consisting of one or more bands, require different handling. Simply avoiding these bands in performing a discission with the knife needle is a conservative course that gives a good visual result, followed, however, in some cases by subsequent disaster, due to the traction of the bands on ciliary processes.

Tough resilient bands can be disposed of successfully by the expert use of the thin Graefe knife in one operation by cutting at a right angle to their long axes. Thick, dense secondary membranes within the area of a fairly large pupil can be disposed of by the use of a Graefe knife in two operations, although I do not consider this the best course to pursue.

Bowman's two-needle operation for similar conditions, viz., dense, opaque membranes, covering a fairly large operation field, is mentioned merely to deprecate its use. The essential features of the method depends on tearing the dense membranes.

Judging by my experience in handling all forms of secondary cataracts, other than the thin diaphanous membranes, the forceps scissors affords the safest and most reliable of all instruments. By a judicious use of the De Wecker scissors the toughest membrane can be cut without any traction either on iris tissue or ciliary processes. In all complicated forms of secondary cataracts, occluded pupil, incarceration or prolapse of iris, it is the only instrument of which a proper use combines a minimum of risk with a maximum of benefit.

Do not tear secondary cataracts. Always cut them.

Disasters following secondary operations are in the main due to tearing methods in operating. The least danger is from infection.

[THE DISCUSSION ON THE SYMPOSIUM ON CATARACT APPEARS IN THIS ISSUE UNDER SECTION DISCUSSIONS.]

Hawaiian Fever.—According to Chief Quarantine Officer Cofer, malaria and Hawaiian fever are not one and the same disease. Indeed, Cofer states positively that malaria is never present in the Sandwich Islands unless imported, and he also asserts that the Anopheles mosquitoes have not been found there. Hawaiian fever is probably, he says, the result of heat, moisture and decaying vegetation. Its pathology is unknown. The onset is sudden with malaise and chill, followed by fever of a remittent type, the temperature ranging from 101 F. to 104 F. The spleen is enlarged and the liver engorged, and occasionally there is icterus. Headache, backache and constipation are accompaniments. Dr. George Herbert reports that in the treatment of this condition quinin is of no value, but the salicylates are of use. Removal from the location, such as going to sea, relieves all the symptoms in less than twelve hours. Dr. W. D. Baldwin believes Hawaiian fever is a mild typhoid or febricula.

THE PHYSIOLOGIC ACTION, ELIMINATION AND THERAPEUTIC APPLICATION OF SODIUM CACODYLATE, USED HYPODERMATICALLY.*

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According to Burlureaux,[1] the credit of the introduction of sodium cacodylate as a therapeutic agent belongs to Gautier, who on June 6, 1899, reported a series of observations in which he (Burlureaux) assisted. During the succeeding four years numberless enthusiastic, not to say extravagant, articles by European observers heralded the drug as a desirable substitute for metallic arsenic. On Jan. 31, 1903, however, T. R. Fraser[2] gave the drug, so far as English and American clinicians and authors are concerned, its *coup de grâce*, for, with but one or two exceptions, all English and American textbooks on materia medica deny the possibility of the drug, used hypodermatically, having either physiologic action or therapeutic value. In the article alluded to Fraser says:

> "The . . . therapeutic effects of arsenic are caused by its pharmacologic action, and if it be so united with other bodies as to be incapable of producing any pharmacologic action or of inducing in large quantities the toxic effects, it can no longer be capable of producing the therapeutic effects in disease which are recognized effects of arsenic. If, therefore, the cacodylates are so inert that they may be given without producing any symptoms of the action of arsenic, it is because the arsenic has formed so firm and stable a union that no dissociating influence in the body is able to set free an arsenic ion from the combination. They are eliminated in such stable combinations that they fail to react to the tests for arsenates or yield arsenum when subjected to Marsh's test."

We are able to show that Fraser's reasoning is based on entirely false premises, for not only has it a distinct pharmacologic action (being decomposed in the body and eliminated in the form of arsenates by the urine, the feces, and probably by the sweat and the breath), and has a toxic effect, but the urine of patients under its influence yields arsenates and reacts to Marsh's test. It also gives many of the therapeutic effects common to the arsenic compounds.

The experimental part of this communication was undertaken with the view of explaining the cause of the many and excellent clinical results which have been obtained in the use of sodium cacodylate hypodermatically. An attempt was made to answer the following questions:

1. IN WHAT FORM DOES THE ARSENIC INJECTED AS SODIUM CACODYLATE BECOME ELIMINATED, AND WHAT IS THE QUANTITATIVE RELATION OF INJECTION TO EXCRETION?
2. WHAT ARE THE PATHS OF EXCRETION?
3. IS THERE A TOXIC DOSE?

In order to obtain an answer to the first question, as to the fate of the injected cacodylate, three patients were given daily hypodermatic injections of varying amounts, ranging from 0.05 gm. to 0.2 gm., and the urine examined daily.

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*Read at the Eighth Annual Meeting of the American Therapeutic Society, Washington, May 4, 6 and 7, 1907.

* Sodium cacodylate, $NaAs(CH_3)_2O_2$, is the sodium salt of cacodylic acid, $HAs(CH_3)_2O_2$. Cacodylic acid is dimethyl-arsenic acid derived from arsenic acid, $AsO(OH)_3$, by replacing two hydroxyl groups by two methyl radicles, forming $AsO(CH_3)_2OH$, also written $HAs(CH_3)_2O_2$.

[1] Cacodylates de Soude, Bull. Gén. de Thérapeutique, 1901, clxi, p. 524.

[2] The Inefficiency of the Di-Sodic-Methyl-Arsenate as a Therapeutic Agent, The Lancet, 1903, vol. 154, p. 304-5.

During the time one patient was receiving 0.05 gm. for ten days no arsenic in any form could be detected in the urine.[3] Within twenty-four hours after commencing the second course the dose having been increased to 0.15 gm., a reaction for sodium cacodylate was obtained. Inorganic arsenic began to be eliminated after forty-four days from the commencement of the treatment, at which time the urine possessed a marked odor of garlic.

In the two other cases, in which 0.1 gm. was injected from the outset, the drug was detected on the thirty-sixth and tenth days, respectively. Inorganic arsenic could not be shown in the urine of the latter case, which was, however, under observance for only twenty-nine days. The first patient eliminated arsenic in inorganic form after twenty-two days.

Regarding the quantitative relation of the amount eliminated to that injected, our results agree in the main with those of Heffter,[4] who recovered in the urine but from one-seventh to one-ninth of the amount introduced hypodermatically. Apparently personal idiosyncrasy plays a very important part in this consideration, since in Case 3, under treatment twenty-nine days, the patient receiving daily from 0.1 gm. to 0.15 gm., only 1 per cent of the injected drug was eliminated unchanged and, as previously stated, no inorganic arsenic could be detected. On the other hand, in Case 2, with the same treatment, the daily amount eliminated varied from 5 to 8 per cent.

That these figures do not represent the true state of affairs in this connection must be evident from our results with animals. This point will be discussed later.

The question was further pursued in experiments on dogs. A detailed account of one such may serve as a type of all. Injection of 0.3 gm. of sodium cacodylate was given daily for nine days without any symptom of any objective sort. The compound was excreted on the second day and daily thereafter. On the tenth day the dose was increased to 0.5, and 1.0 gm. on the twelfth day and continued for five days subsequently. Inorganic arsenic made its appearance in the urine on the twelfth day. In a similar experiment, in which the doses were about three and one-half times the size of this one, the inorganic arsenic could be detected on the tenth day. The amount of daily elimination showed no direct relation to that of cacodylate injection. The excretion from day to day varied from 0.2 to 4 mg. In general, however, the larger quantities were eliminated during the periods of high dosage. The percentage of injected sodium cacodylate eliminated varied from 6 to 10 per cent. In all the animal experiments the injected quantity was distributed in from two to four different locations, in the attempt to determine if better results could be obtained in this way. This may explain why a lower percentage of the injected drug was eliminated. No macroscopic evidence of a pathologic change showed itself on autopsy of Dog 1. Portions of the liver, muscle and bone marrow were subjected to chemical analysis according to the method outlined by Heffter, *and in all three tissues inorganic arsenic was present.* Of especial importance was the finding in about 1 gram of marrow from the femur 0.3 mg. of arsenic in inorganic form. The liver showed approximately the same relative amounts with only traces in the muscle.

It occurred to us that perhaps the reason why such a small percentage of the drug could be detected in the urine after injection might be found in the fact of the elimination of the compound through the intestine in inorganic form. Ordinarily such a condition sets up intestinal changes of unpleasant character. In these experiments the feces were examined, and in all cases when inorganic arsenic began to appear in the urine it could be shown to be present in the feces also. Undoubtedly, therefore, the intestinal tract serves as a second means of exit for the inorganic arsenic formed from the cacodylate. This is only to be expected since the intestinal disturbances which follow the administration of inorganic arsenic subcutaneously are caused by the compound becoming excreted into the lumen of the intestine.

Since the injection of 3.0 gm. of the drug did not occasion any objective symptoms in the dog, it was determined to employ rabbits to show, if possible, whether or not a toxic dose could be obtained. A large rabbit, weighing 2800.0 gm. was given an injection of 1.0 gm. in the afternoon at four o'clock. The next morning the animal was found dead in the cage, but still warm. On section a very distinct odor of garlic was noticed, sufficient to be evident to persons entering the room. The tissues (liver and muscle) after removal from the animal retained the odor for several hours, or until they were subjected to chemical treatment. Arsenic in reduced form was, therefore, present in these organs. That the odor was due to inorganic arsenic was shown in the chemical analysis. Another rabbit, receiving 0.5 gm., showed no effect, nor did the urine possess any odor of garlic or cacodyl. The dose was increased on the succeeding day to 0.8 gm. The next morning this animal also was found dead, with the same results as with the one previously mentioned.

Our results, therefore, indicate that after the injection of sodium cacodylate from 6 to 10 per cent. is eliminated unchanged. Arsenic in inorganic form makes its appearance in the urine and feces in small but definite amounts if the injections are continued for any length of time. In general the larger the dose the sooner the arsenic shows itself in this form. Arsenic in inorganic form also is deposited in the tissues of the body after cacodylate injection. The body, therefore, possesses the power of decomposing the organic arsenic compound into an active inorganic form. The small amount of this produced at any one time allows of large dosage without toxic effect.

This cursory summary of the experimental work thus far accomplished forms sufficient basis, we think, for the following discussion of the problem from the experimental standpoint.

In the determination of the question as to the pharmacologic value of sodium cacodylate the all-important fact to be elucidated is the possibility of the drug becoming decomposed or reduced in the animal body to cacodyl, arsenious or arsenic acid. Cacodylic acid or any of its salts unquestionably is without any great effect pharmacologically. That they may occasion toxic symptoms, however, is asserted by Lebaln,[5] Schultz[6] and

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[3] Unfortunately, the value of the biologic test using pencillium brevicaule came to our notice too late to be taken advantage of, but we intend to employ this means of detecting in urine quantities of inorganic arsenic too small for ordinary chemical methods.

[4] Heffter (A.): Des Verhalten der Kakodylsäure in Organismus, Archiv. f. Experimentelle Path., 1901, 46, 230-241.

[5] Diss. Rostock, 1868.

[6] Arch. f. exper. Path. u. Pharm., xi, p. 131.

Rabuteau.[7] Whether these symptoms are due to the appearance of cacodyl, which is extremely poisonous, or to the reduction of the arsenic to arsenious or arsenic acid was left undecided by those several investigators. It is currently supposed that whatever the effect of arsenic in therapeutic doses it is due to the presence of the $AsO^{2''}$ or $AsO^{3''}$ ion; in which case arsenic, combined with carbon in the so-called organic condition in which no such active ion exists, could not form a substitute for the inorganic arsenic unless it first suffered a reduction and decomposition in the tissues. That such a transformation may take place in the body is too well proven by previous observers, such as Heffter, Schmidt and Chouse[8] and others, it having been shown that surviving organs *in vitro* possessed the power of decomposing cacodylic acid to the oxid or even to cacodyl itself. Such experiments did not extend to testing the products for inorganic arsenic after such treatment. Our experiments are sufficient evidence, however, to settle this point.

That such large doses are necessary to produce an effect or to get toxic symptoms is undoubtedly due to the fact of the only partial decomposition of the compound to inorganic arsenic. The extreme tolerance is to be ascribed to a self-regulation and automatic immunity which the organism attains by the constant presence and new formation of arsenic of the inorganic type. The production of inorganic arsenic in the form of arsenious or arsenic acid in *nascent* state in the body is probably not an unimportant factor in the beneficial effects obtained in arsenic treatment of this character. In this condition smaller amounts of the ion become more active and induce better results than arsenic introduced as such *per os.*

Date.	per cent. Hemo.,	Red.	White	per cent Poly.	per cent L. Mono.	per cent. S. Mono.	Eosin. per cent.	Dose.
March 7...	63	4,150,000	11,500	47.5	10	37.5	4.5	0.100 Gm.
March 13..	66	4,148,000	10,900	48.	12	36.5	3.5	0.100 Gm.
March 16..	75	4,200,000	11,000	49.	14	36.	1.	0.100 Gm.
March 22..	82	4,190,000	10,000	55.	18	26.	1.	0.100 Gm.
March 27..	86	4,300,000	10,500	57.	18	24.5	0.5	0.100 Gm.
April 3....	86	4,320,000	11,200	57.	19	23.	1.	Omitted.
April 6....	75	4,200,000	11,300	58.	20	20.	1.5	0.150 Gm.
April 10...	79	4,360,000	10,000	57.5	22	20.	0.5	0.150 Gm.
April 15...	85	4,250,000	9,800	58.	22	19.5	0.5	0.150 Gm.
April 18...	87	4,350,000	10,500	58.	23	18.	1.	0.150 Gm.

Simple anemia; blood examination made by Dr. J. Lewi Donhauser.

Date.	per cent. Hemo.,	Red.	White.	per cent. Poly.	per cent. L. Mono.	per cent. S. Mono.	per cent. Eosin.	Dose.
Feb. 21...	..	5,250,000	....	..	..	..	..	0.100 Gm.
Feb. 27...	..	5,240,000	6,200	58	10	30	2	0.100 Gm.
March 5...	85	5,090,000	9,800	58	5	35	2	0.150 Gm.
March 11..	100	6,125,000	8,600	67	1	32	0	Omitted.
March 16..	75	5,820,000	12,000	62	5	30	3	Omitted.
March 22..	90	6,300,000	8,200	55	8	37	0	0.200 Gm.
April 1....	85	4,440,000	6,200	62	7	30	1	0.200 Gm.
April 9....	90	4,200,000	10,400	..	..	..	..	0.200 Gm.
April 16...	..	5,600,000	18,000	77	6	14	3	0.200 Gm.
April 15....	..	5,600,000	18,000	77	6	14	3	0.200 Gm.

Neurosis; woman aged 73; blood examination made by Dr. J. F. Robinson, A.B. Other blood examinations from which this report is compiled were made by Drs. A. T. Laird, C. K. Winne, Jr., and M. C. Collier, Ph.B.

It is not, however, outside of the realm of possibility that cacodyl or its oxide, which is also unquestionably produced after this type of arsenic administration, does exert, itself, a distinct pharmacologic action specific for itself, and not unlike in general results that of inorganic arsenic compounds. This phase of the question we expect to take up as a further study.

The blood picture under the administration of the drug is a very constant one. In anemic cases there is always an increase in the percentage of hemoglobin, usually a small increase in red cells, but little variation in the number of whites, an increase in the percentage of polymorphonuclears and large mononuclears, with a corresponding decrease in the small mononuclears. In non-anemic cases there seems to be no relation in the changes of the hemoglobin or the red blood cells to the administration of the cacodylate, but there is usually an increase in the polymorphonuclears with but little change in the large or small mononuclears. The arterial pressure seems to be unaffected. The blood records in two cases, one of each type, will serve to illustrate:

In reporting the therapeutic results space does not permit giving detailed histories, but one case illustrates so forcibly the curative properties of the drug and the possibilities of large and long-continued dosage that it will be given in brief. In all instances in which the term "courses" is used it means ten days' treatment with an interval of non-treatment.

Case 1.—Miss V. V., aged 22, cloak model, had lichen ruber.

History.—She had been treated for eczema at varying intervals. The intestinal tract would not tolerate any form of arsenic for more than ten days. She was much emaciated and decidedly anemic (hemoglobin 56 per cent.) and had amenorrhea.

Treatment.—Treatment with sodium cacodylate hypodermatically commenced Feb. 22, 1904, with 0.15 gm. once each day (this equals about 61.8 per cent. of arsenic trioxid or 0.093 gm.) for six days, when the dose was doubled. Six days later the dose was increased to 0.45 gm., and six days later to 0.6 gm. This dosage was continued for thirty-four days, when it was reduced to 0.3 gm. Four weeks later it was again reduced to 0.15 gm., and on June 15 to 0.05 gm. every other day for three weeks, when it was omitted for ten days and then resumed for three weeks more every other day.

Result.—The patient's appetite was improved in one week after commencing treatment. She menstruated on March 15, the first time in four months, and commenced to perspire on April 15, the first in several years. She was discharged, cured, on Aug. 4, 1904, after 164 days of treatment, having gained 25½ pounds, and she has never shown any signs of recurrence. She was given in all 41.95 gm. of sodium cacodylate, or what corresponds to 25.925 gm. of arsenic trioxid, or to 19.632 gm. of arsenic.

Three cases of psoriasis were treated. In one patient the disease was aggravated by its use and after six courses of 0.05 gm. the treatment was abandoned. Three others—one with a very severe attack—were permanently cured by four coures in one and three courses of 0.1 gm. in the others.

One patient with general eczema and one with palmar eczema were cured, the first with four courses of 0.15 gm. and the last with three courses of 0.1 gm., while a patient with eczema crurum was in no way benefited by doses as large as 0.3 gm.

Eight patients with simple anemia were successfully treated, none requiring larger doses than 0.15 gm., or more than three periods of ten days' treatment with ten days' interval.

Three patients with anemia with persistent headache were entirely cured; one of seven years' standing requiring six courses of treatment with 0.05 gm., improvement commencing during third course, and in one of six years' standing the patient was cured by four courses of 0.1 gm., improvement commencing on third day of treatment.

Three patients with splenic anemia were treated. One improved for a short time, but the cure was not permanent and the patient died. In another case, of fifteen years' standing, the patient was cured by five courses of treatment with 0.15 gm., and the third patient, a case of fourteen and one-half years' standing, by the same. This patient has shown no sign of return after three years.

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[7] Jahres. f. Thierchemie, xii, p. 96.

[8] Moleschott's Untersuchungen, vi, p. 122.

One patient with pernicious anemia died after eight days' treatment by a colleague, with doses of about 0.02 gm. A patient of Dr. Henry Hun, now under observation, in whom the anemia was accompanied by a persistent epistaxis of several years' standing, shows marked improvement, the fever, delirium, dyspnea, epistaxis and other disagreeable symptoms having disappeared, the hemoglobin having increased from 20 to 40 per cent., and the red cells from 1,032,000 to 2,400,000 in twenty-seven days with doses of 0.06 gm. for twelve days, 0.12 gm. for eight days, and 0.15 gm. for the balance, and at which doses the man is still being treated.

One patient with Hodgkin's disease died. This case was treated at our suggestion by a colleague, and no history is obtainable.

Two patients with neuritis with anemia were cured with 0.05 gm. doses, one after three courses of ten days, and the other after two courses. In another case, in which there was no associated anemia, there was no improvement.

Two patients with chorea were successfully treated by the administration of 0.1 gm. for two and three courses, respectively, one had been treated for some time with liquor potassii arsenitis, and, while benefited, was never cured, as the attacks recurred at three months intervals.

One patient with gastralgia of malarial origin was cured by two courses of 0.15 gm., and in two cases of exhaustion—both in women of more than 60 years, one following bronchitis and one following what was called diabetes—the patients were speedily helped to a complete recovery.

Of neuroses of various character, sixteen were treated, in only two cases more than 0.15 gm. being used. Five of these patients were not benefited, four were much helped and seven were cured.

Of forty-five cases reported then, thirty-four patients were either entirely cured or much benefited, eleven were in no way helped, and two were apparently made worse. In several of the second class the failure may be due to the fact that they were among the earlier cases treated, the dosage being very small and there being certain faults in technic. In these cases a French preparation sold in tubes, each containing a solution representing 0.05 gm., were used subcutaneously, with a short needle, the solution being cold. Later a sterile solution was made by dissolving the salt in distilled water. This, however, soon developed fungi, and on boiling gave off an alliaceous odor. Our present practice is to obtain the required amount of the salt, each dose enclosed in a gelatin capsule by the pharmacist; the drug is poured into the open end of a glass syringe, the plunger replaced and the syringe then filled with boiling water; the site of injection, preferably the buttock, is then washed with alcohol and a long needle is thrust deeply into the gluteal muscle and the warm solution injected. By this method little if any discomfort is complained of, and the warmth of the solution seems to add much to the rapidity of effect. Clinically it is usually noted that soon after injection there is a marked sense of exhilaration, and it is no unusual thing for a patient to come back after the cessation of a course and request a resumption of treatment on the ground that "it makes me feel so much better," a symptom common to arsenic medication.

Almost invariably the patient gains in weight, usually with considerable rapidity at first. In three of our cases a marked garlic-like odor to the breath was observed, in one this invariably coming on in half an hour after an injection of 0.05 gm. One patient reported the odor in the perspiration about a week after injections of 0.2 gm. commenced, and a complaint of a garlic odor to the urine is no infrequent occurrence. This odor may also be observed in inorganic arsenic medication.

Many of the French writers[1] state that unless improvement commences after five or six injections it is not worth while to continue, and if one course has not proved beneficial a second is not likely to. Our experience, however, is that rapidity of improvement depends much on the size of the dose, being slow with small doses and quick with large ones.

It would seem, therefore—if our data be accepted as correct—that Fraser and those who have accepted his statements have (as Fraser's paper seems to indicate) made their sweeping assertions as the result of a few clinical failures and not as the result of careful physiologic observation.

THE ACTION OF TOXIC DOSES OF ETHER AND THE INFLUENCE OF AMYL NITRITE THEREON.

WILLIAM MUEHLBERG, M.D.
AND
S. P. KRAMER, M.D.
CINCINNATI.

It is generally taught that ether is less toxic than chloroform, that it is less depressing in its action on the heart, and that the selective action of ether on the respiratory center is more manifest. A series of classroom experiments led us to doubt the truth of these views, and the present research was undertaken in the hope of clearing up, if possible, some of these questions. The following series of experiments were performed:

1. Ether was injected into the jugular vein, the blood pressure being recorded in the carotid artery, the vagus nerves being intact.
2. Ether was injected into the jugular vein, both vagi being cut.
3. Ether was injected into the carotid artery, the other carotid being used for recording the blood pressure, the vagi being intact.
4. Ether was injected into the carotid artery, the vagi being cut.
5. Ether was injected subcutaneously.
6. Chloroform was injected into the jugular vein, with the vagi intact.
7. Chloroform was injected into the jugular, the vagi being cut.
8. A mixture of ether and amyl nitrite (2 per cent.) was injected into the jugular vein, the vagi being intact.
9. A mixture of ether and amyl nitrite (2 per cent.) was injected into the jugular vein, the vagi being cut.

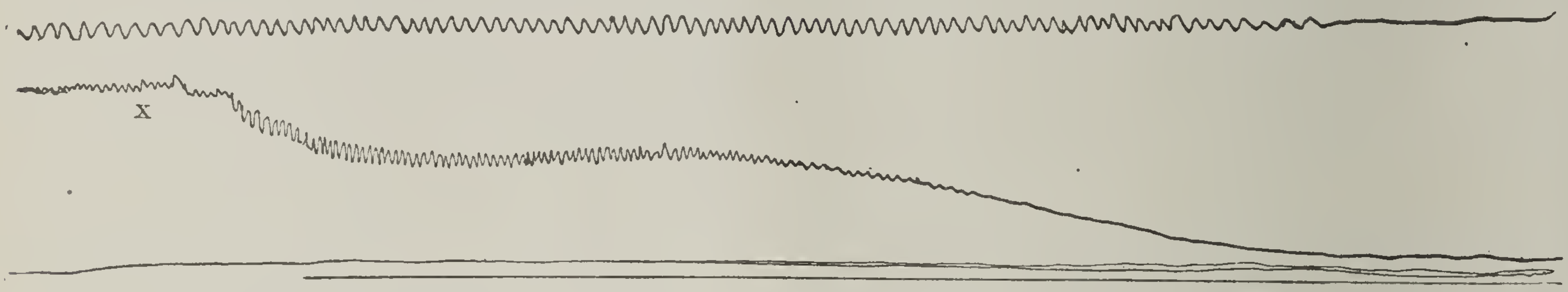
METHODS.

Rabbits were chosen for the experiments. Preliminary anesthesia with inhalation of ether was used, the cannulas, etc., introduced, and then the animal was permitted to recover from the anesthesia and the injections made. Our more important experiments were controlled without the preliminary inhalation of ether, so as to exclude the effects produced by a previous administration of the drug. These control experiments were identical in results with those obtained in the experiments in which we employed ether for primary anesthesia, and were not repeated for obvious reasons.

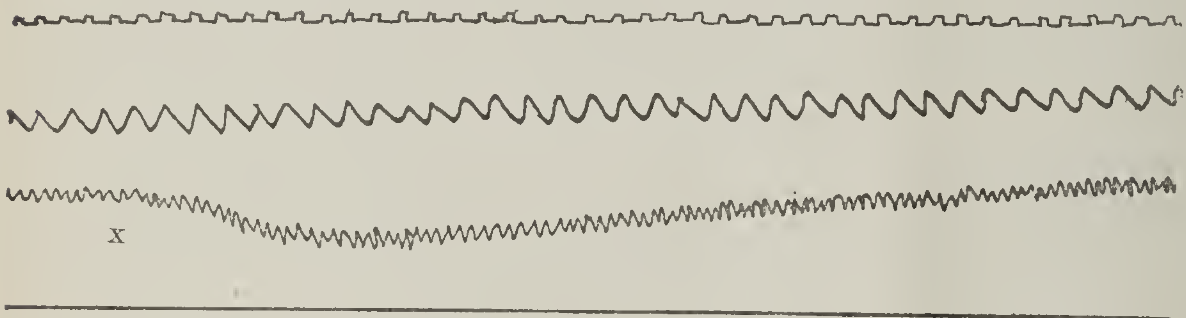
The blood pressure was recorded by means of a mercurial manometer connected with the carotid artery; although in some instances we controlled our experiments on account of the great fluctuation in blood pressure and the consequent entrance of magnesium sulphate into the circulation by recording with a Hürthle manometer. The venous injections were made through a cannula inserted in the jugular vein. The respiratory movements were recorded by means of a Paul Bert drum stethograph connected with a Marey tambour. As a rule, tracheotomy was done so as to enable us to use artificial respiration with a bellows, if necessary.

SERIES I.

Injection of Ether into the Jugular, the Vagi Being Intact.—Within two seconds after the injection of 4 minims of ether in a rabbit weighing 3¾ pounds, as shown in Tracing 1, the blood pressure dropped markedly, accompanied by a slowing of the pulse rate; the pressure continued to sink until the heart stops beating in 40 seconds. The respirations at first were slightly weaker, but with the continued fall in blood pressure they became more rapid for a few seconds, still later slower, and finally stopped a few seconds after the cessation of the heart beats.

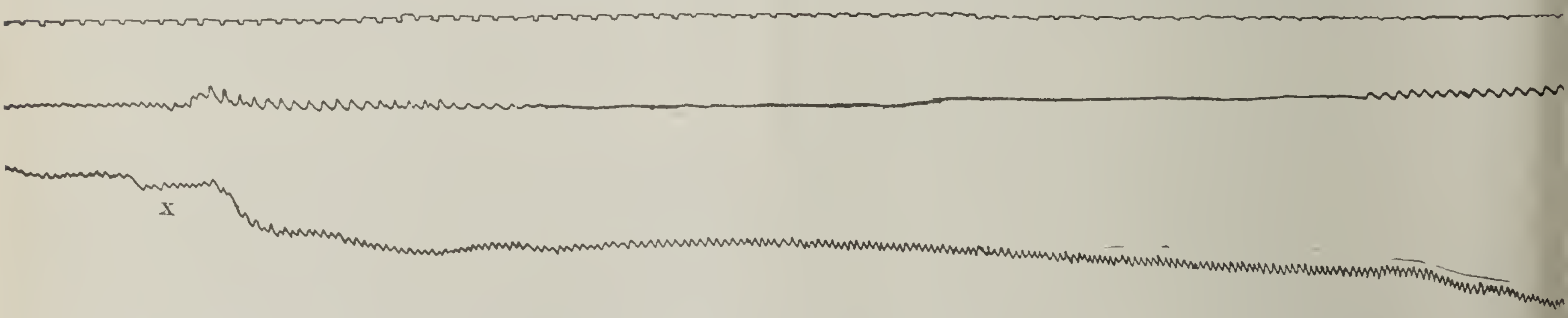


Tracing 1.—Top line, respiratory tracing; second line, heart tracing; third line, atmospheric pressure; X, time of injection; ether, m.iv, injected into jugular; vagi intact.



Tracing 2.—Top line, one-second intervals; second line, respiratory tracing; third line, heart tracing; fourth line, atmospheric pressure; X, time of injection; ether, m.i, injected into jugular; vagi cut.

In a similar experiment with a smaller dose, though lethal, 2 minims, in a rabbit weighing 3½ pounds, caused the blood pressure to sink two seconds after the injection with a slowing of the heart. This was followed by a partial recovery in about twelve seconds, to be followed by a slow secondary decline accompanied by irregular heart action and death in about four minutes, in spite of artificial respiration. The respiration became shallower and more rapid for a few seconds following the injection, then irregular and convulsive as the animal struggled, and finally ceased in about forty seconds after the injection. Artificial respiration failed to restore the activity of the respiratory center.



Tracing 3.—Top line, one-second intervals; second line, respiratory tracing; third line, heart tracing; time of injection; ether, m.i, injected into carotid; vagi intact.

With a non-lethal dose under the same conditions, 1 minim in a rabbit weighing 4¾ pounds, the blood pressure sank very gradually, beginning about two seconds after the injection, continued lower for about a minute and a half and then gradually recovered, so that seven minutes after the injection it was restored almost to normal. The cardiac rhythm was slightly slower at the beginning of the period of the fall in pressure. The respirations were practically unaffected. The corneal reflexes were abolished.

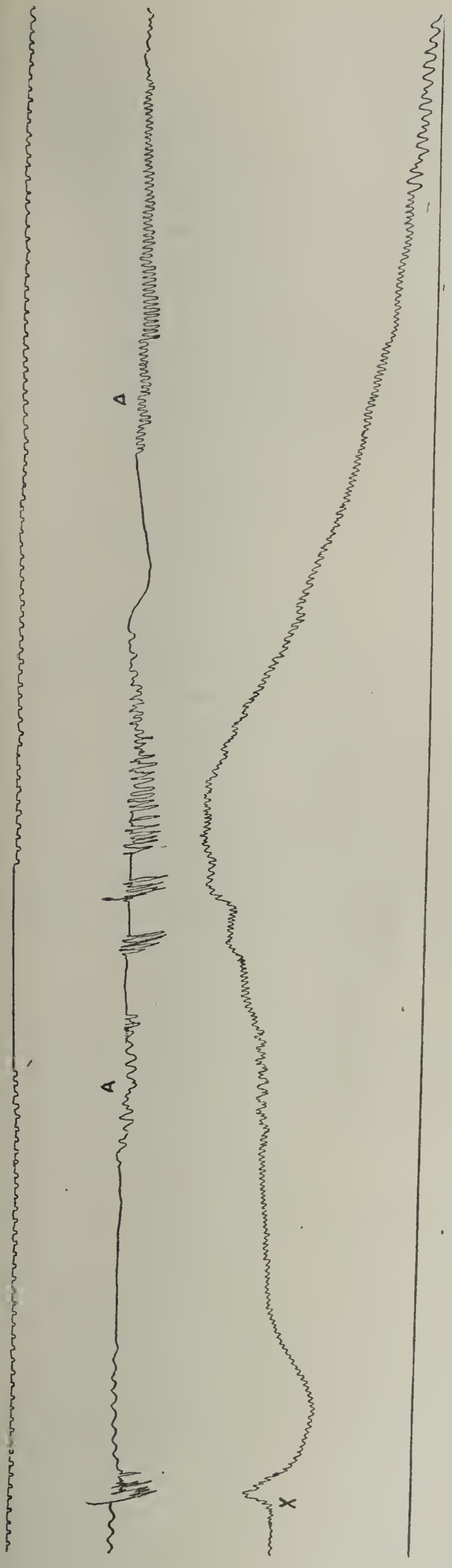
SERIES II.

Injection of Ether into the Jugular Vein, the Vagi Being Cut.—With a large lethal dose, 5 minims in a rabbit weighing 5¼ pounds, the result was the same as in the experiments with vagi uncut, except that the slowing of the pulse was not manifest.

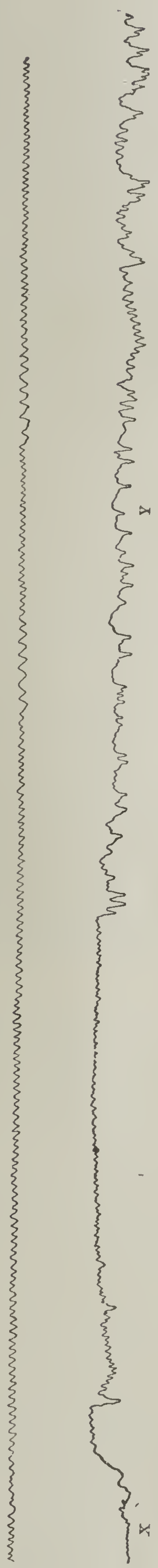
With a non-lethal dose, 1 minim in a rabbit weighing 3 pounds, the results were similar to those obtained with intact vagi, except that the recovery was much more rapid when the ether was injected into rabbits with cut vagi. The blood pressure recovered in about thirty-five seconds. This is shown in Tracing 2.

SERIES III.

Injection of Ether into the Carotid Artery, the Vagi Being Intact.—The most typical reaction was a momentary rise of blood pressure, with struggling, followed by marked fall in blood pressure, slowing of heart beat and diminution in respiratory rhythm, followed in about twenty seconds by a cessation of respirations. The fall in blood pressure and the slowing of the heart were apparently due to the stimulation of the vagus center. This is shown in Tracing 3, the record of an experiment on a rabbit weighing 4½ pounds with the injection of 1 minim of ether.



Tracing 4.



Tracing 5.

Tracing 4.—Top line, one-second intervals; second line, respiratory tracing; third line, heart tracing; fourth line, atmospheric pressure; X, time of injection; A, artificial respiration; ether, m.I, injected into carotd; vagi intact.

Tracing 5.—Top line, respiratory tracing; second line, heart tracing; X, time of injection; Y, reflexes gone; ether, m.I, injected into carotid; vagi cut.

At times, as is shown by Tracing 4, the fall in blood pressure may be followed by a temporary rise of about 40 mm. to 50 mm. of mercury, to be succeeded in about fifty seconds by a rapid fall and death. The pulse rate was markedly lessened even during the period of the rise in blood pressure. Artificial respiration did not prevent the temporary elevation of the pressure, so that this effect could not be due to asphyxia. In those experiments showing the temporary increase in blood pressure, the respiratory center recovered its activity temporarily, but ceased with the subsequent fall.

Doses of 1 minim of ether injected into the carotid with intact vagi were usually fatal, even with very large rabbits. These were the only experiments in which we found so small a dose lethal, and we believe that the fatal results in these experiments were due to excessive stimulation of the vagus center. The corneal reflexes disappeared shortly after the injection. A most significant fact was the return of respiratory movements during the secondary elevation of blood pressure.

SERIES IV.

Injection of Ether into the Carotid Artery, the Vagus Nerves Being Divided.—The immediate effect of the injection of 1 or 2 minims of ether was struggling with spasmodic respiration which lasts about three seconds. This was succeeded by a great elevation in blood pressure which might go as high as 200 mm. The pulse was not appreciably slowed, although after the pressure had remained at this high level for some time the heart occasionally dropped a beat. The rise was not a temporary one; in one of our experiments it lasted for thirty minutes. The respirations were at first spasmodic, then became slightly slower and deeper. In no instance was there observed a cessation of respiratory movements during the elevation of pressure. The corneal reflexes disappeared shortly after the injection. A dose which was surely lethal with vagi intact did not kill when the vagi were divided. Tracing 5 is a record of such an experiment.

SERIES V.

Ether Subcutaneously.—The immediate effect of a subcutaneous injection of 3 minims of ether was struggling from the pain of the injection. This lasted only for a short time and was accompanied by fluctuations in the pressure and respirations due to the struggling of the animal. These soon returned to the normal.

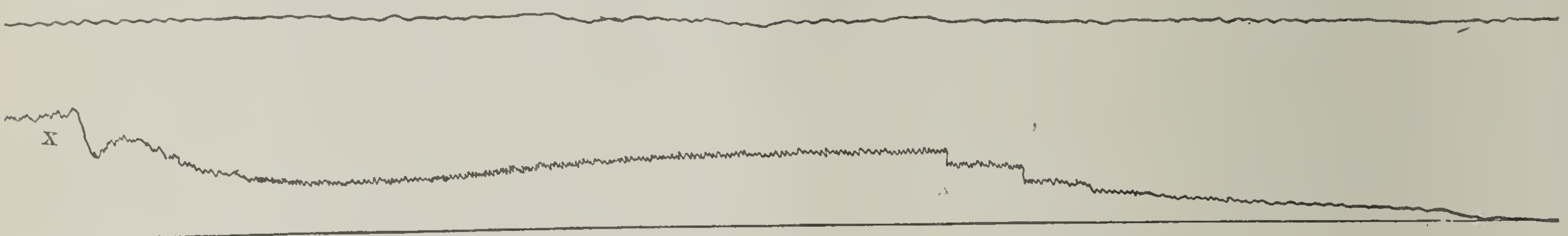
Three injections of 20 minims of ether (which is about ten times the lethal dose when introduced into the jugular) at intervals of two minutes was followed by a general anesthesia as evidenced by the loss of corneal reflexes in about four minutes after the first injection. During the anesthesia, the blood pressure fell about 8 mm. and the respirations became slower and shallower. Ether could be detected plainly by its odor in the expired air. The anesthesia was of short duration, lasting about eight minutes.

SERIES VI AND VII.

Chloroform Injected Intravenously or Intra-arterially.—These experiments gave curves almost identical with those obtained with ether. But there was this important difference: 1. Larger doses are required to produce the same effect. While a dose of 2 minims of ether was nearly always fatal in a rabbit weighing 3 pounds, when the injection was made into the jugular as much as 4 or 6 minims of chloroform was required. 2. Rabbits would tolerate repeated injections of non-lethal doses of ether after intervals of about five minutes; but the action of chloroform was more accumulative. While 3 minims of chloroform were not fatal, an injection of the same amount five minutes later was followed by a more decided fall of pressure, etc., than that produced by the first injection, and 3 minims given five minutes later was nearly always fatal. Evidently the body excretes the ether much more rapidly, or, what also may be true, ether forms less stable combinations in the body than does chloroform.

It must be remembered that our method of injecting ether and chloroform was volumetric. Since chloroform has a specific gravity of about 1.526 at 0 C. and ether 0.736 at 0 C., we injected, in reality, twice as much chloroform as ether.

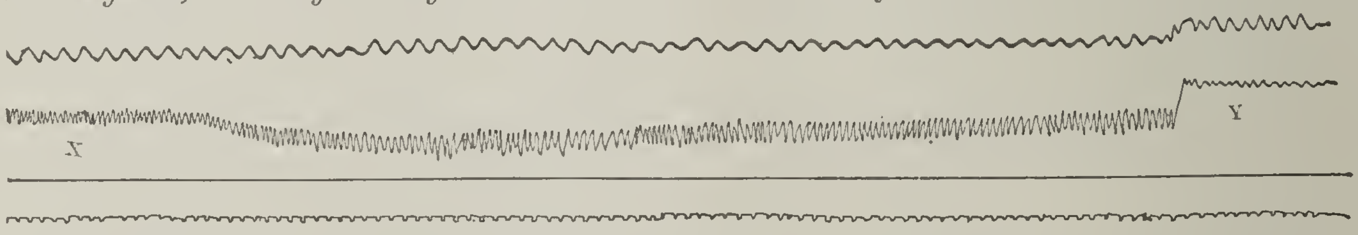
While engaged in our experiments, it occurred to us that some of the depressing effects of intravenous injections of ether might be due to ether-vapor embolism of the heart. Repeated examinations of the heart failed to reveal any bubbles in the right chambers. We also investigated the effect on blood pressure of temporarily occluding the second carotid artery. It might be held that the rise in blood pressure following intracarotid injection was due to anemia of the brain, incident to manipulating the second carotid. When the second carotid was clamped, the blood pressure, as a rule, was but slightly raised. At the most, an elevation of 10 mm. has been noted—too small to account for the enormous rise following intracarotid injection with cut vagi.



Tracing 6.—Top line, respiratory tracing; second line, heart tracing; third line, atmospheric pressure; X. time of injection; at A, B and C, one-minute intermissions were made in the record; ether and 2 per cent. amyl nitrite, m.iii, injected into jugular; vagi cut.

SERIES VIII.

Injection of a Mixture of Ether and 2 Per Cent. Amyl Nitrite into the Jugular, the Vagi Being Intact.—The lethal dose required was slightly larger than with pure ether. The drop in blood pressure was less prompt in appearing, the respirations continued uninterrupted until the heart ceased to beat. The slowing of the heart's action was present, but it was much less marked than was the case with pure ether. The respirations appeared to be much less affected.



Tracing 7.—Top line, respiratory tracing; second line, heart tracing; third line, atmospheric pressure; fourth line, one-second intervals; X, time of injection; Y, reflexes present; ether and 2 per cent. amyl nitrite, m.iii, injected into jugular; vagi cut.

SERIES IX.

Injection of Ether and 2 Per Cent. Amyl Nitrite into the Jugular Vein, Both Vagi Being Cut.—Here the dose must be considerably increased to render it lethal. The primary drop of blood pressure was markedly less and was followed by a temporary recovery almost to normal. Later, as the effect of the amyl nitrite wore off, the force of the heart beats diminished and the blood pressure dropped, ending in death.

The respirations immediately after the injection of a lethal dose were diminished in amplitude, but quickly recovered and did not cease until after the heart had ceased to beat. This is shown in Tracing 6, a record of the injection of 3 minims of ether and 2 per cent. of amyl nitrite in a rabbit weighing 2¼ pounds.

With a non-lethal dose, the blood pressure recovered itself, at times exceeding the normal pressure. The respirations remained unchanged. This is shown in Tracing 7, a record of an injection of 3 minims of ether and 2 per cent. amyl nitrite in a rabbit weighing 3½ pounds. This amount of ether without amyl nitrite per pound of rabbit is usually fatal. With severed vagi and amyl nitrite, rabbits were most resistant to the action of ether.

We likewise performed several experiments in which we gave amyl nitrite by inhalations after injecting ether, and we found that when the amyl nitrite was given in this way it exercised its protecting influence. However, the sooner the amyl nitrite was given after the blood pressure began to fall, the better were the results. Amyl nitrite given when the blood pressure was practically *nil* had little or no action.

CONCLUSIONS.

1. Ether injected intravenously is more toxic than chloroform. The apparent safety of ether when given by inhalation depends probably on the fact that ether is more loosely combined and that it is eliminated more promptly through the lungs. Ether has a boiling point of 35 C. to 37 C., which is below the temperature of the blood, while chloroform boils at 61 C. This may account for the lessened toxicity of ether when given by inhalation.

2. The toxicity of ether depends on concentration. Intravenously, 2 minims are fatal in medium-sized rabbits; as much as 1 dram may be given subcutaneously without lethal effects. By inhalations the toxic dose lies between these two extremes, although, no doubt, a large dose given by inhalation over an extended period of time is much less dangerous than a smaller dose entering the blood suddenly.

3. Ether kills in one of three ways: By, (a) direct

cardiac paralysis; (b) vagus stoppage of heart, or, (c) vasomotor paralysis. Respiratory paralysis can not be a cause of death if artificial respiration be maintained.

4. When ether is given intravenously it causes a fall in blood pressure due to the weakening of the heart's action and stimulation of the vagus center. The vagus influence can be removed by section of these nerves and partially by the use of atropin. But even with cut vagi the heart is depressed and the blood pressure falls.

5. Injected into the carotid artery, ether causes convulsions, probably due to the irritation of the motor centers in the brain; a fall in blood pressure, due to vagus center stimulation; anesthesia and often cessation of respiration. The stoppage of respiration is, in part, due to the fall of blood pressure and, in part, to the action of ether on the respiratory center, because when the pressure of the blood rises subsequently, as it sometimes does, the respirations are resumed during the temporary elevation. Injected into the carotid in animals with cut vagi, it produces convulsions and a great rise in blood pressure, due, no doubt, to stimulation of the vasomotor center. The respirations are not stopped in these experiments, because of the increased blood pressure.

6. From the above experiments, it seems highly probable that when death occurs during the early stages of the administration of ether the following conditions prevail: (a) Weakening of the heart due to the direct action of ether; (b) vagus center stimulation; (c) vasomotor stimulation and constriction of the arterioles.

7. If this be true for ether, it is probably likewise true for chloroform.

8. This danger may be obviated by giving the anesthetic in sufficiently dilute form; i. e., the anesthetic should not be crowded. This is easier to do with ether than with chloroform, because ether appears to be more loosely combined in the blood. As a further prophylactic, the use of atropin is advisable as recommended and practiced with good results by Embrev. Atropin partially, at least, prevents vagus inhibition.

9. When circulatory collapse intervenes in spite of these precautions, the indications are to unload the heart of the blood containing the overdose of ether, to dilate the blood vessels, and to assist elimination by artificial respiration, if the respiratory movements are weak. The heart must be unloaded to remove the blood containing the ether. This can be done by the thoracic compression and possibly even by direct cardiac massage, provided the accident occurs during a laparotomy, but a quicker method is to use amyl nitrite. This drug dilates the peripheral blood vessels, drains the blood from the heart, reduces the work imposed on the heart and gives that organ a chance to recuperate. This theory of the action of amyl nitrite is well borne out by our experiments. Ether combined with 2 per cent. amyl nitrite may be injected into the jugular vein in larger quantities than pure ether. Likewise, pure ether injected into the jugular is less toxic when followed by amyl nitrite inhalations. Too much, however, must not be expected. If given too late—i. e., when the ether has thoroughly poisoned the cardiac muscle—amyl nitrite is useless. It should be given as soon as the pulse begins to weaken.

10. Theoretically, amyl nitrite has been objected to on the ground that it still further depresses an already low blood pressure, and adrenalin has been recommended instead. We have experimented with adrenalin and find that subcutaneous injections act much too slowly to produce any effect and that the intravenous injection causes only a temporary rise, not to the normal, followed by a rapid decline. Given when the blood pressure is low and the heart working badly, it causes no rise at all. We believe that adrenalin is contraindicated and these experiments substantiate our view. We do not, however, wish to deny the value of adrenalin when circulatory depression occurs during prolonged anesthesia. In these cases it is possible that the enfeebled heart's action is due to the exhaustion of the vasomotor center consequent on the shock of the operation and the prolonged anesthesia.

As regards the danger of still further depressing the low blood pressure that occurs during sudden heart failure, our experiments show that the pressure falls but slightly under the influence of the amyl nitrite. The increase in amplitude of the heart's pulsations is more marked than is the fall in pressure; in fact, the pressure rises in spite of the continuance of amyl nitrite inhalation. Even if amyl nitrite lowered the pressure markedly, it would not necessarily be contraindicated, provided it unloaded the heart. A temporary low pressure in the arteries is not nearly so dangerous as blood, charged excessively with ether, remaining in and poisoning the heart. Furthermore, the action of amyl nitrite is very evanescent.

11. A strong point in favor of amyl nitrite is the fact that it can be given by inhalation; that its action is, therefore, prompt and that it probably has a direct cardiac stimulatory effect. A subcutaneous injection of any remedy acts much too slowly in these cases of sudden death.

12. We have observed that ether and 2 per cent. amyl nitrite affect the respiration much less. This is in all probability due to dilatation of the arterioles in the brain and the consequent better blood supply to the respiratory center.

13. We have spoken principally of the action of amyl nitrite in overcoming cardiac paralysis when due to ether. We repeated our experiments with chloroform and amyl nitrite and were rather surprised to find that the nitrite exercised but little or no beneficial influence in chloroform poisoning. In fact, chloroform with 2 per cent. amyl nitrite appears to be slightly more toxic than pure chloroform. When chloroform is injected pure into the jugular vein and the amyl nitrite is given by inhalation, there appears to be some slight improvement noticeable in the heart's action; but the antidotal action is much less marked than in the case of ether. In all probability chloroform becomes more firmly fixed in the muscle and the heart fails to rid itself of chloroform as easily as it does of ether. Our experiments of giving, repeated non-lethal doses of chloroform and causing death after the third injection would indicate the truth of this hypothesis.

14. Sudden deaths following injection of ether and chloroform subcutaneously for diseases like sciatica are on medical record. It is possible that in these patients the drug entered a vein directly. Intravenously these remedies are intensely poisonous and care should, therefore, be taken in giving them hypodermically that the liquid does not enter some vein.

15. Ether is frequently used subcutaneously as a cardiac stimulant. All experimental evidence indicates, however, that it really depresses the heart. The good results that follow the injections are probably due partly to the pain of the injections and partly to its action as

a vasomotor stimulant. In fact, if one analyzes the cases in which it is given clinically, most of them will be found to be not true cardiac failure cases, but rather vasomotor paresis conditions, such as shock, collapse and asthenic states.

THE ANATOMY OF THE MIDDLE TURBINATE,

WITH SPECIAL REFERENCE TO ITS TOPOGRAPHIC AND SURGICAL RELATIONS.*

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ST. LOUIS.

The most important surgical landmark of the nose is the middle turbinate, or, as it should more properly be called, the inferior ethmoidal turbinate. It must be considered in every operation on the accessory sinuses of the nose that is performed through the nose, as it either comes into relation with these sinuses or blocks the way to them.

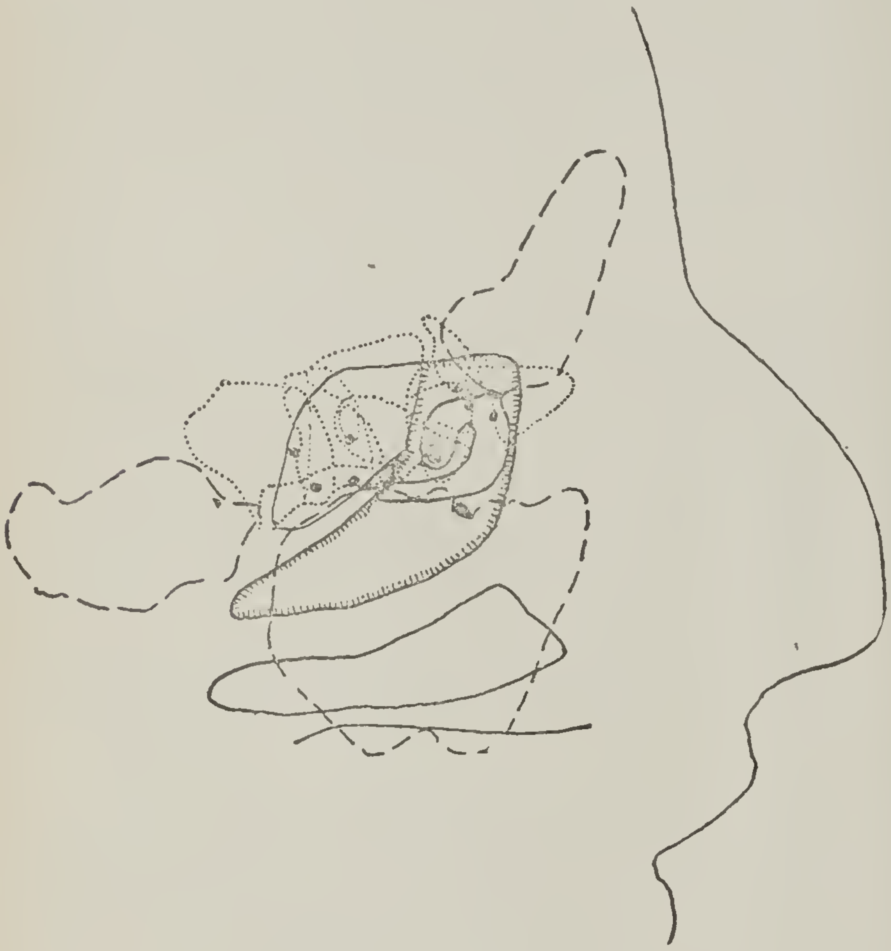

Fig. 1.—Head A, right.

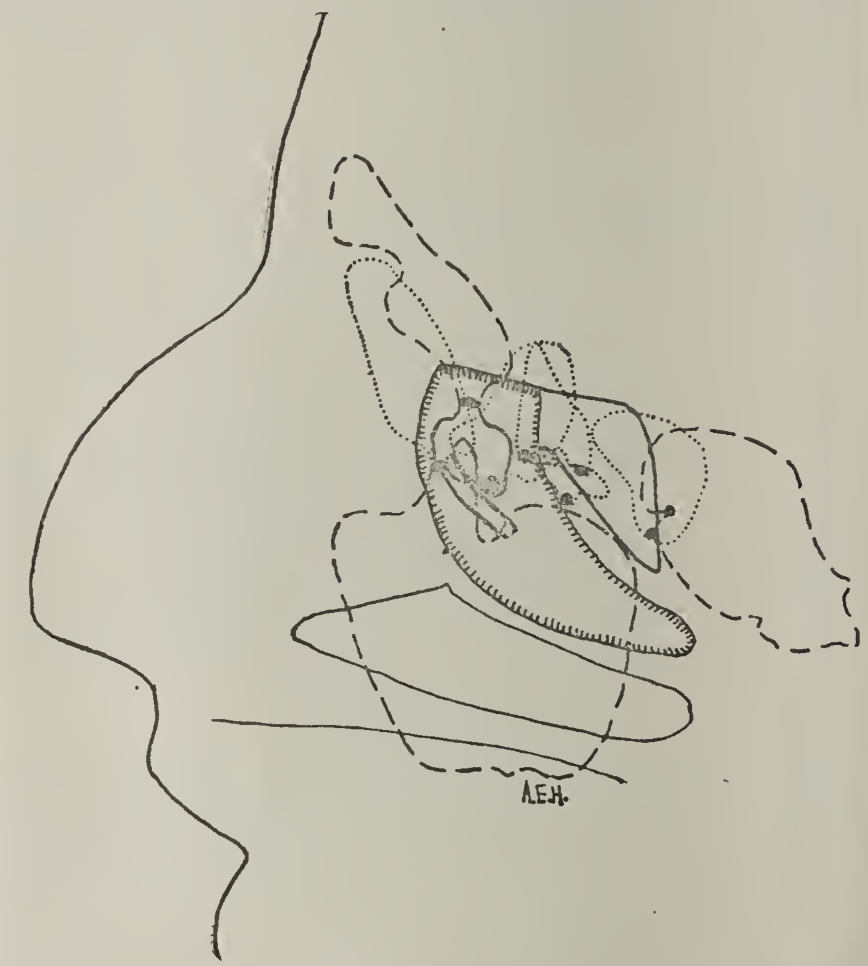

Fig. 1.—Head A, left.

GROSS ANATOMY.

The middle turbinate is that part of the lateral mass of the ethmoid bone which projects from the external wall of the nasal cavity, continuous anteriorly with the lateral mass and separated from its posterior portion by a space known as the inferior ethmoidal fissure. Above the middle turbinate, the ethmoidal fissures, which run more or less parallel to the bone, form from one to three additional turbinates.

Mihalkovics[1] states that it is from 30 to 40 mm. in length, sometimes 45 mm., and from 15 to 16 mm. in height. In estimating its height, he doubtless refers only to the horizontal portion, as it is clearly seen in Figures 1, 2 and 3 that the actual supero-inferior diameter is much larger. A comparison of heads C and D shows what great differences may exist. It is slightly shorter, but generally larger in bulk than the inferior turbinate and much longer and larger than the other turbinates.

The bone is variously described as triangular in shape (Zuckerkandl,[2] Lothrop[3]), or having the general form of a segment of a truncated cone with its apex directed outward (Jacques[4]).

Zuckerkandl describes medial and lateral surfaces, superior, inferior and anterior borders and an angle; Lothrop designates the different parts of the bone as internal and external surfaces, superior, anterior and inferior borders and posterior, superior and anterior angles. While the borders and angles frequently merge into one another, it has been thought best to follow this plan in this paper.

The internal surface is convex, while the external is concave. The term sinus turbinalis was applied by Zuckerkandl to the hollowed-out portion resulting from the coiling of the bone in its posterior and middle thirds.

The superior border is attached horizontally to the outer wall of the nose articulating with the superior maxillary and palate bones. The ethmoid labyrinth lies between this attachment and the lamina papyracea, in this way, as it were, guarding the entrance to the cells.

The inferior border hangs free in the nasal cavity, while the anterior border extends perpendicularly downward from the agger nasi, the homologue of the nasoturbinal. The superior angle lies at the junction of the superior and the anterior borders, not being manifest except in disarticulated specimens. The anterior angle which hangs free at the junction of the anterior and inferior borders, is known as the operculum. The posterior angle is generally on the same vertical plane as that of the inferior turbinate and the Eustachian tube orifice. On account of its close attachment to the palate bone, it is less easily encircled with a snare than the inferior turbinate.

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* From the Anatomical Laboratory of St. Louis University.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

[1] Anatomie und Entwicklungsgeschichte der Nase and ihrer Nebenhöhlen, Heymann's "Handbuch der Laryngologie und Rhinologie," 1900.

[2] Normale und Pathologische Anatomie der Nasenhöhle und ihrer pneumatischen Anhänge, Zweite Auflage, 1893.

[3] The Inferior Ethmoidal Turbinate Bone, Ann. of Otol., Rhin. and Laryn., September, 1904.

[4] Traité de Anatomie Humaine: Poirer and Charpy, 1901.

The ethmoid cells often project into the middle turbinate. According to Lothrop, who has made a very extensive study of 1,000 heads, they occur in 9 per cent., but not in children. In 6.7 per cent. only a single cell was found, and in 1.3 per cent two or more were present. In 5 per cent. of the cases there was a very large cell, constituting what is known as the concha bullosa. In 1 per cent. both middle turbinates contained cells. They are situated almost without exception in the anterior half of the middle turbinate. Forty-five per cent. open into the superior meatus, always about the highest level of the cell, unfavorable therefore for drainage. The remainder open in the middle meatus.

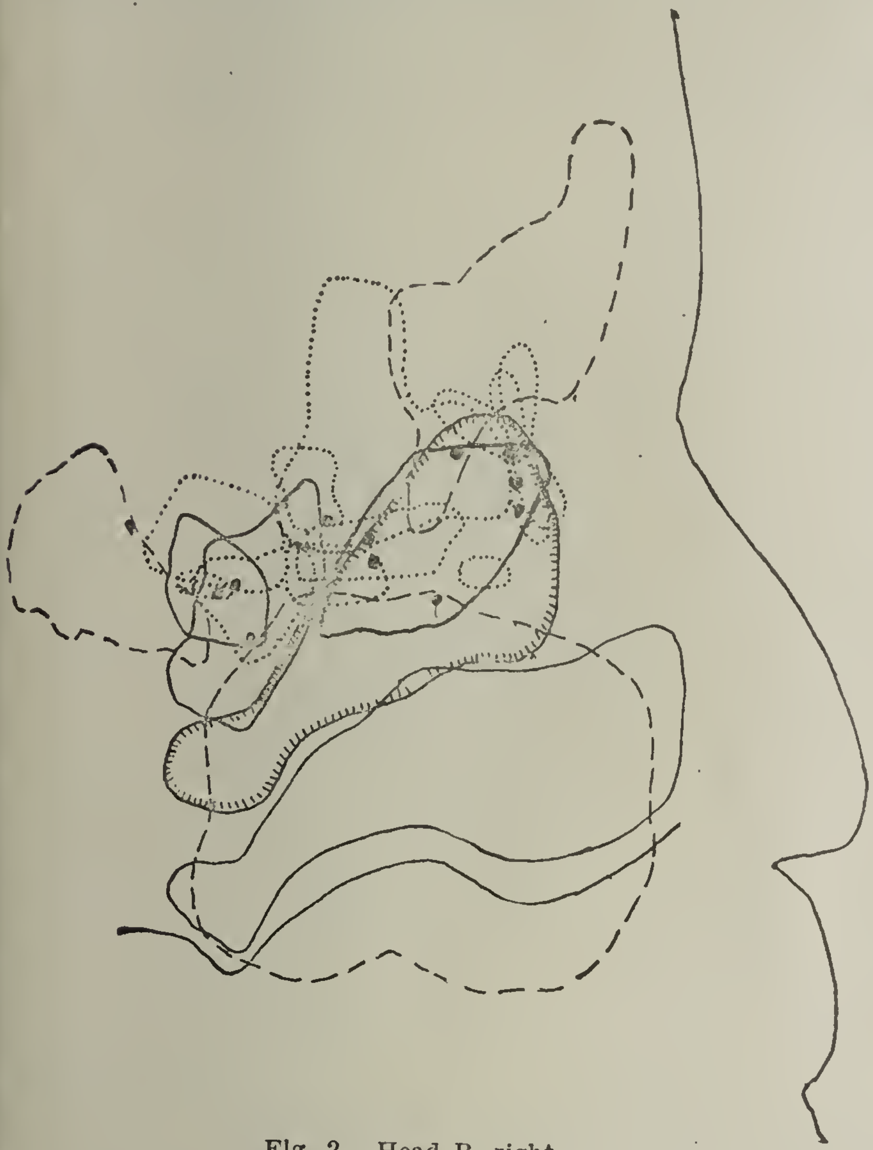

Fig. 2.—Head B, right.

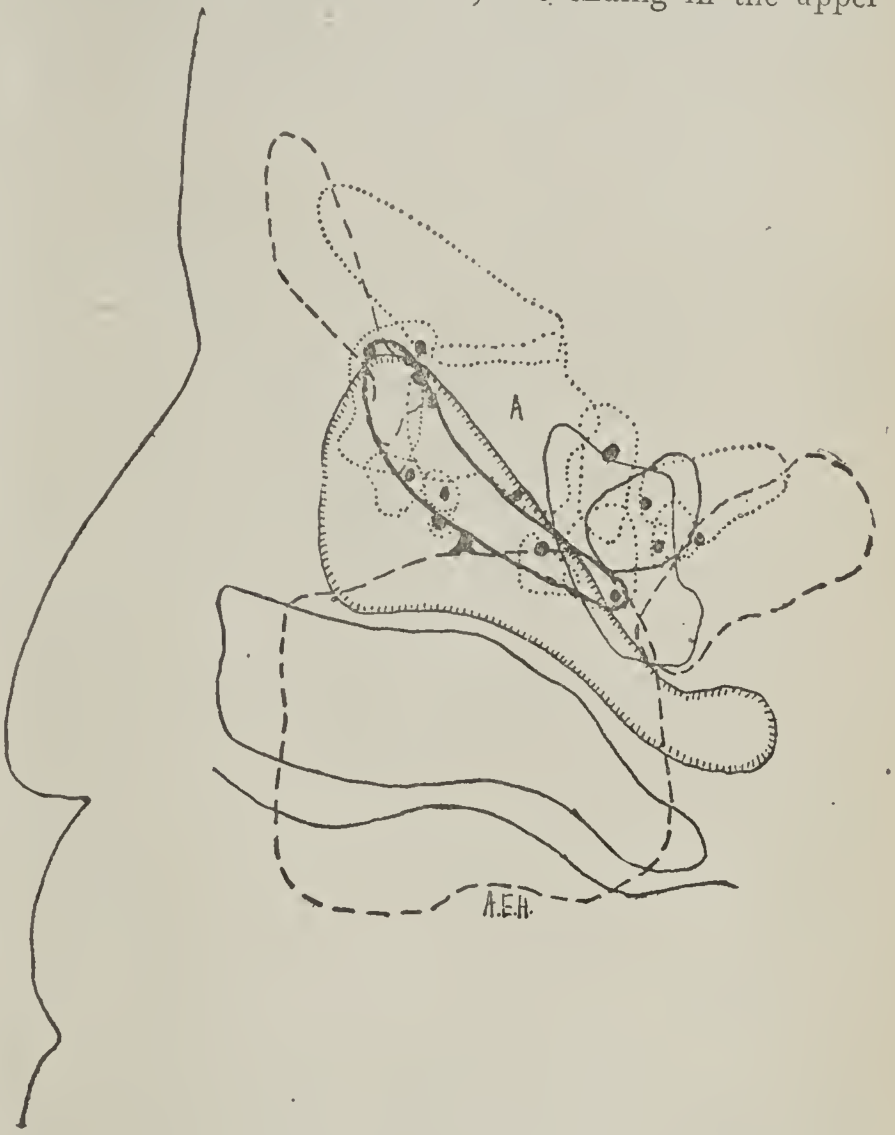

Fig. 2.—Head B, left.

The first ethmoidal cell in head C, left side (Fig. 3) constitutes a concha bullosa by extending into the middle turbinate. The frontal of head B (Fig. 2) enters the right middle turbinate through the superior border to an extent of 8 mm. A similar disposition is found on the left side, where the large ethmoid cell marked *a* extends 5 mm. into the middle turbinate.

The bone is covered with mucous membrane, continuous and similar to that which invests the other portion of the nose, except that it becomes considerably thickened along the free border where the erectile tissue is found. Mihalkowics says that it reaches 7 mm. in thickness in this portion.

It derives its arterial supply from the middle turbinate artery, which is the external branch of the sphenopalatine.

The veins form a very abundant anastomotic system, two networks being distinguishable: The first, superficial, formed of canals of small caliber, is generally directed antero-posteriorly. This extends over the entire mucosa and lies in the subepithelial layer. The second is a deep layer equally abundant, but composed of vessels of larger caliber, very unequally developed, and lying throughout the thickness of the mucosa from the periosteum to the subepithelial layer to which the superficial network is limited. This forms the so-called erectile bodies described by Zuckerkandl under the name of "Schwellkörper."

The tissue is well developed at all points where the mucosa comes in contact with the inspired air (especially along the free border). The blood from this network of veins is collected from two main groups of efferent vessels, the postero-inferior group and the postero-superior group.

Two principal lymphatic trunks drain the lymphatic network of the nasal mucosa, one ending in the upper axoid node, and the other in the nose adjacent to the greater cornu of the hyoid. In this connection, reference may be made to the work of Key and Retzius, who were able to fill the lymphatic network of the nasal mucosa by injecting colored non-diffusible fluids under low pressure into the subarachnoid space of different animals. It must therefore be admitted that there exists a normal communication between the large periencephalic lymph cavity and the nasal lymphatic network in animals. Although this has not been determined for man, it is significant in view of the great operative activity manifested in connection with the middle turbinate and the frequency of pathologic conditions in this vicinity.

The nerve distribution is accomplished through the superior nasal nerves.

MICROSCOPIC ANATOMY.

The mucous membrane which covers the middle turbinate is thickest over the free border and thinnest over the sinus.

Epithelium.—The epithelium, which varies in thickness from 30 to 200 microns, is composed of several layers of cells, the superficial being ciliated columnar. The deepest layers are smaller and more conical. Whatever the thickness of the epithelium, the cilia have a height of 6 microns and move toward the choana. Between the ciliated cells are found numerous goblet cells, which stain like the cells of the mucous glands, when filled with secretion. According to Stöhr,[5] squamous epithelium is frequently found over the middle turbinate.

Basement Membrane.—The basement membrane, which lies between the epithelium and the tunica propria, is homogeneous in appearance. The capillaries which nourish the epithelium are in immediate relation with the basement membrane, or pass up into it. The basement membrane is penetrated by small canals, called basal canals by Schiefferdecker,[6] which connect the intercellular spaces of the connective tissue with the epithelial layer. The canals have no communication with the blood vessels.

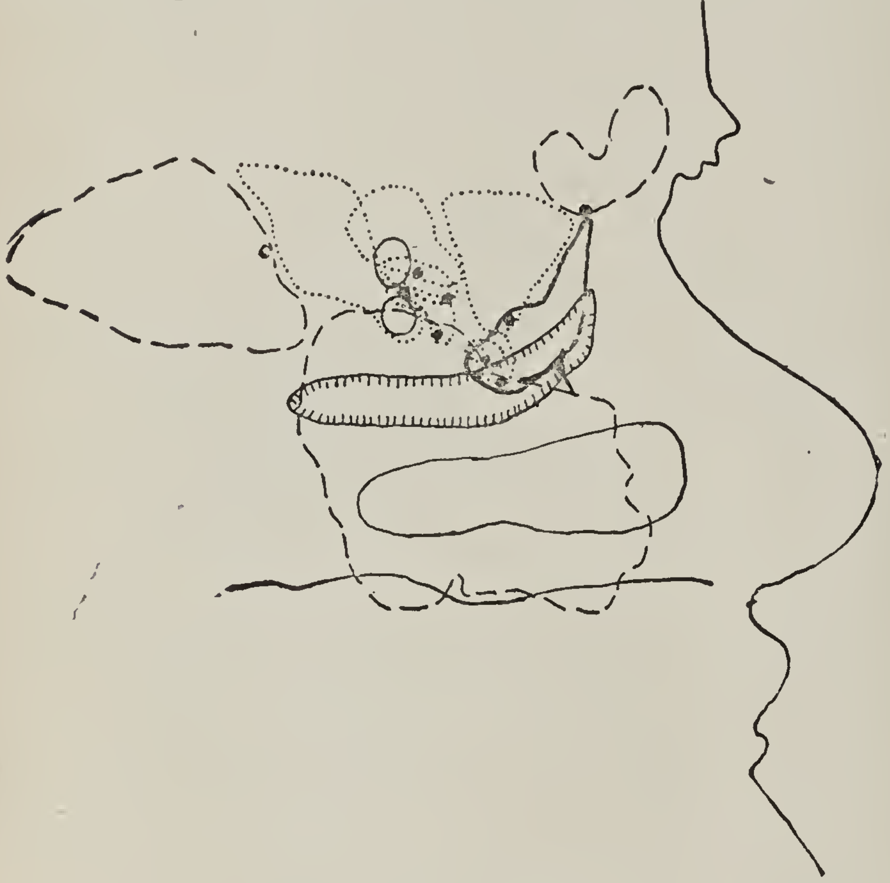

Fig. 3.—Head C, right.

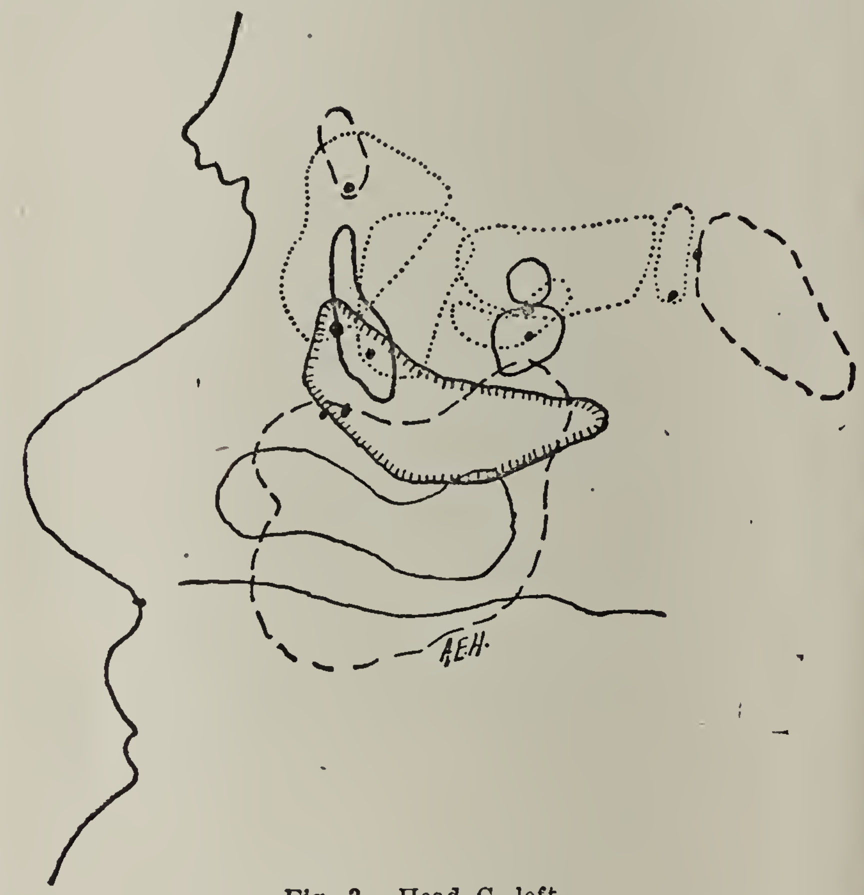

Fig. 3.—Head C, left.

Tunica Propria.—This comprises the tissue between the basement membrane and the periosteum. It is composed of white and elastic fibrous, adenoid and muscular tissue, besides glands, blood vessels and nerves.

Fibrous Tissue.—The connective tissue of the mucous membrane is a thick layer composed of bundles of interlacing fibers and is attached to the periosteum. Pigment is found in this layer, but there are no papillæ. Elastic fibers are found in connection with the periosteum and pass into the tunica propria between the glands and blood vessels. They are relatively few in the neighborhood of the adenoid tissue.

Adenoid Tissue.—Immediately under the basement membrane there are found a large number of leucocytes giving a distinct adenoid character to the tissue. The adenoid tissue is widely distributed over the middle turbinate.

Glands.—The glands, which are of the branched tubular variety, are found immediately under the epithelial layer. The walls consist of mucous and clear cells, cylindrical in form, with nuclei in the center. Schiefferdecker does not agree with Stöhr that the mucous cells are found in the alveoli and the clear cells in the tubules, but claims that both varieties are found in analogous tubules. Each gland is surrounded by a membrana propria, which is 0.8 micron in thickness when cut across. The ducts lie sometimes perpendicular to the epithelial surface and sometimes at an acute angle, depending on the size of the gland in relation to the thickness of the mucous membrane. According to von Brunn, the duct, which is extremely narrow, broadens out below the epithelium, into a bladder-like cavity, into which from three to five glandular tubules open.

Blood Vessels.—Zuckerkandl differentiates three capillary systems: One in the periosteum, one surrounding the glands and one just under the surface of the adenoid layers. The arteries supplying the capillaries in the adenoid layer are small in caliber, while the veins which lead from them are much larger.

Erectile Bodies.—These are found most marked over the free border and the posterior extremity, and are limited to no particular part of the mucous membrane. They are constituted by two layers, one holding the coarser venules, the other the finer network. They lie in such a position that they receive the blood from small veins and from the three capillary networks. The veins of the superficial layers open into the fine network and those of the glandular portion and periosteum into the deeper. According to Schiefferdecker, these veins have walls which are not found in any other vein; the musculature is greater than that of the arteries; the inner wall of the vessel is irregularly folded; the arrangement of the fibers in the muscular coat is very irregular, however it appears to be of the usual type. Elastic fibers are interspersed through the muscular layer, but without regular arrangement, as in the arteries. Between the vessels are thick bundles of white fibrous tissue with numerous elastic fibers.

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[5] Histology, Sixth Am. Edition, 1906.

[6] Histologie der Schleimhaut der Nase und ihrer Nebenhöhlen, Heymann's "Handbuch der Laryngologie und Rhinologie," 1900.

Periosteum.—The periosteum is in two layers, the upper being composed of white fibrous connective tissue, with numerous elastic fibers, which are continued into the tunica propria. The deeper layer is composed of osteoblasts.

Bone.—The microscopic anatomy of the bone does not differ from that of the other portions of the lateral mass of the ethmoid bone.

EMBRYOLOGY.

To understand the development of the turbinates, the whole subject of the embryology of the nose must be considered, from the time when the nasal pits appear until it reaches its highest development. The turbinates are in the main developed from the outer wall of the nose by the formation of numerous fissures constituting a system of furrows between which projecting portions of the wall remain.

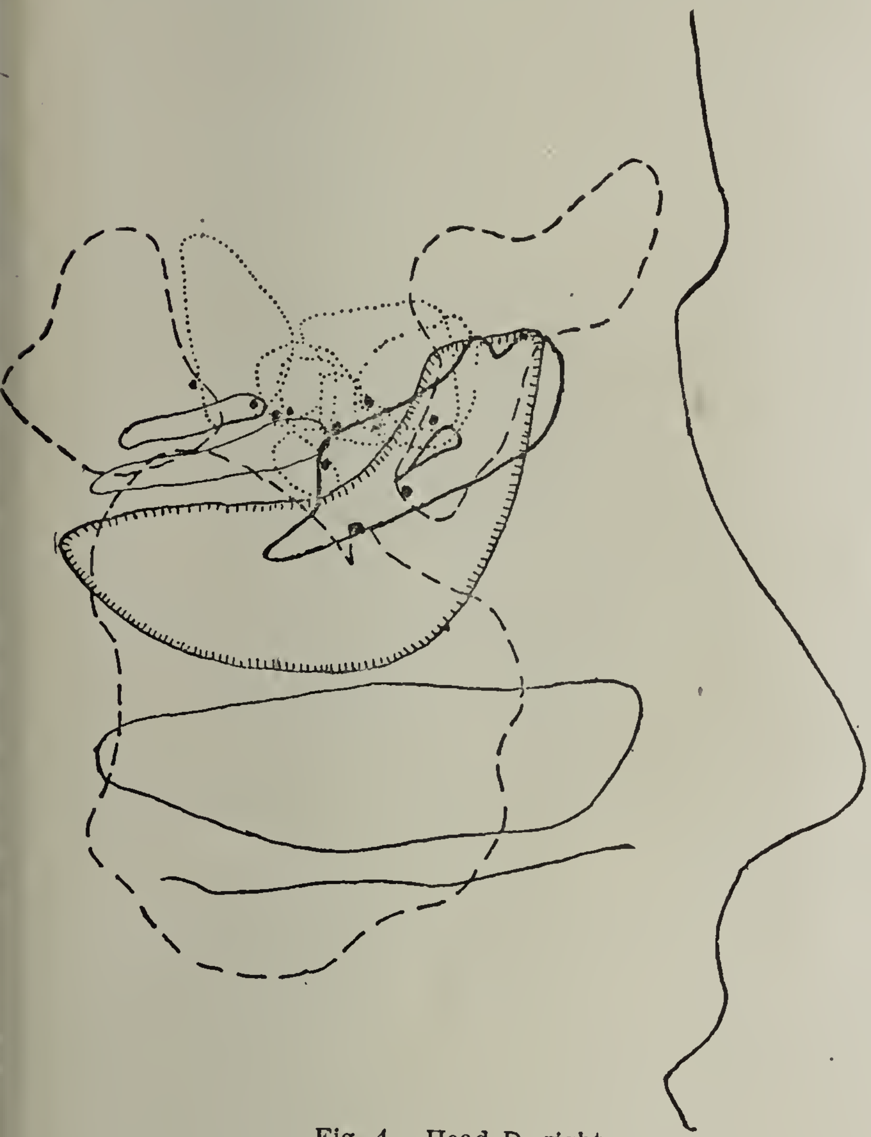

Fig. 4.—Head D, right.

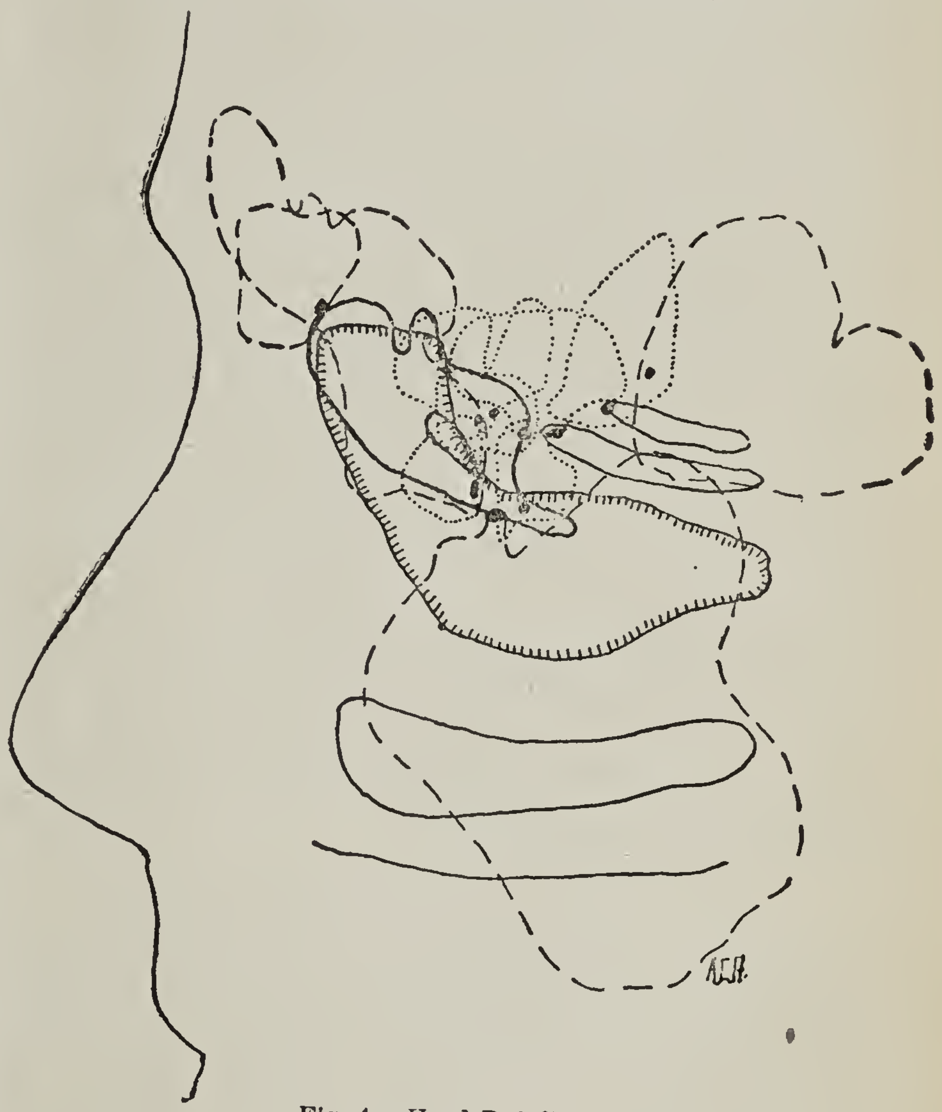

Fig. 4.—Head D, left.

According to Peter,[7] the turbinates originate partly from the posterior portion of the septal wall. Killian[8] maintains that the nose possesses originally six primary furrows, all of which except the first are likely to disappear, though two or more may be present. In this way there is a coalescence of the turbinals giving the varieties which are found in adult life. He claims that the middle turbinate results from the descending branch of the second primary turbinate, including a small part of the ascending branch.

Hajek[9] states that the important structures of the lateral mass develop from four or five fundamental lamellæ and from the passageways between them. The uncinate process is developed from the first, the bulla ethmoidalis from the second and the middle turbinate from the third. The upper turbinates are developed from the corresponding lamellæ.

COMPARATIVE ANATOMY.

The middle turbinate, which genetically may be considered one of the olfactory turbinates, corresponds to the ethmoturbinal in mammals, the superior turbinal in birds and the pseudo-concha in certain of the saurians. In man, however, the middle turbinate is more largely respiratory in its character.

In considering the middle turbinate from the standpoint of comparative anatomy, it must be associated with the other ethmoturbinals. Taking all the ethmoturbinals together, Dieulafé[10] explains their philogenetic relations as follows: The number varies in mammals from three to nine, five being the most common (carnivora, rodents, insectivora, lower monkeys). In the sauropsidian reptiles there is a single turbinate which Solger calls a false turbinal (pseudo-concha). Dieulafé, however, observes that at least in the adder, python and blind worm, it has the appearance of a true turbinate, especially according to the definition of Gegenbaur to the effect that it should be a projection extending from the nasal wall by a narrow portion.

In the crocodiles there is a true turbinate of cartilaginous consistency. In birds the superior turbinate appears to be the homologue of the ethmoturbinal, although Gegenbaur denies that it is a true turbinal. In the vulture, however, according to Dieulafé, it appears to correspond to the ethmoturbinal by reason of its insertion in the supero-internal angle of the nasal cavity.

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[7] Anlage und Homologie der Nasenmuscheln, Arch. f. Mikroscopische Anatomie, lx.

[8] Zur Anatomie der Nase Menschlicher Embryonen, Arch. f. Laryn. und Rhin., 1896.

[9] Pathologie und Therapie der entzündlichen Erkrankungen der Nebenhöhlen der Nase, 1899.

[10] Morphology and Embryology of the Nasal Fossæ of Vertebrates, translated by H. W. Loeb, Ann. of Otol., Rhin. and Laryn., 1906.

The ethmoturbinals of the mammals more nearly resemble those of man. They may be united as in the guinea-pig, or completely separated from one another, as in the badger, or one may be very voluminous and entirely detached from the others, which are united together, as in the sheep. The rat has four ethmoidal turbinals. The superior is longest and reaches far beyond the second, which extends beyond the third. The cat has three turbinates, one of which is divided into two. Bears have seven and the *Mustelidæ* from six to seven.

Milne Edwards[11] states that the difference in the conformation of this portion of the nose in mammals depends on two factors: The distribution of the septal lamina of the inferior turbinate and the disposition of the ethmoidal turbinates. When the inferior turbinate is very well developed, as in the dog and some other carnivora, it occupies almost the entire anterior portion of the nasal fossæ, and, by subdivision, gives rise to a series of superimposed longitudinal laminæ, more or less coiled, circumscribing a considerable number of furrows or incomplete canals, which take the place of the inferior meatus and of the inferior portion of the middle meatus in man. The ethmoidal turbinates are almost entirely forced back into the posterior portion of the nasal fossæ, surrounding numerous fissures which are extremely complicated and variously shaped, depending on the species. Sometimes the superior turbinate is very large, inclining over the inferior turbinate, so that the other ethmoidal laminæ constitute a sort of labyrinth behind it, as is found in the horse. In the hippopotamus the labyrinthal fissures which represent the middle meatus are very well developed, but the inferior meatus is barely marked. Ingersoll[12] records that the kangaroo has five ethmoidal turbinates, the deer three and prairie wolf seven.

In the prosimians, Seydel[13] describes four olfactory projections besides the nasoturbinal. In the lower monkeys, according to Zuckerkandl, the number varies from one to three. In the anthropoid apes the resemblance to man is more striking. The nasal surface of the ethmoid labyrinth presents one or more furrows which determine the formation of the turbinates.

TOPOGRAPHIC AND SURGICAL ANATOMY.

In order to study more in detail the surgical relations to the middle turbinate, and to measure more accurately the distances involved, there are here presented lateral reconstructions of four heads which provide a means for carrying out this study. Head A is that of a white man, aged about 35, weighing 150 pounds; Head B is that of a negro, male, aged 28 years, weighing 190 pounds; Head C is that of a white woman, aged above 65, weighing about 120 pounds; Head D is that of a white man, aged 35, weighing about 160 pounds.

The frontal, sphenoid and maxillary sinuses are represented in parted lines, the ethmoid cells in dotted lines, the turbinates in complete lines, the middle turbinate being shaded. The infundibulum is represented by very black lines, the orifices of each of the cells by heavy black dots. In reference to this, it must be understood that these lines show the greatest diameters of the infundibulum—the hiatus would be much smaller. It is thus easy to study the topographic relations of the middle turbinate to the structures designated.

The heads were all injected with a 50 per cent. formalin solution and decalcified by immersion in a 3 per cent. solution of hydrochloric acid for three months, after which they were sectioned. The formalin slightly shrinks the soft parts, but the bones are not affected in this respect.

Head A (Fig. 1).—The left middle turbinate begins 3 mm. above the orifice of the frontal sinus. Its anterior and inferior borders are merged together, passing downward and backward, almost uniformly curved. The superior border inclines slightly downward for 12 mm., then turning downward at a right angle, continues backward, forming a curve with a larger radius than that of the anterior border. In this way the borders meet and form a more or less pointed posterior angle. It completely overhangs the infundibulum, which is shown here to possess the secondary arm, described in a previous paper.[14] The orifices of the frontal, maxillary and second and third ethmoid cells all open between the middle turbinate and the lateral wall of the nose. The first ethmoid opens in the maxillary sinus just above the opening of the sinus itself, and the fourth and fifth ethmoid cells open immediately above the middle turbinate.

The right middle turbinate has very much the same shape as that of the left, with the exception that the anterior border and the first part of the descending portion of the posterior border are considerably more perpendicular. The borders of both middle turbinates follow almost exactly the posterior lamella of the frontal sinus and the anterior lamellæ of the frontal and anterior ethmoid cells. The horizontal portion of the superior border lies just above the floor of the frontal and the roof of the first ethmoid cell. The infundibulum is entirely overhung by the turbinate. Here, too, is found the posterior arm already described. The orifices of the following sinuses open between the middle turbinate and the lateral wall: Frontal, maxillary, first, second, third and fourth ethmoid. Of these, the frontal, maxillary and first and second ethmoid open into the infundibulum.

Head B. (Fig. 2).—The middle turbinate on the left side shows three distinct borders, anterior, inferior and superior, with the angles all well marked. The anterior border is almost perpendicular, however, being somewhat curved posteriorly in its upper portion, where it unites with the superior border to form the superior angle. The inferior border curves at first upward, but in its posterior third it curves downward, uniting with the postero-superior wall in a rounded extremity. The posterior border forms an angle of about 45 degrees with the anterior border, and continues downward and backward in this position until it reaches its posterior sixth, where it becomes almost horizontal and takes part in the formation of the rounded posterior extremity. The posterior angle extends 10 mm. behind the posterior angles of the other turbinates. The infundibulum projects 2 mm. above the superior angle and 3 mm. behind the superior border. The orifices of the following sinuses open between the middle turbinate and the lateral wall of the nose; the frontal sinus, the second, fourth, fifth, sixth and seventh ethmoid and the maxillary sinus.

The middle turbinate of the right side follows very closely the shape of that of the other side, except that the inferior border presents three convex and two concave curves. The upper angle is wider antero-posteriorly, and the posterior extremity is somewhat larger and does not project so far posteriorly. The infundibulum extends 1 mm. anterior to the anterior border, and 2 mm. behind the superior border. The orifice of the following sinuses lie between the middle turbinate and the lateral wall: Frontal, maxillary, first, second, third, fifth and sixth ethmoid.

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[11] Lecons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux, Faites a la Faculté des Sciences de Paris, x. 1874.

[12] Function of the Accessory Cavities of the Nose, Ann. of Otol., Rhin. and Laryn., December, 1906.

[13] Ueber die Nasenhöhle der hoheren Saügethiere und des Menchen. Morphologische Jahrbuch, 1891.

[14] Study of the Anatomy of the Accessory Cavities of the Nose by Topographic Projections. Ann. of Otol., Rhin. and Laryn., December, 1906.

Head C (Fig. 3).—In this head the middle turbinate is of very small proportions. On the left side the superior border passes posteriorly and slightly downward for one-half of its extent, when it becomes almost horizontal. The anterior border passes downward and forward, with the inferior border at the operculum forming an angle of about 125 degrees. The inferior border continues at this inclination to its lowermost portion, when it becomes almost horizontal, then at its posterior third passing upward and backward at an angle of about 160 degrees to the posterior angle, which is moderately sharp. The infundibulum is only covered to an extent of 7 by 4 mm. The orifices of the following sinuses lie between the middle turbinate and the lateral wall of the nose: the first and second ethmoid and the maxillary. The middle turbinate on the right side is much narrower. The superior wall, which begins in the sharp superior angle passes downward and backward, becoming almost horizontal in the posterior two-thirds. It has a small anterior border which is perpendicular. Its inferior border passes downward and backward, becoming almost immediately horizontal. The infundibulum is only covered to a slight extent, amounting to 8 by 4 mm. The following orifices open between the middle turbinate and the lateral wall: The maxillary, and second ethmoid.

Head D (Fig. 4).—The middle turbinate on the left side has a superior border which is first horizontal and then passes sharply downward and becomes horizontal with a slight curve throughout its posterior half. Its anterior border is first perpendicular, then inclining backward, joins the inferior border, which is more or less horizontal, its posterior portion curving up to join the superior border. The infundibulum projects slightly above the upper border, slightly anterior to the upper part of the anterior border, and considerably posterior to the perpendicular portion of the superior border. The orifices of the following sinuses lie between the middle turbinate and the lateral wall of the nose: The maxillary, the frontal and the fourth ethmoid.

The right middle turbinate has approximately the same shape as that of the left, except that both the antero-inferior and the superior borders are more regularly curved. In this way the antero-inferior border presents a convex appearance throughout, while the superior border is concave. The infundibulum does not extend above the superior border except posterior to its most concave portion. It extends anterior to the anterior border for 7 mm. of its extent. The orifices of the following sinuses lie between the middle turbinate and the external wall of the nose: Frontal, maxillary and first ethmoid.

Topographic Measurements.—The greatest diameters of the middle turbinates as shown by the reconstructions are as follows:

	A. R.	A. L.	B. R.	B. L.	C. R.	C. L.	D. R.	D. L.	Greatest.	Least.	Mean.
Antero-postero...	33	34	38	45	30	30	48	48	48	30	38
Supero-inferior..	34	34	34	35	14	18	17	12	35	12	25
Lateral.........	13	11	14	10	0	9	11	11	14	9	11

It is thus seen that there is relatively little difference in the lateral diameters. The antero-posterior diameter varies considerably. In head D it is the greatest. The supero-inferior diameter in heads A and B is practically the same, while in heads C and D it is hardly half as great. It is interesting to note that the middle turbinates of head D, notwithstanding their great extent antero-posteriorly, are far smaller in their other diameters than those of the other heads except head C.

TABLE 1.—A. MEASUREMENTS BETWEEN ANTERIOR EXTREMITY OF MIDDLE TURBINATE AND:

	A.		B.		C.		D.		Greatest.	Least.	Mean.
	R.	L.	R.	L.	R.	L.	R.	L.			
Ant. extremity of maxillary sinus....	9	10	11	5	7	5	3*	6*	6*	11	4
Ant. extremity of frontal sinus.......	11*	11*	6*	4*	7*	1	12*	11*	1	12*	8
Ant. extremity of 1st ethmoid cell....	6	9	0	1*	3*	2	7*	8*	8*	9	1
Ant. extremity of last ethmoid cell....	25	21	27	32	17	34	25	23	17	34	26
Ant. extremity of sphenoid	30	27	34	32	28	39	32	32	27	39	32
Post. extremity of maxillary sinus....	28	27	34	34	29	26	46	50	26	50	34
Post. extremity of frontal sinus......	10	12	18	11	7	6	15	18	7	18	13
Post. extremity of 1st ethmoid cell...	6	7	7	12	16	14	19	23	6	23	13
Post. extremity of last ethmoid cell...	40	35	41	47	36	38	35	35	35	47	38
Post. extremity of sphenoid sinus.....	61	54	54	55	58	54	54	61	54	61	58
Ant. point of inferior turbinate......	8*	14*	13*	10*	10*	9*	9*	3	3	14*	9
Post. point of inferior turbinate......	35	34	37	38	23	21	45	45	22	45	35
Ant. point of 2d ethmoidal turbinate..	13	15	23	23	18	19	22	22	13	23	18
Post. point of 2d ethmoidal turbinate.	29	29	38	38	21	26	45	45	21	45	34
Ant. point of 3d ethmoidal turbinate.	..	..	29	26	19	20	28	29	19	29	24
Post. point of 3d ethmoidal turbinate.	..	..	39	38	22	24	42	43	22	43	35
Orifice of frontal sinus..............	3	6	11	6	1	4	14	16	1	16	8
Orifice of maxillary sinus............	6	3	12	15	4	4	19	19	3	19	11
Orifice of sphenoid sinus	36	31	43	38	33	39	35	33	31	43	36
Orifice of 1st ethmoid cell...........	3	9	4	10	8	3	11	16	..	..	..
Orifice of 2d ethmoid cell............	6	13	5	11	9	6	17	18	..	..	..
Orifice of 3d ethmoid cell............	8	18	5	12	10	22	18	21	..	..	..
Orifice of 4th ethmoid cell	10	20	18	9	14	22	21	21	..	..	..
Orifice of 5th ethmoid cell	15	29	19	13	15	36	22	24	..	..	..
Orifice of 6th ethmoid cell...........	19	..	23	12	18	..	25	29	..	..	..
Orifice of 7th ethmoid cell...........	20	..	30	20	19	..	26	..	..	..	..
Orifice of 8th ethmoid cell...........	24	..	32	22	..	..	29	..	..	..	..
Orifice of 9th ethmoid cell..........	27	..	33	29	..	..	..	..	..	..	..
Orifice of 10th ethmoid cell..........	10	..	..	29	..	..	..	..	..	..	..
Orifice of 11th ethmoid cell..........	..	..	..	33	..	..	..	..	..	..	..
Orifice of 12th ethmoid cell..........	..	..	..	34	..	..	..	..	..	..	..

* Anterior. Other measurements are posterior.

B.—MEASUREMENTS BETWEEN SUPERIOR EXTREMITY OF MIDDLE TURBINATE AND:

Roof of frontal sinus..............	25	25	29	21	20	19	16	22	29	16	23
Roof of ethmoid labyrinth...........	4	8	13	15	11	17	9	9	17	4	11
Roof of maxillary sinus	17*	12*	18*	21*	2*	6*	11*	13*	21*	2*	12
Roof of sphenoid sinus	16*	7*	5*	12*	12	10	10	11	16*	12	6

* Inferior. Other measurements are superior.

The accompanying measurements in millimeters (Table 1) are taken between parallel planes, running through the specified points:

As might be expected, there is considerable variation, the greatest being in the following: Between the anterior extremity of the middle turbinate and the posterior extremity of the maxillary sinus, the posterior extremity of the inferior turbinate and the posterior extremity of the superior turbinate, in which it is 24 mm. This should not be surprising, as they represent the greatest but one of the measurements taken. In each instance the extremes are heads C and D (Figs. 3 and 4). In the first and third of these measurements heads A and C agree very closely.

The least variation is found between this same point and the posterior extremity of the sphenoid amounting to 7 mm., notwithstanding the fact that the greatest distance is concerned. The anterior extremity of the sphenoid presents greater variations in the distance from this point, being altogether 12 mm. Head C, left side, is responsible for this by reason of the fact that although the sphenoid extends almost as far back as the others, it has an antero-posterior diameter of only 16 mm. as contrasted, for instance with that of the right side of this same head, 30 mm. Leaving out this, the variation is but 7 mm., viz., from 27 to 34 mm.

Very naturally there is considerable variation between the superior extremity of the middle turbinate and the roofs of the fontal sinus, ethmoid labyrinth and maxillary sinus. ' The roof of the sphenoid sinus in heads A and B (Figs. 1 and 2) lies below the superior extremity of the middle turbinate and that of heads C and D above. A glance at the figures will show the high position of the sphenoid in these two heads, in head D reaching above the ethmoid labyrinth and almost to the level of the frontal (Fig. 4).

The variation in the distance to the orifices of the various sinuses is seen to be considerable, reaching 15 mm. in the frontal, 16 in the maxillary and 12 in the sphenoid. The greatest distance for the sphenoid is found in head B, right side, where the orifice is situated on the supero-anterior wall 9 mm. behind its anterior extremity. Leaving out this, the variation would only be 8 mm.

The first ethmoid varies from 3 to 16 mm., the greatest distance being found in head D. The most posterior ethmoid cells vary in distance from 19 to 34 mm. The least is found in head C (Fig. 3), right side, where the last cell is a large one, resulting possibly from the fusion of several cells. Leaving out this cell, the variation would only be 9 mm.

SURGICAL MEASUREMENTS.

With a view to determining measurements which would be of service in surgical anatomy, it was thought best to select a point from which to make these measurements which would come most generally into play during operations. In view of the great variation in shape as shown by the figures as well as of size, course and relations, selection was made of the point on the anterior or inferior border nearest the lower portion of the vestibule. This in each case proved to be on the operculum or very close to it. Accordingly, measurements were made from the junction of the cutaneous nasal septum with the lip. Although the heads vary so greatly, it is astonishing how little difference there is in these particular measurements. They are as follows:

A.		B.		C.		D,		Greatest.	Least.	Mean.
R.	L.	R.	L.	R.	L.	R.	L,			
38	39	32	32	29	26	38	38	39	26	34

It is thus seen that in head C, very small and very atrophic compared with head A (very large), there is only a difference of 13 mm. Leaving out head C as small and atrophic, the difference is only 7 mm., while the heads A and D are almost exactly the same, the figures being 38, 39, 38, 38.

From this point in the different heads measurements have been made to structures that are involved in surgical procedures (Table 2).

TABLE 2.—MEASUREMENTS MADE TO STRUCTURES INVOLVED IN SURGICAL PROCEDURES.

	A.		B.		C.		D.		Greatest.	Least.	Mean.
	R.	L.	R.	L.	R.	L.	R.	L.			
Floor of frontal	18	18	16	16	20	22	11	11	22	11	14
Roof of frontal	49	49	53	46	33	30	50	55	55	30	48
Floor of 1st ethmoid	12	10	13	13	8	7	18	10	18	7	12
Roof of 1st ethmoid	22	36	31	28	20	28	31	21	36	20	27
Anterior wall of last ethmoid	22	22	26	31	14	35	28	24	35	14	27
Posterior wall of last ethmoid	38	32	40	46	38	38	35	34	46	32	38
Floor of maxillary	26	36	33	30	18	25	27	37	37	18	29
Roof of maxillary	5	10	3	0	2	0	5	12	12	0	5
Anterior wall of sphenoid	27	24	32	30	24	39	30	25	39	24	29
Posterior wall of sphenoid	57	50	52	54	54	52	50	50	57	50	52
Orifice of frontal	18	18	22	25	20	23	14	14	25	14	19
Orifice of 1st ethmoid	15	10	15	14	3	9	21	21	..	..	..
Orifice of 2d ethmoid	16	15	18	15	7	8	21	22	..	..	..
Orifice of 3d ethmoid	11	16	21	13	.9	22	24	14	..	..	..
Orifice of 4th ethmoid	11	19	18	22	12	23	23	21	..	..	..
Orifice of 5th ethmoid	12	24	22	23	14	36	20	22	36	3	..
Orifice of 6th ethmoid	14	..	20	26	18	..	26	27	..	..	..
Orifice of 7th ethmoid	20	..	24	21	17	..	27	..	..	..	..
Orifice of 8th ethmoid	17	..	28	21	..	..	29	..	..	..	..
Orifice of 9th ethmoid	21	..	30	27	..	..	..	..	..	..	..
Orifice of 10th ethmoid	25	..	32	32	..	..	..	..	..	..	..
Orifice of 11th ethmoid	..	..	..	32	..	..	..	..	..	..	..
Orifice of 12th ethmoid	..	..	..	31	..	..	..	..	..	..	..
Orifice of maxillary	5	10	11	14	5	2	14	13	14	2	9
Orifice of sphenoid	32	27	42	36	30	40	35	33	42	27	34

It thus appears that in these heads an instrument would traverse from 11 to 22 mm. in reaching the floor of the frontal sinus from the point selected, the usual being from 16 to 22. There is about the same variation in the distance to the orifice of the frontal sinus, the figures being 14 to 25 mm., the usual being from 18 to 23 mm. The floor of the first ethmoid cell is in the main from 7 to 13 mm., while in one instance it reached 18 mm. The roof of these cells varies from 20 to 36 mm. The last figure applies to the cell in head A, left side, which replaces the anterior wall of the frontal sinus (Fig. 1). The extreme figures for the anterior wall of the last ethmoid are 35 and 14 mm., as found in head C. The others vary from 22 to 31 mm. The difference in head C is due to the fact that the posterior cell on the right side is very large and that on the left very small (Fig. 3). In head B, in which the posterior ethmoid cells are very large, the distances are 40 and 46 mm. (Fig. 2). In the other heads they run from 32 to 38 mm. The orifices of the ethmoid cells, numbering 63 in the four heads, lie from 3 to 36 mm. from the point selected. The number, size and position are so diversified that nothing approximating a general rule can be formulated.

The maxillary sinus presents very wide differences, the floor from 18 to 37 mm., the roof from 0 to 12 mm. and the orifice from 2 to 14 mm. The inferior turbinate is a far better starting point for this sinus.

The ethmoid is far more uniform. In head C, left side (Fig. 3), it is unusually small and deeply placed. Its distance, therefore, is very great, 39 mm. The others vary from 24 to 32 mm. The posterior walls are from 50 to 57 mm. from the selected point. On account of the irregular position of the orifices their distance is from 27 to 42 mm. The infundibulum lies from 3 to 16 mm. above the selected point.

TOPOGRAPHIC RELATIONS OF THE MIDDLE TURBINATE TO THE ACCESSORY SINUSES.

Maxillary Sinus.—It is observed that in each instance the middle turbinate crosses the superior and posterior walls of the maxillary sinuses and in no case the anterior wall.

Frontal, Ethmoid and Sphenoid Sinuses.—In all four heads these sinuses, when taken together, are found to lie parallel to the middle turbinate. In heads C and D (Figs. 3 and 4), it is almost horizontal and the sinuses are similarly placed, almost all of them lying wholly above the bone. With one exception, in head D, the sphenoids reach a higher point than the ethmoids, almost attaining the level of the frontal.

When these are compared with heads A and B (Figs. 1 and 2), the contrast is most marked. The latter follow the inclination of the middle turbinate downward and backward. The frontals are far above the ethmoids and the sphenoids are much below the roof of the ethmoid labyrinth. The floor of the sphenoids in these heads reaches a much lower level than that of any of the ethmoids with the exception of the right side of head B, in which the last ethmoid attains the same level. At any rate, it will be interesting to determine whether or not it is common for these cells to follow so closely the inclination of the middle turbinate.

It is not intended to make the claim that the facts brought out are in any sense authoritative for all heads. They represent the results of the study of the four heads reconstructed. A definite rule as to the general average or to the usual situation can be established only after numerous heads have been reconstructed in the same manner.

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[The discussion is under Section Discussions.]

PATHOLOGY OF THE MIDDLE TURBINATE.*

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The pathology of the middle turbinate is in general the pathology of the other intranasal structures. It is subject, as they are, to infectious inflammations, both of determined and undetermined etiology, to the progressive and regressive disturbances of nutrition, and to various processes of degeneration and atrophy. I assume, however, that your committee in assigning to me this subject had in mind that I should treat of those pathologic alterations of the middle turbinate which, from the situation and anatomic structure of the bone, assume here certain definite peculiarities. I shall leave out of consideration, therefore, the pathology of hay fever, of acute rhinitis of other infections and of benign and malignant tumors. We have left those processes which may be grouped under the head of chronic inflammation with tendency to hypertrophy. In association with these conditions are found histologic evidences of degeneration in the mucous membrane and glands.

The middle turbinate, or, more correctly speaking, the inferior ethmoidal turbinate bone, forms the antero-inferior triangle marked off on the internal wall of the lateral mass of the ethmoid by the inferior ethmoidal fissure and a line projected forward and upward to the antero-superior angle of the surface. I may leave out of consideration its anatomic relations and its normal gross anatomy. Histologically, it is seen to be covered with a thin periosteal layer, a varying amount of loose connective tissue containing glands, the whole being covered by columnar ciliated epithelium. The mucous membrane and the connective tissue contain numerous cavernous spaces, representing erectile tissue. Examining these structures more in detail, we find a columnar ciliated epithelium with a well-defined basement membrane, perforated everywhere by canaliculi, running more or less obliquely. Many of these canaliculi contain polynuclear neutrophilic leucocytes, fixed in irregular positions, indicating ameboid movement.

The basement membrane passes directly into a loose, connective tissue, the submucosa of which exhibits irregularly outlined lymph spaces, containing small round cells, in varying numbers. These round cells have the character of lymphoid cells, plasma cells, *Mastzellan*, with a smaller number of polynuclear leucocytes. The glands are situated usually below this lymphoid layer and consist of aggregations of cells, the majority of which show mucous degeneration. In immediate association with these muciferous cells are others of a protoplasmic character. Close inspection of these protoplasmic or albuminous cells shows that a certain proportion are disposed to form acini, with narrow, linear, intercellular channels. In the examination of a given field, one finds these glands with capillaries, situated, as a rule, to one side of or below the muciferous cells. These capillaries at times show an irregular course, sometimes with vacuoles near their orifice. From what we know of the serous glands in the larynx and trachea, we may conclude that we have here to do with essentially similar glands. We may say, therefore, that the glands in this portion of the nose are composed chiefly of mucous acini, showing varying degrees of activity, as indicated by the degree of the development of the mucous degeneration in the gland cells, together with a smaller number of serous acini, which apparently form a separate division of the gland group. In the vicinity of these glands is a moderate, round-celled infiltration, consisting of lymphoid and plasma cells.

The cells of the middle turbinate, using the word in the sense of a chamber, are strictly ethmoid cells, and occur in varying size and number. They range in size from those discoverable only by the microscope to one of 7 cm. reported by Fraenkel.[1] When of small size they can hardly be considered of pathologic nature, although, as will be seen presently, the larger ones are found in conditions of chronic hypertrophy and inflammation. The cells stand in direct relation with the middle meatus. The opening is usually small, and situated on the lateral upper and posterior part of the wall.

The lining mucous membrane of the cell consists of a fine ciliated cylindrical epithelium, with a loose, thin and delicate stroma. Glands are found occasionally. Kikuchi[2] found these cysts of the middle turbinate as early as the fourth fetal month.

We pass now to the consideration of the alterations of the middle turbinate, characterized by tendency to hypertrophy. As the result of recurrent attacks of acute inflammation which do not obtain complete absorption, certain characteristic changes are found in the tissues. In superficial inflammations, an infiltration of mononuclear neutrophiles and plasma cells occurs in the adenoid layer, and in the vicinity of the basement membrane, localized particularly around the smaller blood vessels and the various ducts of the glands. The granular cells described by Ehrlich, *Mastzellen*, are usually present, and there is an increase in the number of cells showing colloid degeneration. The papillæ of the mucous membrane may be lengthened into wart-like prominences as the result of three factors: First, the prolifera-

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

[1] Berl. klin. Wochschr., No. 22, 1890.

[2] Fraenkel's Archiv f. Laryng., 1903, p. 320.

tion of the fibrous tissue; second, the proliferation of the columnar cells of the surface and of the cells of the ducts of the glands by segmentation parallel to their long axes; third, a dilatation of the chief ducts of the glands and their communicating acini. Associated with these changes is the presence of a certain amount of edema in the tissues, most marked in the anterior end of the middle turbinate, giving rise to circumscribed hypertrophies known as polypoid enlargements. The stroma of these growths consists of more or less loose connective tissue, the meshes of which contain round cells and albuminous fluid. The anterior aspect of the structure is exposed to external irritation and its cylindrical epithelium tends to become altered into pavement epithelium.

The basement membrane of these hypertrophies is well defined and shows numerous canaliculi. Below this region the chief changes are seen to consist in an increased development of the fibrous tissue and, as a rule, of the glandular elements. The venous sinuses are not dilated in proportion. About one-third of the glands consist of the serous type, the remainder of the mucous form, with active and resting cells, in varying proportions.

In the papillary form of hypertrophy the essential changes consist in an irregular mammillation of the epithelium, due to an increased proliferation of the epithelial cells. The basement membrane is well defined and shows numerous canaliculi. There is no especial difference noted in the glands from those occurring in simple hypertrophy.

If the amount of edematous infiltration increases in the polypoid enlargement of the middle turbinate, an actual polypus is formed. The mucous membrane is then usually somewhat thinned and consists of cells ranging in type from columnar ciliated to squamous, the latter occurring, as a rule, in situations exposed to constant irritation, as the anterior aspect of polypi. The basement membrane is usually a slender, well-defined line, showing canaliculi in considerable numbers. Below this region there is an evident fibrous hypertrophy, accompanied by edema. The individual connective tissue fibers appear as delicate interlacing strands, separated by intervals of varying size, dependent on the degree of the development of the edema. In this edematous area glands are seldom encountered. When they occur, they are usually found in the deeper portions. In these situations they show little or no tendency to increase in size or number. The mucous cells of the mucous glands are usually less frequent than in hypertrophy without edema. The serous cells show no marked alterations.

The acini of the glands show cystic dilatation which may at times be so marked as to form a cyst occupying the greater portion of the polyp. Two forms of degeneration are found in the chronic inflammatory processes under consideration: First, mucous degeneration of the epithelium of the surface and of the ducts of the glands; second, a colloid or hyalin degeneration of the migratory cells of the connective tissue. In mucous degeneration the superficial epithelium may become totally or partially degenerated. In the first instance, all the cylindrical epithelium is transformed, cell for cell, into an epithelium consisting of goblet cells filled with mucus. In the examination of these conditions the following stains may be recommended: hemotoxylin and congo red, as suggested by Retzius[3] and E. Mueller,[4] Mallory's[5] triple connective tissue stain, which affords beautiful pictures of mucous degeneration of the cells, in addition to the fibrous elements; mucicarmin, as suggested by A. Mayer; muchaematin, as suggested by A. Haidenhain.[6] I have found many other stains less satisfactory for the present purpose, such as Hoyer's[7] thionin stain and several stains given by Unna for the demonstration of mucin.

Hyaline or colloid degeneration is found with especial frequency in the condition under consideration. In the mucous membrane are found homogenous globules, most numerous in those situations which exhibit round-celled infiltrations. These globules are supposed to arise from plasma cells by a degenerative process which resembles thyroid colloid in its staining reaction. In specimens stained with hemotoxylin and acid fuchsin the nucleus appears dark blue and atrophied. The degeneration begins with a slight swelling of the cytoplasm which becomes dark and broken. These fragments increase in size, become rounded, more refractile and stain more deeply with acid fuchsin. The cell, now much enlarged, has the form of a sphere, and many of the fragments coalesce to form larger ones. The atrophied nucleas is usually still visible. Finally there arise completely homogenous oval structures staining dark cherry red with acid fuchsin. The advanced stages of degeneration are more commonly found than the early stages. In the beginning their structure is probably plastic, so that through close apposition of the small granules and their coalescence larger granules are formed. It has been assumed that the presence of hyaline and colloid degeneration in the hypertrophied mucous membrane is not accidental, but stands in intimate relationship with the nature of these hypertrophies. It shows no tendency to spontaneous retrogression.

By some authors these corpuscles have been regarded as blastomycetes, but this view does not seem tenable at present.

In more advanced stages of the inflammation the glandular layer and the periosteum become the site of an infiltration. All the medullary spaces are more or less completely filled with compact cellular infiltration, particularly in the neighborhood of the vessels. The germinal layer of the periosteum exhibits an infiltration with mononuclear lymphocytes, plasma cells and *mastzellen*. Coincident with this infiltration there is a proliferation of the germinal layer of the turbinate, as a result of which large nucleated cells are separated and deposited as an osteoblastic layer on the old bone. From this osteoblastic layer, a compact intermediate substance, osteoid tissue, is generated, producing irregular cavities. This osteoid tissue lies partly diffuse and partly in circumscribed prominences on the old bone, giving rise to a diffuse thickening of the latter, and to prickle-like bony excrescences. The new formation of bone constantly progresses by the deposit of new layers of osteoblasts on the osteoid tissue. In the same way, there may be observed a new formation of bony substance proceeding from the medullary cavities by an adhesion of the cells of the medulla to the old bone, as an osteoblastic zone, which after the formation of intermediate substance becomes osteoid tissue. Here and there the medullary spaces appear narrowed by the new-formed bone.

Coincident with this process of bone production, another alteration is frequently observed, in which absorption of bone takes place. This is a result of the process of rarefying osteitis, and is characterized by the occurrence of numerous giant cells or osteoclasts in excavations of bony lacunæ. These vary in number according to the degree of absorption which is taking place. The absorption of the bony trabeculi is found at times on the outer surface which faces the mucous membrane or at times on that which faces the medullary spaces. Usually both conditions occur. The trabeculi are eroded by the osteoclasts and continually rendered thinner and thinner, so that the medullary spaces continually increase in size. In the extensive stages of refraction numerous trabeculi are completely eroded, and thus suffer solution of continuity. They separate then into irregular loose pieces, which may themselves be attacked later by deposits of osteoclasts, so that it may result that the bony framework of the turbinate consists of a number of loose pieces rather than of a coherent bony framework.

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[3] Ueber die Anfange der Drüsengange und die Nervenendigungen in den Speicheldrüsen des Mundes. Biol. Untersuch. Neue Folge, 111, 1892.

[4] Ueber Sekretkapillaren. Archiv f. mikros. Anat., 1896, lxv. 447.

[5] Mallory and Wright: Pathologic Technique, 1903.

[6] Ueber die acinoese Druesen der Schleimhaute, etc., Diss., Breslau, 1870.

[7] Ueber den Nachweis des Mucins in Geweben mittelst der Farbenmethods. Archiv f. mikros. anat., xxxi.

In advanced stages the cavities may be produced from the coalescence of adjoining medullary spaces, which by continued progression may form bony cysts. Such a cyst is usually lined with columnar ciliated epithelium and contains no glands in its interior, but a certain number of arteries, veins and microscopic erectile tissue.

Hajek emphasizes the fact that the diagnosis of rarefying osteitis is not to be made simply from the occurrence of osteoclasts. A few osteoclasts may exist on the bony framework of the normal middle turbinate and the ethmoid labyrinth. The erosion, however, of the whole bony trabeculi and, finally, their total destruction is a condition which never occurs under ordinary circumstances.

It is difficult to say why in one case hypertrophy of the bone predominates and in another absorption. It is possible that the inflammatory infiltration which penetrates the substance of the turbinates may lead in some places to stasis from compression of the veins. On the other hand, a congestion of the periosteum excited by the infiltration may produce hypernutrition and thus give rise to the hyperplastic growth.

[The discussion is under Section Discussions.]

THE LOCALIZATION OF THE MOTOR AREA BASED ON EXACT FARADIZATION.*

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Faradization of the cortex is a scientific procedure unaccompanied by the slightest danger to the individual operated on. Valuable data concerning cerebral localizations have been obtained by various observers from faradization. The former results obtained by Hitzig, Ferrier, Horsley, Beevor and others can not at present be considered as absolutely accurate in view of the bipolar method which, as it was pointed out by Grünbaum and Sherrington, led to errors in localizations: diffusion of the electrical current caused a simultaneous stimulation of centers other than those experimented on. With the advent of the unipolar method advised by Grünbaum and Sherrington this difficulty is obviated and we are now able to obtain more accurate cerebral localizations.

The question of the exact delimitation of the motor area is, for obvious reasons, one of unusual interest and importance.

Pathologic material is not wanting for the demonstration of the approximate existence of the motor area, but as for its exact seat measured in inches or centimeters there is no depending on tumors, hemorrhages or other lesions, as they usually cover a more or less large area.

There is a tendency at the present time to limit the motor cortical center to the ascending frontal convolution and to the Rolandic fissure, in contradistinction to the old classic view according to which the motor area consists of both Rolandic convolutions. This more recent orientation dates from Grünbaum and Sherrington's experimental observations on anthropoid apes, in whom they found by means of faradization that "the motor area extends in front, but never behind the sulcus centralis."[1]

Since then other investigators experimented in a similar manner on human brains, while the latter were exposed for surgical procedures. Krause, Rothmann, and Brodman abroad, Mills, Frazier, Lloyd and Cushing in this country—all are inclined to accept the English physiologists' view. Although they all arrived at the same conclusion, the number of observations are as yet too few to draw, I believe, positive conclusions as to the erroneousness of the old conception of the motor area.

FIRST CASE.

My personal investigations concern two cases in which I followed strictly the same rules as the above-mentioned observers. The results were similar, but not absolutely identical to those of others.

The first case concerns a boy (J. H.) of 16, who at the age of 14 fell off a platform and struck the right temporal region. He was unconscious at first and then during the following five days had several attacks of loss of consciousness. There was a serous discharge from the nose which was soon followed by blood. The seat of injury was swollen and painful on pressure. Three weeks after the accident he began to have attacks of petit mal and then attacks of Jacksonian epilepsy, affecting left arm and leg. As the latter were invariably confined to the same side, an operation was decided on. An osteoplastic flap uncovered the right motor area which was found intact. Dr. F. T. Stewart followed in this case the plan of other surgeons of the Jefferson Hospital in cranial measurements for determining the seat of the Rolandic fissure. A cord is placed between the glabella and inion and from its center a perpendicular line is drawn. The latter corresponds fairly accurately to the sulcus centralis. When the cortex was uncovered, the central fissure could easily be detected with both convolutions on either side.

In applying faradization I endeavored to surround myself with the same precautions as other investigators did. The apparatus was the usual large size dry cell faradic battery; one electrode was extremely small and pointed, the other was a sponge of 6 inches square with a handle. The end of the pointed electrode was covered with an extremely thin layer of absorbent cotton and during the experiment held perpendicularly to the cortex. The current was turned on very cautiously and first tested in my hands. When a slight tingling was felt and very slight contraction of the muscles of the fingers produced, the electrodes were transferred to the patient.

Cushing[2] advises to avoid deep narcosis, for then so strong a current is required to produce responses that several centers are likely to be stimulated at once and a complex spreading movement is produced. On the other hand, he says, if the degree of narcosis is too light, voluntary movements may confuse the observation. The other suggestion made by him is to puncture the membrane over the sulcus: the cerebrospinal fluid will escape, the membrane will settle down close to the cerebral surface; otherwise the electric stimulation will spread and lead to erroneous conclusions. Lloyd, in his experiment,[3] made the first faradic application to the precentral convolution, as excitation of postcentral convolution seems to him to act as a reinforcement to the precentral. Mills, on the contrary, applied the electrode first behind the fissure, for if it is done in reverse order "it is quite possible that one might get a response from postcentral convolution, when no response would have been obtained had the electrode been applied first to this convolution."

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* Read at the meeting of the American Neurological Association in Washington, May 7-9, 1907.

[1] Proc. Royal Soc. of London, lxix, 1902.
[2] N. Y., Med. Jour., 1907, 166.

I have followed Cushing's and Mill's suggestions. The indifferent electrode was thoroughly saturated with a warm salt solution. The small and thin electrode was held firmly in the hand and gently applied to the cortex. At first the ascending parietal was touched through its entire length and near the central fissure. Slight contractions were obtained in the arm when the largest portion was irritated, the leg also would twitch when its upper angle was touched and the face when the lower angle was excited. The same application then was made at some distance from the fissure, contractions also were obtained, but in a milder degree. When the electrode was placed in the sulcus the contractions became more pronounced. Finally faradization of the ascending frontal very near the sulcus gave the same results as that of the sulcus itself. The entire transverse diameter of the anterior convolution gave contractions in the limbs. In comparing the degree of contractions at various distances from the sulcus, I will say that in both convolutions the contractions were more marked when the faradization was made very near the sulcus and less marked when at some distance from the sulcus. The interesting fact is that, while the same current gave by far greater contractions when applied to the fissure and ascending frontal, it nevertheless was capable of exciting the postcentral convolution, though to a much milder degree. The faradization was witnessed by the surgeon, Dr. Stewart, his assistants and Dr. William J. Dugan, who made notes in the course of my experiment.

SECOND CASE.

The second case is that of a boy of 16 who at the age of 13, without any apparent cause, developed convulsions on the left side. At the time of his admission to the Jefferson Hospital he had frequent attacks of epileptic seizures, confined to the left arm, neck and face. In view of the strictly localized convulsions an operation was undertaken by Dr. J. C. Da Costa. An osteoplastic flap revealed dilated and tortuous veins over the arm center, reminding one of angiomatous vessels. The faradization was conducted with the minutest precautions and exactly in the same manner as in the first case. Here I observed an extraordinary anomaly. Faradization produced contractions on the same side of the body and at no time on the opposite side. A half dozen applications to the precentral or postcentral convolution and the fissure invariably gave responses on the corresponding side of the body. This anomaly can be explained on the ground of absence of decussation. What also is interesting is the relative responses to faradization of the various portions of the classic motor area. While the irritation of the ascending frontal convolution and of the sulcus centralis gave more pronounced contractions in the limbs than that of the ascending parietal, nevertheless irritation of the latter was not indifferent; mild twitching of the limbs was evident.

COMMENT.

The two cases seem to prove that the motor area is not confined to the precentral convolution and the sulcus, but extends also to the postcentral convolution, although to a much milder degree. If Mills and others believe that faradization in man enables us to determine with exactness the delimitation of the motor centers, what is the reason of the discrepancy in the results of their experiments and mine, especially when precautions in carrying out the experiments were taken on both sides equally well? The subject is, therefore, reduced to the question of whether the electrically excitable area is identical to the motor centers of the brain. Rothmann[4] cut the decussation of the pyramids in apes. The electrical irritation of the limb centers had entirely disappeared, but the motor function of the limbs was intact. In some of the monkeys he excised a small portion of the arm centers and through some error in handling the wound an infection set in, which became a source of irritation to the remaining portion of the arm center. This ape had typical Jacksonian epilepsy in spite of the fact that electrical irritation was not obtainable.

Krause, according to Rothmann, found that in some of his cases in which an operation was done he could no more faradize, and still typical epilepsy occurred. He also found that in one case after the excision of the precentral convolution epileptic seizures still occurred. Finally, Rothmann himself observed that in total extirpation of the entire ascending frontal convolution the posterior was sufficient to produce movements of the extremities.

These facts prove, I believe, conclusively that the results obtained from faradization of the cortex can not be considered as an absolutely reliable means for an exact and precise delimitation of the motor center; the motor region is more extensive than faradization seems to prove.

Finally, if it is permissible to draw inferences from cortical irritation by means of electricity, the ascending parietal convolution participates in formation of the motor area, although to a lesser degree.

THE DIAGNOSIS OF PERFORATION OF THE BOWEL IN TYPHOID.*

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In the bowel perforation of typhoid fever and the bowel perforation of appendicitis we have, in a measure, allied surgical conditions. They are similar in that both result in peritonitis by the extravasation of the bowel contents into the peritoneal cavity. They are also similar in that the locations of both are, under ordinary circumstances, in the right iliac fossa. Given these anatomic similarities, why is the one so uniformly fatal and the other so uniformly successful in its issue? The surgical indications and the principles of treatment are identical, consequently, the conclusion necessarily follows that were the cases of perforation of the bowel in typhoid all accorded the prompt and active surgical care that a perforated appendix receives the outcome would be different.

To be sure, the patient with typhoid is seriously handicapped by the already existing typhoid infection, but that in itself, unless of serious degree, is no contraindication to operation. Cushing even goes so far as to advance the opinion that the operation and its anesthesia tend to terminate the attack of fever.

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[3] The Journal A. M. A., Dec. 15, 1906, 1976.

* Read before the Surgical Section of the Academy of Medicine of Toledo (O), and Lucas County, May 17, 1907.

[4] Berlin. klin. Wochschr., 10, 1905, 272.

The mortality without operation is close to 100 per cent. and may be so stated, so there is everything to be gained and absolutely nothing to be lost in following out rational surgical procedures. Of the 400 cases of operative treatment the literature affords, 25 per cent. have recovered, which is, of course, a clear gain of 25 per cent. It has been statistically demonstrated by Harte, Briggs, Taylor and others that the death list annually within the United States from typhoid perforations runs from 8,000 to 16,000. Comparing these figures, one is forced to believe that a large number of lives are needlessly sacrificed each year.

Immediately the question arises, why does such a condition exist? In answer, the conclusion inevitably follows that the vast majority of cases are either not diagnosed or are diagnosed at such time as operation is hopeless and not recommended. There are mitigating circumstances, to be sure.

In the first place, the text-books are not sufficiently lucid on the subject of bowel perforation in typhoid to give the practitioner a comprehensive diagnostic grasp of the subject, nor does his relatively limited experience compensate for the insufficiency of the text-books at his command. In the second place, perforation occurs during the course of a disease the progress of which presents an infinite number of variations due to an infinite number of causes, which in itself severely tries the very best of diagnostic acumen. Typhoid stupor, for instance, renders all subjective symptoms unavailable, and consequently forces the objective signs and the observations of those in bedside attendance to become the mainstays of diagnosis. Unfortunately, these diagnostic aids are more frequently the indications of the developing peritonitis rather than the perforation which produces it, and then the surgeon hesitates to operate.

Manges has been quoted as follows: "Most physicians expect too many and too pronounced symptoms for an early diagnosis of perforation, for the appearance of which they often sacrifice the golden time for successful operative interference." There are a number of symptoms and signs which, when present, make reasonably certain the existence of the perforative lesion. However, discretion formulates this rule: When in doubt as to diagnosis, operate and then diagnose. This teaching was endorsed by the respected Mikulicz as far back as 1884, when he wrote: "If suspicious of a perforation, one should not wait for an exact diagnosis and for peritonitis to reach a pronounced degree, but, on the contrary, one should immediately proceed to an exploratory operation, which in many cases is free from danger."

The wise physician regards all typhoid patients as liable to bowel perforation, especially if the course of the illness be characterized by severity, distension or hemorrhage. But it does not necessarily follow that all such patients will have perforation. In a series of seventeen Woolsey[1] observed that in the majority the previous course of the disease was that of typical typhoid and not unusually severe.

While the character and severity of the infection do not necessarily signify a predisposition toward perforation, they may mask its onset to such extent that its symptoms are overlooked, leaving the increasing magnitude of the abdominal distress to make the diagnosis of a well-established peritonitis disgustingly apparent. In patients already suffering with abdominal pain originating in other causes this is particularly true. It is then, indeed, difficult to determine when the pain of the perforation is added to the already existing sensation.

PAIN.

Abdominal pain is the most constant and reliable indication of perforation that the lesion produces, depending, to be sure, on the mental condition of the patient and his appreciation of the sensation. In Manges' series of 19 cases abdominal pain was the first symptom to appear in 14. In 2 of them, however, it was accompanied by a chill and in 2 others by vomiting. Though not the initial symptom, it was present in 17 of the 19 cases.[2]

The pain varies in degree, character and location. It may be so severe as to force a cry from a comatose patient, and, on the other hand, so mild as to attract but slight or no attention from a conscious patient. It may start as a sudden, sharp, stabbing and agonizing sensation, or it may come on gradually. Its duration varies equally as much. It is usually circumscribed and located in the lower part of the abdomen near the median line or toward the right side, and, generally speaking, the more circumscribed it is the more keenly it is appreciated. Occasionally it is referred to the umbilicus and other parts of the abdomen, or even to the penis. If it be general at the start, as it sometimes is, it may in the course of a short time become confined to the lower portion of the abdomen. On the contrary, if it primarily be localized and later become general, it is strongly suggestive of progressing peritoneal infection. The value of pain, however, as a symptom lies not so much in its limits, its severity, the manner of its appearance and its persistence, as in the fact that the pain itself is present. Its modifying features, when present, may be weighed in proportion to their degree, but when absent may be ignored in arriving at a diagnosis.

TENDERNESS.

Tenderness on pressure, being closely allied to pain, may be considered in the light of a less-marked manifestation of that sensation. It usually accompanies pain and not infrequently is present when actual pain is absent. In location it obviously is found within the same confines as is pain, but perhaps within more narrow limits. Thus, diffuse pain is occasionally associated with a localized tenderness. This feature renders the symptom of value in determining the approximate location of the lesion. However, as such it is not without fallacy, as tenderness is sometimes present where no perforation exists and absent in the presence of perforation. A widening of the sensitive area may be taken as indicative of spreading peritonitis, even with greater reliability than in the case of pain. The value of tenderness as a symptom is enhanced, needless to say, by its characterizing features, but, as is true of pain, its real value lies in its mere presence.

FACIES.

The change in the facial expression is an interesting symptom, though of variable worth. It might poetically be expressed as an index of the agony of the soul; this, perhaps, because of the vagueness of its origin and the inability of the conscious patient to express his feelings. He seems to realize some awful catastrophe has happened and is possessed of apprehension, which manifests itself in an apprehensive countenance. The change of expression is distinct and marked, but hard to describe and easy to recognize. The French, so versatile of tongue, consider it a weakening of the expression, and call it an "abatement" of the countenance. Unmistakable as this symptom is when present, its absence may be disregarded in making a diagnosis.

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[1] Ann. of Surg., May, 1906.

[2] The Journal A. M. A., April 1, 1905.

SHOCK.

Physical depression in the form of systemic shock is always present. It matters not whether the patient be conscious or otherwise, as the reaction to shock is distinctly physical, not mental. Its apparent severity is inversely in proportion to the severity of the typhoid infection. If the patient be already seriously depressed by the constant series of typhoid shocks which the disease itself produces, the susceptible margin of vitality remaining may be so small that the system will not respond to the shock of the perforation. Murphy contends there is little or no depression immediately following perforation, but that it comes later as a result of septic peritoneal infection. Considered in this light, it is an extremely unfavorable symptom. Woolsey regards early collapse as an indication of hemorrhage, which may be a very possible associate of perforation.

Expressions of shock are seen in the general condition of the patient, the drop in temperature and the changes in rate and character of the pulse. This is a typical picture: The pallid skin—cool and suddenly perspiring, the pinched facial expression with the lips slightly cyanotic, finger nails blue and muscles twitching, fall of temperature, and a small, rapid pulse. It is a symptom the import of which there is no mistaking, but, like many other symptoms of typhoid perforation, its presence embellishes the whole picture, but its absence in no wise diminishes its completeness.

SWEATING.

This is present as an element of shock. Its value, however, as a symptom is naturally as debatable as is the value of shock. Harte regards it as important, and says that "either alone or accompanied by the pain of perforation, and followed by a fall in temperature, sweating in itself is always a significant fact." It may be profuse and general, but is more often confined to the head and neck. Being of the cold type, it gives to the touch a very disagreeable, clammy impression, and is significant to the observer of the seriousness of the patient's condition.

TEMPERATURE.

Likewise an element of shock, a falling temperature succeeding abdominal pain of the type before described may be regarded as evidence corroborative of an intestinal perforation, but not preceded by the pain is more strongly indicative of hemorrhage. Absence of a temperature drop negatives the value of the symptom absolutely, and, as there is some question as to its frequency, this alteration in temperature as an indication of perforation may be largely overlooked. Rising temperature, on the other hand, points with a fair degree of certainty toward a spreading of the peritoneal inflammation, which inevitably follows the perforation.

PULSE.

Changes of pulse are most important and demand a far greater consideration than do the other symptoms which, accepted as a whole, represent the present conception of shock. These changes are in rate and pressure.

RATE.

Authorities are one in the opinion that a marked increase in pulse rate may be promptly expected after perforation. A pulse running the average typhoid rate of from 80 to 100 beats a minute usually rises rapidly to from 120 to 140. Such a rise may occur in a surprisingly short space of time, and not infrequently is accomplished in ten to fifteen minutes after the onset of the pain. If the patient be laboring under a serious infection, of which a rapid pulse is already an established symptom, the increase in rate will be relatively small. It may be so small as to escape observation by the casual attendant, but to the one familiar with the daily condition the change will be evident. This increase of pulse rate is not limited by any means to perforative cases. Indeed, as an indication of hemorrhage it is uniformly present. Its onset, however, in the instance of hemorrhage, is gradual and its maximum slow in being attained, and in these it differs strikingly from the sharp ascent to the maximum present in perforation.

PRESSURE.

With the increase of rate there is a fall of blood pressure, which manifests itself to the palpating finger as a low tension and easily compressible pulse. The minimum of pressure is reached coincidently with the maximum of pulse rate. This is obvious, as the falling pressure determines, to a certain extent, the rising rate; and logically the discussion of pressure should have priority, but its precedence is not recognized clinically, where the instrument of precision is commonly the "tactus eruditus" of the attendant's finger.

The fall of pressure is transitory and, indeed, but rarely observed. This is explained by the fact that the shock effect, of which the pressure-fall is a part, is soon displaced by a toxic effect, of which a pressure-rise is a part, arising from the absorption of the products of the peritoneal infection. The promptness with which the pressure begins to rise and continues and the height to which it goes are determined by the virulence of the infecting organism, the rapidity of the peritonitis in spreading and the reactionary power of the individual.

It becomes apparent that were the fall of pressure discernible under ordinary circumstances it would be the more important symptom, so far as alterations of pressure are concerned, as it more accurately marks the actual time of perforation. The rise is significant of the peritonitis, and as such should be regarded as evidence confirmatory of the perforation.

As a matter of fact, the usual findings are a marked and rapid rise, occurring in sharp contrast to the normal typhoid pressure, which is very low. Crile made a series of observations in which he ascertained the mean pressure of 115 cases of ordinary typhoid to be equal to 115 mm. Hg. in the first week of the disease, 106 mm. in the second, 102 mm. in the third, 96 mm. in the fourth and 98 mm. in the fifth. He found that typhoid patients having perforations developed a high pressure, which went as high as 208 mm. in one case.

These pressure effects are wholly unreliable unless considered strictly in conjunction with the previous pulse conditions of the patient.

LEUCOCYTOSIS.

As a symptom of perforation leucocytosis has no value whatever. As a symptom of peritonitis it is fairly certain. In cases where it is present it makes its appearance from one to six hours after the first attack of pain and gradually increases, sometimes going as high as 50,000, an exquisite contrast to the low count of 6,000 to 7,000 so uniformly present in typhoid. Frequent observations in doubtful cases may lend the symptom some value as corroborative evidence. In such a lesion, however, where prompt operation means so much, time spent in waiting for corroborative evidence to develop is time fatally lost.

It may be mentioned in passing that there is a disproportionate increase of polynuclear neutrophiles in peritonitis; that is considered by some to be more reliable than the general increase in number of the white cells. But so far as the diagnostic worth of this increase in polynuclears is concerned, little need be said. It is on a par with the general leucocytosis and just as limited in its scope.

MUSCLE SPASM.

Rigidity of the whole or part of the abdominal muscles is the most valuable of the physical signs of perforation. The worth of the sign lies in the fact that it is a reflex having origin in the peritoneal irritation, for which the perforation is immediately responsible. In this it is free from the restrictions thrown about the valuable symptoms—pain and tenderness—and it matters not whether the patient be conscious or otherwise. In fact, unconsciousness rather enhances its value, as voluntary rigidity, which is by no means infrequent, is then eliminated.

Muscle spasm is usually present where there are abdominal pain and sensitiveness. It is often general, but when so the resistance is apt to be accentuated in the portion of the wall in communication reflexly with the lesion, which in most cases is in pretty close relation to McBurney's point, or it may be entirely localized. On spreading of the peritonitis, localized rigidity will become general. The usefulness of the symptom is somewhat limited by pre-existing resistance that is frequently present in ordinary cases of typhoid. In cases where such exists, skilled examination will demonstrate the added resistance due to the perforation. It goes without saying that a knowledge of the previous condition of the patient is essential for the proper interpretation of muscle spasm.

ALTERED RESPIRATION.

The patient is quite apt to feel short of breath, and it will be noted that the abdominal type of respiration is nearly eliminated. If it should be present its appearance is rather characteristic, in that the more or less rigid abdominal wall moves as though hinged on the pubes. The mechanism of this alteration in respiration is similar to that of muscle spasm and may be regarded as an effort on the part of Nature to protect the already injured parts from further injury. The rate of respiration is nearly always increased.

DISTENSION.

The fact that distension and tympanites are so frequently present in typhoid running a comparatively normal course places this symptom in a position of slight consequence. If, however, gas can definitely be proven to exist within the peritoneal cavity it is positive evidence of perforation. Diminution of liver dulness is the sign usually interpreted as meaning the presence of gas within this cavity, but inasmuch as a distended colon, or even the small intestine, is capable of inducing such diminution, it readily becomes apparent that the sign possesses no reliability; consequently its presence should influence the physician no more than to arouse suspicion.

NAUSEA AND VOMITING.

These so frequently are present in severe cases without any apparent cause that they alone can not be regarded as indicating perforation. If they occur for the first time in relation to pain within the abdomen, either before or after it, they assume some importance. If violent, vomiting may in itself predispose toward perforation.

DIFFERENTIAL DIAGNOSIS.

Other complications of typhoid fever that are capable of simulating perforation are appendicitis, suppurating mesenteric or retroperitoneal glands, intestinal obstruction, intestinal hemorrhage, iliac thrombosis, cholecystitis, diaphragmatic pleurisy and pneumonia. The discussion of these need not be taken up in detail, for in typhoid perforation the all-important question is not so much one of differentiation as it is of decision. It matters not so much what the complication may seem to be if what is a surgical lesion be recognized as such and promptly be accorded its proper treatment. This is true of appendicitis, peritonitis attendant on rupture of suppurating glands, intestinal obstruction and cholecystitis as well as of perforation.

If hemorrhage be suspected, its differentiation from perforation is obviously of the utmost importance and, likewise, of great difficulty. About half the hemorrhage cases have more or less pain, which complicates, to be sure, the diagnosis. Offsetting this is the relative slowness with which shock appears in hemorrhage as compared with that in perforation. The same may be said of the alterations in pulse, more particularly of its rate. These differences, however, are entirely relative and not always of assistance. The difference in blood pressure is rather more striking in that hemorrhage lowers it, while the peritonitis of the perforation moves it strongly in the opposite direction. But this is a relatively late differentiation, and by that time a leucocytosis may have developed, meaning peritonitis, or perhaps a diminution in the red count and hemoglobin index, meaning hemorrhage. Still later the presence of blood in the stool will settle the question beyond a doubt. That for the diagnosis; but the wise man when in doubt will feel justified in diagnosing perforation rather than hemorrhage, for the gravity of delay in perforation exceeds by far that of exploration.

There is just one point that distinguishes an iliac thrombosis, and that is the presence of tenderness in the groin and a short distance down the femoral vein. This should be borne in mind.

With pleurisy and pneumonia differentiation is quite important, for it would, indeed, be deplorable needlessly to subject a patient suffering with these complications to an operation. If the usual signs be present within the chest there need not be a great deal of doubt, but if they are absent or are obscured there is imminent danger of making the mistake.

CONCLUSIONS.

Unfortunately there is no one symptom, nor syndrome, the presence of which indicates with certainty the existence of perforation. The diagnosis must be based largely on the judgment of the physician who has followed the daily variations in the course of the illness and become so familiar with its general progress that he subconsciously recognizes the change brought about by the perforation. And herein must the surgeon, seeing the case for the first time, accept the opinion of the physician.

The three cardinal symptoms are these: Suddenly-appearing abdominal pain, rigidity of the muscle wall and tenderness on pressure. When these appear in the course of any case of typhoid fever the assumption is warranted that perforation has occurred, and operation is not only indicated but demanded.

Clinical Notes

ECTOPIC GESTATION—A REPORT OF TWO CASES.

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Case 1.—Tubal pregnancy; rupture within the broad ligament. Case mistaken for acute perforating appendicitis. Operation, hysterectomy, recovery.

History.—On Aug. 21, 1906, I was called in haste to see Mrs. M. L., widow, aged 28. I found her in bed in much distress and obtained the following history: While walking downtown about 10 a. m. that morning she was taken suddenly ill with a severe pain in the lower abdomen, most marked on the right side. She became very faint and fell to her knees and was unable to rise to her feet for some minutes. She continued her journey downtown, but on account of pain and weakness was obliged frequently to sit down. After doing her errand, she took a car to her home; the car left her within four blocks of her house. One-half hour was consumed in traversing this distance owing to pain and faintness. She immediately went to bed and had remained there until I saw her at 7 p. m. the same day.

Examination.—Pulse, 160; temperature, 103 F.; respiration, 40. The face had an anxious expression and was pale. The abdomen was distended and very sensitive over the lower portion. She had vomited several times during the afternoon. She gave a history of former attacks of pain in the lower abdomen, more characteristic of pelvic than appendiceal trouble. A pelvic examination revealed nothing but a very sensitive condition of the pelvic organs and tissues.

Sexual History.—She menstruated before the age of 13 years. She was normal in this respect during her single life. She married at 20 and has had four children at term and two miscarriages. The labors were normal. Two children died in infancy. The miscarriages occurred between the births of the children. Two years ago had an eruption on the face and forehead in the papules of which pus formed, then scabs. When the scabs fell off, the skin was left disfigured by large deep cicatrices. She took constitutional and local treatment for nine months at this time. She denies specific disease. She menstruated last during the first week of July. The August period did not appear.

Diagnosis.—Fulminating appendicitis, with rupture of the appendix and septic peritonitis.

Treatment.—Her condition was such as to preclude operation, but she was sent to the hospital for treatment. I expected her to die, but after several days she began to improve. Her pulse grew slower and stronger and the fever gradually subsided; the distended and sensitive abdomen improved. In the hospital she flowed four days and flowed irregularly after leaving the hospital for two weeks.

Subsequent History.—She returned to her home September 6 after being in the hospital 15 days, and I congratulated myself on not operating on a case of appendicitis that in that stage would certainly have proved fatal. She was requested to return in a few weeks for examination and operation.

About three weeks later she came to my office. An examination revealed a mass about the size of a full-term fetal head lying behind and above the pubes, occupying the position of a pregnant uterus, extending laterally into the left pelvis. It simulated very perfectly a myomatous uterus. I immediately revised my diagnosis.

Second Diagnosis.—Tubal pregnancy with rupture into the broad ligament.

Treatment.—I sent the patient back to the hospital at once and two days later (Sept. 27, 1906) operated on her. The incision was central. A large hematoma occupied the broad ligament space and had pushed up the peritoneum in front of and around the uterus. Portions of the parietal wall and omentum were adherent to the mass. The peritoneum was incised over the mass and a large quantity of firm blood clots was scooped out with the hand. What appeared to be one of these clots was felt by the hand and crushed between the thumb and fingers. Immediately there was an alarming gush of arterial blood that could not be controlled by pressure or by sponge packing. I removed the left hand from the sac occupied by the hematocele and thrust it down into the pelvis behind the uterus and raised the entire pelvic contents up toward the abdominal incision, thus rendering the broad ligaments taut, completely controlling the hemorrhage. While held thus, the other hand cleared away the blood clots so that the field could be inspected. I thus discovered that the hematoma had so impinged on the blood supply of the uterus that the uterine walls had become friable and crushed between my fingers.

The broad ligaments were then clamped and ligated and the uterus removed by the usual method of amputation above the cervix. The left ovary was not removed. Gauze and tube drainage were employed for four days. The patient made a rapid and uncomplicated recovery.

Later History.—I saw this patient, who now lives in Chicago on March 22, 1907. She is in excellent health; has gained 15 pounds since her operation. She menstruates every 28 or 30 days, at which time she has some pelvic pain. She has married again and says that her only worry is that she may again become pregnant, a matter about which I was able to put her mind at rest. On examination I found an unusually long uterine stump, the probe entering the cervix to the depth of three inches. It is probably owing to this fact and that one ovary still remains that the patient has this phenomenal menstruation.

Dr. Maximilian Herzog, who examined the tissues removed, reported as follows:

> The specimen proves the correctness of your diagnosis, namely, hemorrhage into the broad ligament from ruptured tubal pregnancy.
>
> The mass consists of tissues of the tube and ovary, old coagulated blood, blood derivatives and fibrin, and included in these masses degenerated chorionic villi. The latter proves beyond any doubt that an ectopic gestation had existed.

DIFFERENTIAL DIAGNOSIS.

In ectopic gestation with rupture of the fetal sac we have as the three cardinal symptoms: (1) Sudden pain in the lower abdomen; (2) subnormal temperature (when blood extravasation is great) or no increase of temperature and, (3) acute anemia.

When I saw the patient nine hours had elapsed since the time of the beginning of her illness and she presented the four cardinal symptoms of appendicitis given by Dr. J. B. Murphy:[1] (1) Sudden pain in the abdomen; (2) nausea or vomiting; (3) general abdominal sensitiveness most marked on the right side; (4) elevation of temperature. But the important thing in the differential diagnosis was the nine hours that had passed from the time of the beginning of the attack to the time I first saw the patient, a matter that did not receive proper recognition.

In that length of time she had partially reacted from the shock caused by loss of blood and traumatism to the peritoneum and a limited peritonitis had become established, so that instead of a normal or subnormal temperature, there was an elevation of temperature of 4.5 degrees.

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[1] Murphy (J. B.): Two Thousand Operations for Appendicitis, The Amer. Jour. Med. Sci., August, 1904.

Another most interesting point in the case is the character of the hematoma, i. e., its assuming such a relation as to interfere with the blood supply of the uterus, causing disintegration of its muscular tissue and at the same time simulating so perfectly in its position and consistency a fibroid uterus.

It is interesting to speculate on what the outcome of such a case might be without surgical interference.

In many parts of the body less favorable to absorption, hematomas are completely decimated. An early rupture into the broad ligament is one of the most favorable conditions for recovery without interference, especially if the rupture is accompanied by the death of the embryo. But when a hematoma is formed in this manner it must be remembered that the sac enclosing it communicates with the Fallopian tube, within which may be harbored pathogenic bacteria, and this tube in turn may, and usually does, communicate with the uterus and through the uterus with the external world.

It may be said, therefore, that the hematoma, which is an excellent culture medium, is subjected in a greater or less degree to infection by micro-organisms finding their way through the uterus and Fallopian tube or from the intestines, and the patient may locally or constitutionally be infected through an abscess thus formed.

In this particular case the operation demonstrated an unusual condition of things. The nutrition of the uterus had been so seriously interfered with that the muscular tissue had undergone grave degenerative changes. Whether this breaking down of the uterine tissue would have ultimately resulted in forming a communication between the folds of the broad ligament and the uterine cavity and thus permitted the expulsion of the disintegrated hematoma and the products of a tubal pregnancy is a matter of conjecture.

Observers have reported that even the bones of the fetus have been expelled through the uterus, rectum perineum, gluteal muscles and abdominal wall. A case of the fetal sac adhering to and ulcerating through the uterus and discharging bones into the vagina is that of Bertino's referred to by Dr. Heineck.[2] The rest of the bones were removed by laparotomy eighteen months after the death of the fetus.

The efforts of Nature to remove the products of an ectopic gestation have been so faulty, and the dangers to the mother are so great, that we are justified in operating even if we know that some of the most favorable cases recover without interference. In fact, surgical interference is demanded in the light of to-day.

Case 2.—Mrs. F. H. On Feb. 12, 1904, I operated in a case of ectopic gestation, the principal features of interest being that the patient had been ill for a week from extensive hemorrhage into the abdominal cavity and the gestation sac was found engrafted into the infundibulum and fimbriated extremities. The patient recovered.

ETIOLOGY.

The observations of Dr. J. Clarence Webster on the etiology of ectopic gestation are of interest. He claims that the idea of early writers of a mechanical interference to the advancement of the ovum toward the uterus being the cause, has no foundation of fact. He says:[3]

> In 1895 the author pointed out that these views were largely speculative. He showed that, while frequently these mechanical factors might be associated with ectopic pregnancy, there was no proof that they were the ultimate factors in its causation. He demonstrated the existence of the decidual reaction in the tubal mucosa in all cases of tubal pregnancy, and advanced the view that the fertilized ovum could develop only on tissue capable of undergoing a genetic reaction. Normally in the human female this reaction, occurring as the result of fertilization, takes place in the mucosa of the uterus. Its occasional occurrence in other parts derived from the Müllerian tract, i. e., Fallopian tubes, is to be regarded as a reversion in these tissues to an earlier mammalian type either in structure or in reaction tendency. The fertilized ovum coming in contact with any portion of the Müllerian tract capable of establishing with it the relationship necessary to its development may become attached and grow just as readily as if it were lodged in the uterine cavity. . . . It is, however, an unjustifiable assumption to hold that the ovum, if simply obstructed in its downward movement, may develop in a tubal mucosa that is perfectly normal or altered by inflammation. . . . The author strongly holds that there is no proof whatever that ectopic pregnancy begins its development on any other than Müllerian tissue. . . . In the rare condition of ovarian pregnancy it is not at all unlikely that the presence of Müllerian remains in the ovary may determine the site of pregnancy in this organ.

Certainly such views are in accord with the generally established principles of evolution.

If the determining factor in ectopic pregnancies were only a mechanical one the condition would be seen much more frequently than it now is. Furthermore, the mechanical factors that would interfere with the progress of the ovum downward would also be likely to interfere with the advancement of the sperm cell along the tube and be the determining factor in the production of sterility.

Undoubtedly, ectopic gestation occurs much more frequently than is generally supposed. Many obscure cases of illness in women in times past would to-day be attributed to this cause.

Like every other malady in the catalogue of diseases, it becomes more common as we become more proficient in the art of recognizing it. In every woman capable of impregnation a sudden attack of pain in the lower abdomen, faintness, acute anemia and nausea without elevation of temperature, should raise the question of the possibility of this condition in the mind of the physician.

A METHOD OF PRESERVING AND FILING MEDICAL RECORDS

BY MEANS OF SPECIAL ENVELOPES OR POCKETS.*

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No one will deny the advantage, I might even say the necessity, of keeping a careful record of medical cases. Such records are now kept with more or less care in most hospitals and dispensaries, as well as by many physicians in private practice. It is probable, however, that most practitioners are lax in this respect, especially in cases seen away from their offices, largely, no doubt, for the lack of a convenient system. In this paper I will confine myself principally to the methods of preserving clinical records, referring only briefly to the filing of reprints, clippings, etc. Medical accounts should, in my opinion, be kept entirely apart from bedside notes and, therefore, will not be referred to in this connection.

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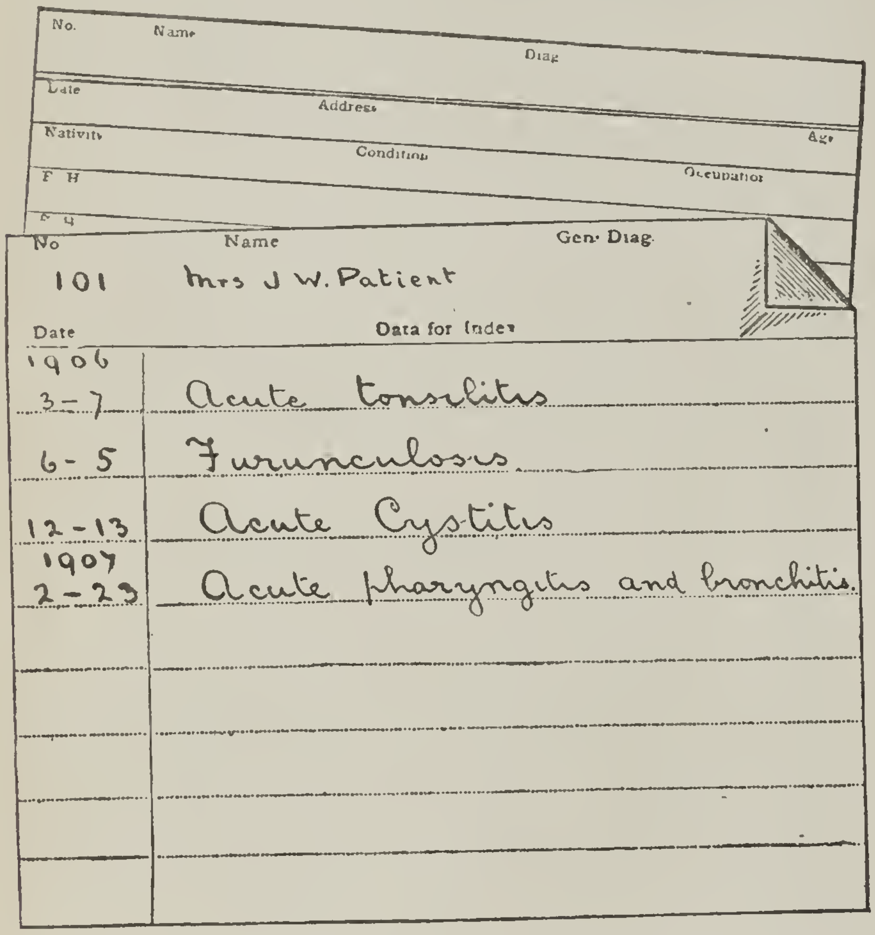
[2] Heineck (Aimé Paul): The Terminations and Treatment of Extrauterine Pregnancy, with a Report of Thirty-Two Cases Treated at the Cook County Hospital, Surg., Gyn. and Obst., March, 1906.

[3] Webster (J. Clarence): Text-book of Diseases of Women, p. 643.

*Read at the Northwestern Medical Society of Philadelphia, March 4, 1907.

The book system of keeping records has a few, and only a few, undeniable advantages: It is safe, i. e., individual histories can not be lost, and it is convenient for recording eye, ear, nose and throat and other special cases in which printed forms, extending over one or two pages at the most, are commonly used. On the other hand, the book is inconvenient for medical and surgical cases, because several pages with confusing cross references are commonly required, and no arrangement other than the numerical is as a rule practicable. All notes taken at the patient's house, as well as laboratory reports, charts, etc., must either be copied or pasted in. Many other objections might easily be enumerated.

Card systems more nearly approach the ideal and permit convenient arrangement and indefinite extension of the histories. Prescriptions, reports, letters, etc., must still be copied, while charts, sphygmograms and other original records can not easily be preserved with the history. It is possible to carry the smaller cards to the patient's house, but they are always more or less in the way and are likely to be forgotten.


No. Name Diag
Date Address
Nativity Condition Age
F H Occupation

No	Name	Gen. Diag.
101	Mrs J W. Patient	

Date	Data for Index
1906 3-7	Acute tonsilitis
6-5	Furunculosis
12-13	Acute Cystitis
1907 2-23	Acute pharyngitis and bronchitis.

The system which I have devised at the suggestion of Dr. Musser is a modification of the ordinary letter folder or vertical file. The envelope I had made for him is of a standard size (10 in. by 12 in.) so that it can be used in stock cabinets with standard index guides. It is made of "paperoid," a tough and durable material, and is furnished with expansile sides so that it will hold a large number of pages without becoming misshapen. It has no flap; the back is high, to display the patient's name, etc.; the front folds down half way to afford easy access to the contents. In this pocket are placed the history cards or sheets, full size temperature charts and laboratory reports, etc. Printed forms for convenience in recording physical signs or laboratory findings can be used with this system at but slight expense.

This pocket, though an ideal filing device for hospitals and consultants, is unnecessarily large and expensive ($70 a thousand) for general use. For my own use I had small (4¼ in. by 6⅛ in.) manila envelopes made, without flaps or expansions. These are inexpensive ($7 a thousand) and can be filed away, alphabetically or otherwise, in a standard cabinet or a desk drawer. They will file with or carry the card of the corresponding size (10 cm. by 15 cm.), which I previously used for all cases and still employ for transient office patients. This is one of the few instances in which the coexistence of two systems of measurement may be utilized to advantage, the "metric" card being one-sixteenth of an inch smaller or larger than the standard sizes (4¼x6⅛ or 4x6). The face of the envelope is ruled and printed, as indicated in the illustration, for convenience in filing either according to number, name or diagnosis. The ruled spaces are for subsequent diagnosis, with dates, or for recording the prominent features of the case.

As a rule I do not carry these envelopes with me to the patient's house, but write my examination or other information on prescription blanks or tablets of convenient size so that there is never any excuse for failure to record important data. When I reach home my notes, as well as copies of prescriptions, etc., are placed in the appropriate pockets. In this way clinical notes may be kept in an accessible form with the minimum amount of clerical work.

Such envelopes may also be used for systematically preserving minor medical notes and clippings, but for reprints, articles cut from journals and articles in course of preparation nothing is more convenient than ordinary 10 in. by 12 in. letter folders. These may be arranged in a regular cabinet or a set of "transfer boxes" may be used. The latter are labeled and stored like books. A satisfactory classification is the one used by the Index Medicus. An alphabetic arrangement is also said to be convenient. The main headings are written on guide cards or on the transfer boxes, the subheads on the individual folders, which may be multiplied according to need. Abstracts usually are pasted on large sheets to prevent loss, those of similar import being grouped together. By a system of this sort much valuable material may be made immediately accessible without recourse to a library.

THE "OPEN METHOD" TREATMENT OF CANCER.

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In improvising this method an effort has been made to utilize three fundamental principles which are recognized as the best that modern medicine affords for the treatment of this class of cases.

First, enucleation of the ulcer or, if it be a case of tumor and involved lymphatic glands, the complete removal of both glands and tumor; second, drainage accomplished by leaving the wound wide open and allowing it to heal by granulation instead of closing the skin over and obtaining union by first intention; third, treatment of the open wound with the Roentgen ray.

The details of this method are carried out as follows: The patient is prepared for operation in the usual manner, with one exception. Instead of scrubbing the site of the operation a soap poultice or plain antiseptic dressing is applied and left until the patient is anesthetized.

The reason for not scrubbing is that any undue pressure on the tumor or glands may cause some of the elements of infection to be forced out into the surrounding tissue and lymphatics. The dressing or poultice is then removed and potassium permanganate solution poured over the area involved, followed by a solution of oxalic acid.

If it be a case with involved lymphatic glands the operator begins with the most remote accessible lymphatic gland and then clears away all of the glands to the tumor, in mass if possible, and finally includes the original tumor. By beginning with the most remote gland the chances of spreading the infection beyond into the neighboring glands and tissues by pressure on the tumor or glands are lessened. The entire wound is left open and allowed to heal by granulation, thus facilitating an ideal drainage of all the tissues and lymphatics in this region. A dry antiseptic gauze is then applied to the raw surface and the usual dressing placed over this.

As soon as the patient is able to submit to it a fifteen-minute exposure to the Roentgen ray is given daily until the wound is healed. When the granulations first appear in the wound the gauze dressing is removed and a dressing consisting of perforated gutta-percha tissue is applied to the granulating surface. Over this is placed a pad of moist boracic acid gauze and over all is a covering of oiled silk. This combination affords drainage by capillary attraction through the perforations in the gutta-percha tissue into the moist gauze and does away with the tearing loose of those granulations which become imbedded in the mesh of the gauze when it is applied directly to the granulating surface. The oiled silk keeps the gauze moist.

The advantages claimed for this method are the perfect drainage of all the lymphatics and tissues in the infected region and the changing of a deep or subcutaneous cancer to a superficial one. This permits the Roentgen ray more thoroughly to destroy the remaining cells or elements of infection brought to the surface by leaving the wound open. That the Roentgen ray does destroy superficial malignant growths is conceded even by the most sceptical and conservative. I have carried out this method in a series of cases during the past year.

Case 1.—The patient had an epithelioma on the nose which had previously been removed with a galvanic needle, followed by a few Roentgen ray treatments. When seen the mass of recurrence was about the size of a bean. There was no lymphatic involvement. The enucleation was carried out Feb. 7, 1907 and the patient treated with the Roentgen ray until March 6, when a healthy scar was fully formed.

Case 2.—The patient in this case had a carcinoma of the breast with the axillary glands involved up to the clavicle. The operation was performed Dec. 29, 1906. About two weeks after the operation a nodule about the size of a pea was felt one inch from the right margin of the sternum over the fifth rib. It grew smaller as the case was treated with the Roentgen ray. The patient went home March 4, 1907 and returned April 9, at which time the nodule was found to have attained the size of a bean. It was immediately removed and the wound healed by granulation under the ray.' The growth showed no signs of recurrence in any of the supraclavicular or brachial glands and the patient has gained in weight and a healthy scar now remains where the first operation was performed.

Case 3.—This was the case of a patient having a sarcoma covering the right buttock. The growth was about six inches in diameter and the glands in the right groin were involved. Growth and glands were removed Feb. 28, 1907 and the patient treated until March 10. At this time the wound in the groin had healed with no signs of recurrence and the surface over the buttock was covered with healthy granulations, the margins of the wound advancing toward the center with the formation of fibrous tissue.

Case 4.—The fourth case was that of a fibro-sarcoma of the foot with enlarged femoral glands which showed some giant cells. The removal of both glands and tumor took place Dec. 24, 1906. Both wounds were treated with the Roentgen ray and were drained and the patient went home apparently cured Feb. 9. This case was examined again recently and there seemed to be no evidence of recurrence.

A number of patients in other cases similar to these herein reported have been treated in the same way, as well as one case of tubercular ulceration of the skin. All of them have so far given most encouraging results. It might be said that the time limit for recurrence in none of these cases has as yet passed, but the results have been so satisfactory that I feel it my duty to report the cases at the present time. The microscopic specimens were made and diagnosed by Dr. M. D. Hoge of Richmond, Va.

REPORT OF A CASE OF HEMORRHAGE IN THE NEW-BORN.

G. WERLEY, M.D.
EL PASO, TEXAS.

History.—Baby H., female, was born at 6 a. m., March 14, 1907 (vertex presentation). Labor lasted seven hours, the second stage being very short. The child apparently was normal in every way, and weighed 7 pounds. The cord was handled aseptically and dressed with boric acid and alcohol. The infant's father was in the last stages of pulmonary tuberculosis. The mother was healthy but gave a history of epileptic attacks. There were two other children, girls, aged 4 and 5 years respectively. With her first baby the mother had severe mastitis and the child had to be weaned when two weeks old. The second child was not breast-fed at all. The breasts were indurated in a number of places, the result of previous abscesses.

The baby was put to the breast five hours after birth, but did not nurse. At 7 p. m. it had a large bowel movement. On March 15, at 3:30 a. m. the baby vomited a little mucus. At 10 a. m. its rectal temperature was 98 F. and at 7 p. m. there was a large black bowel movement. Fours hours later there was a large bloody bowel movement and a similar one at midnight. The baby was now given rectal enema of warm milk.

March 16, at 1 a. m. I began giving the infant gelatin by the mouth. At 5:30 and 8:30 a. m. enemas of warm milk were given. Five minutes after the last enema the baby vomited brown mucus and two hours later again vomited a dark fluid. At 11 a. m. there was a small, black bowel movement, followed by a similar one half an hour later. At noon, the baby passed a bright red, bloody stool. The child at this time was restless, the temperature sub-normal, the skin pale, but warm, and the pulse rate 160 and feeble in quality. At 1:30 p. m. I gave two grains (0.13 gm.) of calcium chlorid in 2 ounces (60 c.c.) of physiologic salt solution, injecting it under the skin of the abdomen. No hemorrhage or reaction of any kind occured at the site of the injection. At 3, 5:30 and 8 p. m. there were bowel movements with dark clots. At 10 p. m. the temperature in the groin was 100.4 F. and the baby was sleeping quietly. On March 17, the child was taking the breast and nursing well. It slept nearly all night. At 3:30 a. m. and 7 p. m. there were dark green bowel movements.

March 18, at noon, the child had a small yellow bowel movement. The temperature was 98.6 F. in the rectum and the pulse 140. The child was very pale but seemed to be well. The baby left the hospital March 25, at which time it weighed 7 ½ pounds. The child was in perfect health, May 17.

In the new-born there is a physiologic cholemia and the coagulating power of the blood is diminished.[1] The experiments of Wright and others prove that the coagulating power of the blood may be much increased by the administration of the soluble salts of calcium. Gelatin has been used with success, but it requires long sterilization to avoid tetanus. Warm milk has some value as a hemostatic, probably due to the salts of calcium in solution. But the use of pure calcium chlorid seems to me at once the most simple and most rational remedy in these cases.

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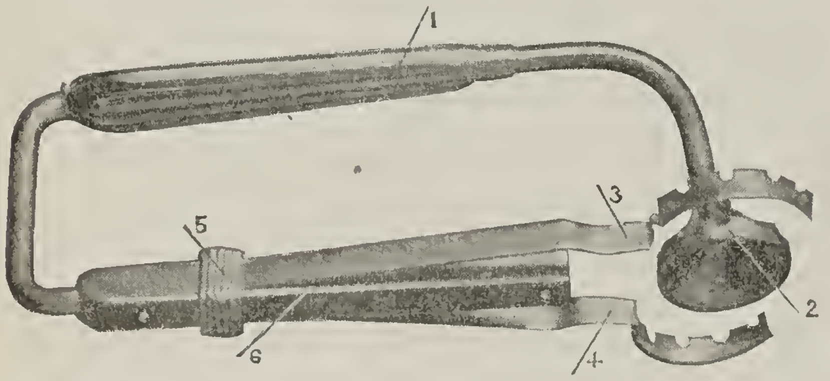
[1] Richardson, Therap. Gaz., 1907, 19.

A NEW PHIMOSIS CLAMP.

A. H. BOREY, M.D.
NEW ORLEANS.

The advantages claimed for this instrument are: With its use only a perfect circumcision can be performed; the glans penis is absolutely protected from injury, and the operation can be completed before removing the forceps.

The instrument may be made considerably smaller than shown in the illustration, except that the button and clamp should correspond to the size of the glans penis. It consists of six parts: 1, The handle; 2, a concave button; 3 and 4, clamps; 5, a clamp ring, and, 6, a clamp holder. The button screws on the handle and may be replaced by a larger or smaller one to suit the occasion. The clamps are so hinged that they also may be removed by closing them and sliding the clamp ring off. The circular parts of the clamps are about one-sixteenth inch larger in diameter than the button. The button has concave depressions opposite the needle holes in the clamps which allow the needle to follow its curve. The proximal borders of the circular parts of the clamp are slightly larger in circumference than the distal borders. This permits a gradual compression of the foreskin against the button, which practically eliminates sloughing or pressure gangrene.



METHOD OF USING.

When necessary, split the prepuce to admit the button, which should be inserted within the foreskin so that the glans penis fits its concave surface. Close the clamps and tighten with the clamp ring. Should a large wrinkle form at the junction of the clamps, above or below, remove it by loosening the clamps and making several small wrinkles in the place of the large one; this will not prevent a "neat job." The foreskin and mucous membrane should always be cut as close to the distal border of the clamps as possible, using either scissors or scalpel. Only curved needles should be used for suturing.

Infant Mortality.—Probably in no other field of human activity has man's former ignorance been more lamentable in its consequences than in that of rearing children—the future parents of the race.—George B. Mangold, M.D., in *Popular Science Monthly.*

A CASE OF COMA FROM PTOMAIN POISONING SIMULATING ACUTE MENINGITIS.

ARTHUR D. DUNN, M.D.
OMAHA, NEB.

The following case was deemed worth recording, as it presents unusual and exceptional clinical features which are not mentioned in the text-books or in the literation so far as I have been able to ascertain. It was observed during my service as resident physician in Cook County Hospital, Chicago:

Patient.—T. D., a well-developed German, aged 23, single, a sailor, was admitted to the hospital in a comatose condition, at 8.30 p. m., June 4, 1903, and was assigned to the service of Dr. W. S. Harpole, with whose permission the case report is published.

History.—No history was obtainable, except that the man was picked up in an alley by the police.

Examination.—The coma was of the alcoholic type and he resisted attempts at examination. The body was rigid. There were no signs of violence. Pupils were dilated and equal; no squint. The buccal mucous membrane was normal. There was no characteristic odor to the breath. The abdomen was rigid and tender, but not especially tympanitic. The temperature was 99 F., pulse 112 and respiration 24. A complete physical examination revealed no other findings of importance.

With the possibility of poisoning in view, gastric lavage was performed. A large amount of dark brown turbid liquid was obtained from the stomach. It contained numerous oil droplets and had an odor resembling castor oil. Blood could not be detected either chemically or microscopically. Neither hydrochloric acid, nor lactic acid was found. No bacilli, arsenic, phenol or mercury were discovered. Magnesium sulphate 75 gm. was left in the stomach. Morphin sulphate 0.015, hyoscin 0.001, atropin sulphate 0.0006, were given hypodermatically. A few drams of the urine obtained by catheterization showed nothing abnormal.

Subsequent Course.—The patient remained delirious for several days and it was necessary at times to strap him. At midnight and at 4 a. m. following admission no material change in his condition had taken place. In the morning there was an involuntary passage of dejecta and urine.

Examination at 8 a. m. June 5 showed the patient's pulse rate to be 60, temperature 103.4 F., and respiration 20. The neck was retracted and the man showed signs of pain on pressure over the cervical vertebræ. There were divergent strabismus and inequality of pupils; otherwise no paralyses or focal symptoms. Eye grounds were negative. There was a hypertonicity of all the muscles, scaphoid abdomen, and apparently hyperesthesia. Kernig's sign was present but varied in intensity. The deep reflexes were all exaggerated; there was no Babinski sign. The skin had a mottled bluish tint but no petechiæ. A lumbar puncture was made and a few c.c. of a clear fluid were drawn off. There were practically no polymorphonuclear leucocytes in the fluid, and the number of lymphocytes was not increased (9,400). Cultures made from the spinal fluid remained sterile after four days. The case at this time presented a picture of acute meningitic coma. At 1 p. m. the condition was about the same. At 8 p. m. the findings of meningitis were gradually disappearing. The squint had become convergent and the inequality of the pupils was reversed. The muscles were more relaxed, and the coma was not so profound. The next morning, 36 hours after admission, the man had a markedly dicrotic pulse; there was absence of the meningitic symptoms previously chronicled, and temperature was 101.8 F. He had a listless and apathetic expression, and appeared more like a typhoid patient in whom the onset had been accompanied with cerebral symptoms. A blood culture was made at the time, but proved sterile at the end of three days. During that day and the day following, there was a gradual return to consciousness, so that four days after the patient entered the hospital, all the symptoms, findings and fever had disappeared, and the patient was much puzzled as to how he had got to the hospital and as to the lapse of time. Except for an intermittent bradycardia, some diarrhea and gastric unrest, recovery was uneventful.

History.—The following history was obtained by Dr. Charles Palen, acting junior resident to ward 6:

The patient was employed as a sailor on a lake steamer bound for Milwaukee. Three days before his entrance into the hospital, at noon, he had eaten freely of tainted meat. Shortly after the meal he became sick, he was nauseated and vomited, the bowels were very loose, and he felt oppressively weak in the knees. The same night he boarded a steamer for Chicago, and the last he remembered was that on leaving Milwaukee at midnight he was becoming rapidly worse. He knew nothing of his landing in Chicago; nothing of what happened between Sunday morning when he landed in Chicago, and Tuesday evening, when he was taken to the hospital. He did not know whether the others who ate of the same meat became ill or not. He had never had a similar attack. He denied syphilis. Subsequent examination of thorax and abdomen was negative. There was a complete mental lapsus of five days.

On the night of the patient's entrance to the hospital, from the foul material found in his stomach, from the type of coma and from the absence of distinctive signs of other disease, a tentative diagnosis of ptomain poisoning was made by exclusion with the general opinion that this was a peculiar case. Hysteria was thought of, but the character of the coma and the absence of all stigmata spoke against it. In fact, the man deported himself very much as a "drunk" who could not be aroused. Absence of alcohol in the stomach contents or on the breath excluded that form of coma. Meningitis was immediately dismissed at that time from the complete absence of any suggestive symptoms. There was nothing to determine any of the usual forms of coma; no plasmodia.

The morning after admission the striking similarity of the picture to meningitis is noteworthy. There was rigidity and retraction of the neck, tenderness of the spine, scaphoid abdomen, divergent strabismus, inequality of pupils, fever, slow pulse, general muscular hypertonicity, Kernig's sign, hyperesthesia, leococytosis of 9,400 and exaggerated reflexes. It was a serious defect that anaërobic blood cultures were not made. In one of van Ermengen's autopsies an anaërobic bacillus was found in pure culture in the spleen. It is possible that certain cases of ptomain poisoning with marked general and nervous symptoms may be due to a bacteriemia which has not yet been discovered because of the neglect to make any but the usual aërobic cultures.

The literature on coma in ptomain poisoning is singularly scanty, and I have been able to find none describing a form simulating meningitic coma. Peterson and Haines, in their excellent text-book, state that: "Ptomain poisoning manifests itself as a rule within a short time after eating. The symptoms are those of a more or less severe gastroenteritis, but evidences of extensive involvement of the nervous system are by no means infrequent." The symptomatic type of this involvement is not described. Dr. Haines in a personal letter says that various nervous symptoms are common, but says nothing of a meningitic picture. Postmortem, hyperemia of the kidneys, liver and meninges, marked fatty degeneration of the liver and brain, with punctiform hemorrhages in the latter, have been found.

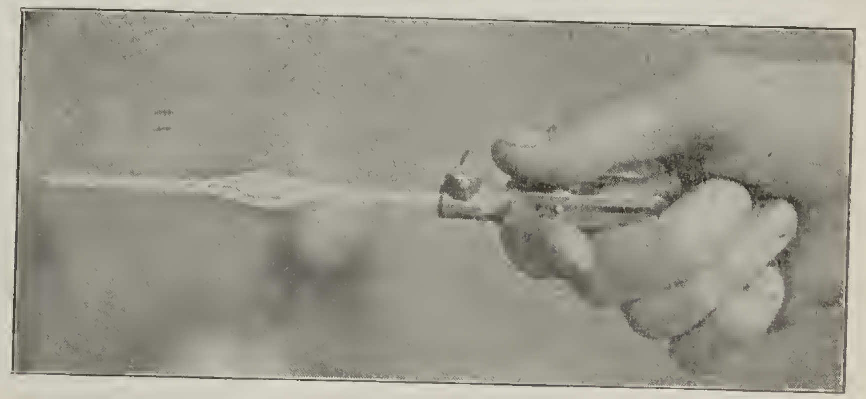
Dr. R. Waterhouse[1] reports a case in which coma was the initial symptom and lasted twenty-four hours. There was no gastrointestinal disturbance, the stomach was empty. C. Mercier and Kinnard[2] also report cases in which, several hours after eating tainted meat, a rapid coma developed with stertorous breathing, itching, etc., and the patient could not be aroused. No focal symptoms were present. In none of the cases were there symptoms pointing toward meningitis. Recovery took place in all these cases. Kovacs, of Vienna, showed in his clinic a case of ptomain poisoning with petechiæ, which during its course had presented a fair picture of acute cerebrospinal fever. He stated that such cases occasionally occur and make a differential diagnosis necessary. Oertner also mentioned a similar case in a clinical lecture.

A PIPETTE ATTACHMENT.

A. E. HUTCHINSON, Sc.B., M.D.
Assistant in the Red Cross Hospital.
VICTOR, COLO.

For years I have been making blood examinations, and it has been my lot to fail many times to secure a drop of blood for examination, especially from very old and anemic patients; failures mean repeated attempts, which add to the pain and annoyance of the patient.

Practically all my failures were due to the manner of drawing up the blood into the pipette. Because of this I looked about for an apparatus to replace the rubber tubes and the sucking process and, finding none, attempted to have carried out some of my own ideas. After many failures I succeeded in having made the present apparatus, and that with undreamed of simplicity of mechanism.



The attachment is slipped over the end of the blood pipette and clamped into place; the roller is moved up, but preferably not all the way, to the clamp end. This makes it possible, as the illustration shows, for one hand to hold the entire apparatus and also to govern the flow of blood into the pipette, leaving the other hand free to hold the ear or finger from which the blood is to be drawn.

By moving the roller backward under the thumb any desired amount of blood may be drawn into the pipette, and by dipping the pipette into either the salt or the acid solution, as the case may be, the blood is easily and quickly diluted and ready for examination.

The ease and surety with which one can use this attachment and cause but the minimum annoyance to the patient is truly remarkable.

Infant Feeding.—J. J. Thomas, Cleveland, states in the *Archives of Pediatrics* that the estimation of the food requirement of the infant and the caloric value of infant foods is of the highest importance, not only for the purpose of establishing infant feeding on a scientific basis, but also to guard against that most frequent source of dyspepsia with all its dire consequences—overfeeding.

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1. Brit. Med. Jour., 1906, i, page 141.
2. Ibid., pp. 258 and 280.

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SATURDAY, JUNE 22, 1907.

PREPARE FOR THE FOURTH OF JULY.

It is again time to sound the alarm and to prepare for the annual tetanus epidemic. We approach the celebration with somewhat less apprehension this year than we did a few years ago, for there is now every reason to believe that few of the many deaths that will follow can be ascribed to anything but municipal and parental negligence. Physicians will do their part to keep the mortality figures at a minimum. For four years THE JOURNAL has compiled statistics and published comments on the injuries of the Fourth and their results, and for immediate and valuable results it has been a most profitable undertaking. The first year, 1903, yielded 466 deaths as our tribute to Independence Day, and of these 415 were due to tetanus. On the basis of these figures, a vigorous campaign was started and taken up enthusiastically by other medical journals and the daily papers, which resulted in a fall of the mortality of the following year to 183 deaths, 105 being from tetanus. This decrease, it was easy to demonstrate, was the result of two factors, one being a considerable decrease (30 per cent.) in the number of blank cartridge wounds; the other, and perhaps the more striking, was the improved prophylactic treatment of blank cartridge wounds, especially as regards the use of tetanus antitoxin. In 1905 the total deaths and the number of tetanus cases remained about the same: 182 deaths and 104 cases of tetanus; while last year a gratifying decrease in tetanus to 89 cases was recorded, the total number of deaths being 158. These 89 cases of preventable disease were shown by the reports we received to be almost entirely of patients who were not seen by physicians until lockjaw had already set in. The old story of lack of appreciation of the dangers of Fourth of July injuries by the family physician was seldom heard. And so, as we remarked before, we look with confidence to a continuance of the record of the past three years, and feel assured that the profession will do its part in making the price of our senseless "celebration" as small as possible.

There is little that we can add to the advice as to the prophylaxis of tetanus which we have printed in previous years.[1] Every lacerated wound received from Fourth of July explosives, no matter which variety, must be looked on as a wound that is very possibly infected with tetanus. The character of these wounds is such that their cleansing can only be properly accomplished, as a rule, under general anesthesia; and to render conditions unfavorable for the anaërobic tetanus bacillus they should be permitted to heal from the bottom. And especially it must be remembered that, in spite of even the best of surgical cleansing, tetanus still may result, and consequently only through the prophylactic injection of from 5 to 10 cubic centimeters of tetanus antitoxin can one be absolutely certain of preventing the disease. This is most particularly true of wounds which are not seen until one or more days old. As the usual incubation period of tetanus is from 5 to 15 days, there are few physicians too far removed from a supply of antitoxin to secure it in time to be of value. The positive efficacy of tetanus antitoxin as a prophylactic, as well as its harmlessness, have been repeatedly proved, but never better than by the results of its use after the last three celebrations. It may be well to emphasize the prophylactic treatment of wounds from cannon crackers and the various explosives other than blank cartridges. Our statistics show that so far the decrease in deaths from tetanus has been accomplished almost exclusively by the prevention of tetanus in blank cartridge wounds, while the number of cases of tetanus from the other explosives has remained almost constant. As a result, in 1906 the blank cartridge tetanus was but little more than tetanus from all other causes combined, whereas in 1903 it constituted seven-eighths of all the cases. Apparently this is because the tetanus danger of blank cartridge wounds has been so well emphasized that the danger in the other wounds has been overlooked.

Although it seems that some slight improvement in the curative treatment of tetanus is being made from year to year, yet the percentage of recoveries is still extremely small, and most of these are in patients whose incubation period was of considerable length. Under no form of treatment do patients with an incubation period of less than nine days often recover. Consequently there is no disease in which the ounce of prevention is worth so many pounds of cure. Such improvement in results as has so far been observed seems to be largely due to more vigorous use of antitoxin, especially by the intraspinal and intraneural routes.[2] The French also cover the wound with desiccated serum. We have also learned not to be afraid of large doses of antitoxin, as these seem to be of advantage. Control of the spasms by intraspinal injections of beta-eucain (Murphy) or of magnesium sulphate (Meltzer)[3] seems to be of distinct advantage in the treatment of tetanus, and of even more value than the use of cerebral sedatives. All these methods are comparatively new, and hence it is extremely desirable that every case of tetanus so treated should be reported, whether the results be satisfactory or not, for the experience of any individual with tetanus is necessarily so small that we must depend for our judgment of methods on the collected reports of many cases.

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[1] See THE JOURNAL, June 18, 1904, p. 1621.

[2] These methods are described by Rogers in THE JOURNAL, July 1, 1905, p. 12; also in the special article previously quoted.

[3] THE JOURNAL, May 19, 1906, p. 1502; also Jour. Exp. Med., 1906, vol. viii, p. 692.

ANIMAL EXPERIMENTATION AND THERAPEUTICS.

There is excellent material for use in meeting antivivisection legislation in the report recently made to the Royal Commission on Vivisection by Prof. A. R. Cushny of University College, London, formerly of the University of Michigan.[1] We have been too accustomed perhaps, to lay emphasis on the importance of animal experimentation for surgical progress and efficiency, and for serum therapy, as well as for research that is directed simply toward the end of widening our knowledge. The antivivisectionists and many laymen, however, are prone to look on surgery as a bloody business and not entitled to consideration; serum therapy is for them a myth, and research in pure science but idle curiosity. A large proportion of them, however, are ready recipients of internal medicine, particularly advertised forms, and it may be of interest to them to learn how dependent nearly all our therapeutic resources are on animal experiments, while the laymen in legislative bodies may well be impressed by the evidence of Dr. Cushny's report, which considers the dependence of modern therapeutics on animal experimentation.

As a matter of fact, but a very few of the many advances that have been made in the last fifty years could possibly have been made but for animal experimentation, for outside of the antiseptics, purgatives and emetics, little has been discovered without their aid, and even in these cases studies on animals have been of enormous help. In the study of drugs acting on the heart, circulation and nervous system, animal experiments are absolutely essential. Not only have many new and valuable drugs been discovered, but serious errors in the use of well-known drugs have been corrected through the observation of their effect on animals. Thus digitalis was at one time recommended for aneurism because it slowed the heart, until it was shown by experiments on animals that it not only slowed the heart but raised the blood pressure. No soporific has been introduced in the last forty years except by means of animal experiment, nor could they well have been used in man until their dose had been ascertained by experiments on animals; some investigators have nearly lost their lives trying unknown drugs on themselves. Among the soporifics are to be found also some excellent instances of how experiments on animals which were directed to elucidate what appeared to be purely academic questions, the form of experimentation most decried by the antivivisectionists, have led to discoveries of the greatest practical worth. For example, the discovery of the action of chloral, with all the subsequent advances in the study of hypnotics, is the outcome of Liebreich's attempt to solve the purely technical question "whether a substance is broken up into its constituent parts before it is oxidized." Sulphonal was discovered through the studies of Baumann and Kast on the metabolism of organic sulphur compounds, a problem of no apparent practical importance, at least to the layman. Paraldehyd was likewise found to be a valuable hypnotic through similarly "impractical" experiments.

Local anesthesia, with all its blessings, is entirely the outcome of animal experiments, beginning with von Anrep's studies of the effects of cocain on animals, which led to his suggesting its use on man, a suggestion that was not taken up for many years. All the synthetic antipyretics owe their origin to the observation by Filehne that antipyrin reduces the temperature of animals with fever produced by experimental infection. The wonderful control of the agonizing pain of angina pectoris by amyl nitrite, which has eased the tortures of countless sufferers with this disease, is the outcome of Gamgee's studies on the effect of various drugs on blood pressure in animals. All the other vascular dilators were worked out by means of animal experiment, as also were the arterial constrictors which have such a widespread usefulness, for the effect of adrenalin was first observed in animal experiments conducted for purely scientific purposes without a thought of possible therapeutic results. And so on through all classes of drugs, our entire progress is found to have been largely obtained in the same way at the expense of laboratory animals, whether we consider the diuretics, the urinary antiseptics, the general anesthetics or the organ extracts. Furthermore, of no less importance is the fact that countless drugs of reputed efficacy have been found through animal experiment to be valueless and have been properly discarded for some substitute of proved worth. Add to these main facts the extent to which we are now able to standardize drugs, the active elements of which can not be quantitatively ascertained by any means but animal experiment, such as ergot, cannabis indica and adrenalin, and a most formidable array of facts may be obtained which can hardly fail to impress any legislator who is not a preordained antivivisectionist, especially when it is made clear that without these animal experiments every attempt to treat the sick would amount to nothing less than an experiment, a human vivisection which animal vivisection renders needless.

YELLOW FEVER IN CUBA.

The reappearance of yellow fever in Cuba after its apparent extinction a few months ago, without its introduction from outside, or, in fact, its occurrence in any of the seaports or larger towns, is an event of much interest and raises the question of how this disease can lie dormant for such considerable periods of time. So inconsistent does this phenomenon appear with the accepted method of transmission by the *Stegomyia calopus* that some doubting Thomases have been inclined to revert to that half-way house on the road to conversion, the "not the only way" doctrine. To understand clearly conditions in Cuba it is necessary to review briefly the application there of the theory of Finlay and Reed.

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[1] An abstract of this report is published in the British Medical Journal, May 18, 1907, p. 1195.

In 1901, under the Military Government of Intervention, sanitary measures directed especially against yellow fever (mosquito work, etc.) were carried on in only a few of the larger towns. There was no insular sanitary service, but Colonel Gorgas was Chief Sanitary Officer of Havana, and in the other cities the medical officer of the local military command acted as such for each town. This work, though lacking in uniformity and system, was conscientious and thorough and was effective. In spite of its incompleteness, the result of mosquito work in half a dozen cities was the prompt and entire disappearance of yellow fever from the whole island. That the work in Havana is as thorough now as then is shown by the fact that there has been no case of yellow fever in Havana since Christmas, and in the other cities likewise there has been no reappearance. Why, then, does not the disease disappear from the whole island as in 1901? What is the explanation of its reappearance in the small towns—at Nueva Paz on April 1, three months and twelve days after the last case; at Union de Reyes five months and three weeks after the last case; at San Nicolas, where no cases were reported last year, and in the district of Ranchuela, where the last recognized case occurred on December 15? It is undoubtedly due to the fact that, whereas in 1901 the inhabitants of the country and small towns were practically all immune, there has been in the past seven years a sufficient accumulation of non-immune material to support smoldering foci of infection.

The Spanish immigration has poured in a steady stream of non-immunes. Some of these, but not a great number, have returned to Spain. The importance of this element is shown by the fact that, of the 193 cases reported since Oct. 17, 1905, 175, or 90 per cent., have been Spaniards. Another source of non-immunes, and a larger and probably more dangerous element, because it is not usually recognized by Cuban physicians, is the Cuban child. The following table shows the number of each added to the population since Jan. 1, 1901:

Year.	Spanish. Immigrants.		Births.
1901 Havana only	17,672	Cuba.	43.586
1902 Cuba	10,744	Cuba.	47,091
1903 Cuba	18,054	Cuba.	57,864
1904 Cuba	29,116	Cuba.	58,363
1905 Cuba	54,219	Cuba.	65,906
1906 Cuba	34,556	Cuba.	70,000
Total	164.361		342,810

Although native physicians, with some notable exceptions, do not accept entirely the dictum of Guiteras, that the Cuban child acquires its immunity only by an attack of yellow fever, the evidence in support of Guiteras' theory is, it would seem, overwhelming, although there are some troublesome unexplained facts to be mentioned on the other side. The Cuban child, when it goes to Key West and Tampa and falls into the hands of physicians not under the influence of preconceived ideas, is found to be susceptible. Children also die in Cuba with black vomit, and the disease is then called *fiebre de borras*. The death rate of Cuban children from certain other febrile diseases rises in yellow-fever years. The U. S. Public Health and Marine-Hospital Service does not admit the Cuban child as an immune unless it has lived in Cuba ten years *prior to 1901*; therefore, Cuban children of 15 years can not now go through quarantine unless it is shown that they have had yellow fever. So instead of an almost wholly immune population, as was the case in 1901, at present probably one-fourth of it is non-immune. It is, in addition, scattered over so great an extent of territory that to keep in touch with the cases of fever in children and laborers of the towns, villages and plantations of Cuba and to abolish the ever-present mosquitoes is apparently impossible. With careful, conscientious work and a strong force of district inspectors, it should be possible probably to keep the cities clear of it, if this work is not left to the municipalities—as has been done heretofore. At present, sanitary matters in the cities and towns outside of Havana are in the hands of municipal boards of health who are under the local authorities, and the Sanitary Department of Havana has only a nominal control over them. In consequence the municipalities have failed to appropriate the necessary funds for sanitary work, and, except in cases in which the State has stepped in and aided with appropriations from the national treasury, sanitary conditions are of the worst. Municipal control of sanitation has proved an utter failure. The provision of the Platt Amendment to the Cuban Constitution, that the cities shall be kept in good sanitary condition, is admitted not to have been maintained in the cities and towns outside of Havana. The incomes from taxes of Cuban municipalities are so small that there is no prospect of this being done at any time in the near future.

Governor Magoon has decided, therefore, that the State shall assume control of the sanitary service in all towns in the same way that it has charge of public education in Cuba. This will greatly help conditions. The Cuban child is the important factor in transmitting the advisory commission which is revising the laws has gone further and recommended the establishment of a secretaryship of public health. It will place the sanitary department under ideal conditions of efficiency. Another, though less desirable, proposition is the consolidation of the sanitary department with that of public works, a scheme which will at least relieve the former from the political and injurious domination of the secretaryship of government, where it was placed by President Palma.

Whether as a result of this outbreak we must allow a longer expectation of life to the infected mosquito, or must give adherence to the doctrine of Guiteras, that the Cuban child is the important factor in transmitting the infection, will, it is hoped, be determined. Possibly it may be found that there is, in fact, as suggested by Manson, a mild strain of yellow fever which is common in endemic territories which confers immunity with but slight mortality—the acclimatization fever of the older writers—and that the malignant type may be an occasional development therefrom, depending on causes as yet unknown.

THE ALCOHOL MANIFESTO.

A storm in a teacup recently was raised in England by the appearance in the London *Lancet* of an open letter favoring the use of alcohol. The manifesto was signed by sixteen British physicians, many of whom stand so high in the profession as to make the letter at once worthy of notice. A flood of letters immediately appeared in the lay and medical press of Great Britain discussing the sentiments expressed *pro* and *con*. A counter manifesto was issued,[1] signed by men equally eminent and among whom were Sir Frederick Treves and Sir James Barr. These men emphatically dissented from the opinions expressed in the original document. The inner history of this first document, according to our London correspondent, indicates that it was prepared by a man in no way connected with the medical profession. Further, it appears that the letter presented to the signers was materially different from that given the *Lancet* to publish, and a number of signers are said to have retracted their endorsement. It is noteworthy that when the manifesto appeared the British government was getting ready to introduce a new licensing bill which was worrying the liquor interests. For these reasons it seems a fair deduction that the physicians who signed it and the medical journal that published it were the unwitting dupes of the liquor interests. No sooner had the letter appeared than it was universally copied in the lay press and was also distributed in pamphlet form in numerous saloons throughout the British Isles. The manifesto proved such a splendid argument for the liquor interests on the other side of the Atlantic that it is now being used on this side. The National Wholesale Liquor Dealers' Association of America has made a photographic reproduction of the original manifesto and is scattering it broadcast, especially among physicians. We do not blame the liquor men for making use of this testimonial for their cause, although we feel sure that the eminent men who signed the document would feel chagrined if they knew to what base use it is being put. This further emphasizes the need of caution in making dogmatic assertions on questions that are still open.

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[1] The Journal, May 25, 1907, 1793. The other accounts published in The Journal have been as follows: April 20, page 1363; April 27, page 1444; May 11, page 1611, and June 15, page 2041.

Save the Babies.—Let us ascertain whether our population is sufficiently fecund by giving every new-born babe a fair opportunity for life. Whether "race suicide" will then have a national aspect, society will be better able to judge. Certain classes are indeed chargeable with a low birth rate but for the masses the more important problem is a diminishing infant mortality.—G. B. Mangold, M.D., in *Popular Science Monthly*.

Medical News

CALIFORNIA.

College Enters Suit.—The College of Physicians and Surgeons, San Francisco, has filed suit against Dr. Dudley Tait, seeking damages for alleged libel in the sum of $75,000. The basis of the suit is said to be a letter from Dr. Dudley Tait, published in The Journal, Sept. 1, 1906, page 697, in which it is claimed that reflections were made on the reputation of the college.

Hospital News.—The San Antonio Hospital Association has been incorporated at San Bernardino with a capital stock of $25,000.——An association has been formed by 15 trades unions of Alameda County to erect in Oakland a $140,000 hospital.——A cottage in Los Angeles has been opened as a Maternity Hospital by the Women's Alliance of the First Unitarian Church.——The new St. Elizabeth's Hospital, Red Bluff, is now open to receive patients. Two wards have been equipped and the entire building has been refitted and remodeled.

Vital Statistics for April.—In the report of the California State Board of Health for April there were noted 1,938 births, 2,694 deaths and 2,019 marriages, equivalent to an annual rate per 1,000 of 11.8 for births, 16.4 for deaths and 12.3 for marriages. There were 409 deaths from tuberculosis, or 15.2 per cent. of the total mortality; 394 deaths, or 14.6 per cent. of the total mortality, from diseases of the respiratory system, 312 of which were from pneumonia. Diseases of the circulatory system caused 349 deaths, and diseases of the nervous system 267 deaths, 82 of which were due to meningitis. Typhoid fever led epidemic diseases with a mortality of 34; whooping cough, with 27; diphtheria, with 25; measles, with 19; influenza, with 18, and all other epidemic disease, with 16 deaths. The board dwelt strongly on the danger of the spread of typhoid fever by the use of uncooked fruit and vegetables, and devoted considerable space to the discussion of the benefits of sleeping out of doors.

GEORGIA.

Honor Physician.—The state of Georgia is said to have fixed on Dr. Crawford W. Long, for his pioneer work in anesthesia, as one of the two representatives of that state whose statues are to be placed in the Statuary Hall of the capitol at Washington.

Personal.—Dr. T. F. Brewster, superintendent of the Grady Hospital, Atlanta, for 14 years, will retire as soon as his successor can be named by the trustees.——Dr. J. L. Kennedy, Manassas, was seriously wounded in an attempt to capture a negro criminal, May 20.——Dr. Joseph E. Allen has been elected dean of the Medical College of Georgia, Augusta, vice Dr. Sansur Ford, deceased.——Dr. James H. McDuffie, Columbus, has been appointed a member of the State Board of Health, vice Dr. W. W. Stewart, Columbus, resigned.——Dr. Charles E. Murphy, Atlanta, has been given a verdict for $900 damages against the city, for injuries received three years ago, due to an imperfect pavement.

ILLINOIS.

Do Not Want Names Mentioned.—At a meeting of the Streator Medical Society, June 5, a resolution was adopted requesting local newspapers to discontinue mentioning the names of physicians and surgeons attending cases of illness or accident.

Commencement.—At the annual commencement exercises of the College of Physicians and Surgeons, June 4, a class of 165 was graduated. The degrees were conferred by President Edmund J. James of the University of Illinois, after which Rev. Rufus A. White delivered the doctorate address.

Smallpox in Peoria.—Dr. Albert Weil, the new health commissioner of Peoria, reports that there are 20 cases of smallpox in the Isolation Hospital and recommends the vaccination of all non-immune school children. In accordance with this recommendation more than 500 pupils of the public schools have been vaccinated.

Personal.—Dr. Charles Best, Freeport, has returned from Europe.——Dr. Otis Baldwin has been appointed city physician of Springfield, and Dr. John W. D. Mayes, Illiopolis, physician of Sangamon County.——Dr. William A. Haskell, Alton, has returned after several months in the Bermudas.——Dr. Charles E. Martin, Seward, is suffering from acute mental disease and has been placed in the Ransom Sanitarium, Rockford.——Dr. David M. Knapp, Mendon, sailed from New York on the *Pretoria*, June 8.

Coroner's Work for May.—During the month of May the coroner of Cook County investigated 384 deaths, the largest number of cases ever on record. Of these 55 were due to suicide, 12 of whom ended their lives by asphyxiation, 2 by throat cutting, 2 by drowning, 6 by strangulation, 5 by shooting and 17 by poison, in 10 of which phenol was used. Among other violent deaths 3 were due to automobile accidents, 6 to illegal operations, 3 to elevated railway accidents, 21 to railway accidents, 8 to asphyxiation, one to electrocution, 20 to homicide, one to hydrophobia, and one to accidental gunshot wound.

Prepare for State Meeting.—The profession of Peoria is already making plans for the Illinois State Medical Society meeting. Dr. Elmer M. Eckard has been named as chairman of the committee on arrangements; Dr. Otho B. Will, chairman of the committee on hotels; Drs. Sumner M. Miller, George A. Zeller, and Harry M. Hayes, committee on entertainment of members; Drs. Milton S. Marcy and H. O. Kelly, committee on entertainment of ladies; Dr. Edward E. Barbour, committee on place of meeting; Dr. Aloysius J. Kanne, committee on finance; Dr. William R. Allison, committee on exhibits, and Dr. Frank B. Lucas, committee on printing.

Society Meeting.—The Monroe County Medical Society held its annual meeting at Waterloo, June 3. Of the 18 physicians in the county 16 are said to be members of the society. The following officers were elected: President, Dr. Henry Heidelberg, Hecker; vice-president, Dr. Stephen Kohlenbach, Columbia; secretary, Dr. Louis A. Adelsberger, Waterloo; treasurer, Dr. Jacob C. Fults, Waterloo; censors, Drs. John P. Miller, Chalfin Bridge, and J. S. Sennott, Waterloo; delegate to state medical society, Dr. John S. Sennott, Waterloo, and alternate. Dr. Jacob C. Fults, Waterloo. A resolution was adopted whereby the society agreed to notify the State Board of Health of all violations of the malpractice act, in order that prosecution against the offenders might be instituted.

Chicago.

Personal.—Dr. and Mrs. Arthur D. Bevan sailed for Europe June 19.——Dr. and Mrs. Frank Allport sailed for Europe June 11.

Refuse Osteopath's Certificate.—The officers of the department of health on June 12 refused to approve a burial permit signed by a so-called "doctor of osteopathy." The department stated that no power of issuing death certificates has been granted to osteopaths and that such cases must be referred to the coroner before burial permits can be issued.

Society Meeting.—At the twenty-fifth annual meeting of the alumni of the College of Physicians and Surgeons, held June 4, Dr. A. Ralph Johnstone was elected president; Dr. John Weatherson, vice-president, and Dr. Twing B. Wiggin, treasurer. The health commissioner, Dr. William A. Evans, in his address, made a strong plea for more thorough organization of physicians.

Work of the Ambulances.—The twelve ambulances of the department of health made a total of 260 runs during the week ended June 15, removing 131 sick or injured to the hospitals, and 17 to their homes. Of those removed to the hospitals 30 were suffering from communicable diseases. The ambulance surgeons also treated 65 sick or injured persons at the police station and three at the places where the accidents occurred.

Mortality.—During the week ended June 15, 571 deaths were reported, three less than for the preceding week and 135 more than for the corresponding week of 1906, the annual death rate per 1,000 being 14.13. Pneumonia again assumed the lead in death causes with 86 deaths, followed by consumption with 63; Bright's disease with 51; heart, diseases, 43; acute intestinal diseases, 39; violence (including suicide), with 36, and cancer with 28. Diphtheria caused 14 deaths; measles, 10; scarlet fever and whooping-cough, each 7, and typhoid fever, 2.

Hospital Notes.—The new Michael Reese Hospital, recently erected at a cost of more than $700,000, was formally dedicated and opened for the care of patients June 16. Leon Mandel, chairman of the construction committee, made the address of presentation, and Edward G. Foreman accepted on behalf of the board of trustees. The new hospital will accommodate 300 patients and 100 nurses. It is six stories in height, fireproof throughout, and is fitted with every modern equipment for the scientific treatment of the sick.——The contract will shortly be let for the Cribside Pavilion, to be erected in connection with the Children's Memorial Hospital. The building will be two stories in height and will cost $40,000.

IOWA.

Nostrum Distribution Forbidden.—The city council of Iowa Falls, at a special session, May 26, passed an ordinance forbidding the custom of distributing from house to house, or displaying in public places and in the streets, nostrums and literature referring to private diseases, or other subjects that may have a tendency to corrupt the minds of the young.

MARYLAND.

Personal.—Dr. Henry J. Hebb, Randallstown, has been seriously ill with heart disease.——Dr. Byron W. Walling has been elected mayor of Poolesville.

Baltimore.

Gifts to Phipps Dispensary.—Mr. H. Phipps, Pittsburg, has sent $250 for the purchase of books for the Phipps Dispensary of Johns Hopkins Hospital, and also $1,000 to be used "as may be most useful to the dispensary."

Gift to Hospital.—Mr. Jacob Epstein, who recently gave $25,000 for the foundation of a Jewish hospital for consumptives, has increased his gift to $35,000. A site is being considered near Baltimore. A small building is to be erected to accommodate at first about 25 patients. The institution will be maintained by an endowment fund of $12,000, contributed annually by twenty-four citizens.

Centennial at University.—In the report of the Centennial of the University of Maryland, in the issue of THE JOURNAL June 8, Dr. Eugene F. Cordell, Richard F. Simpson and B. Merrill Hopkinson were noted as having received the degree of M.D. The degree conferred on those gentlemen was that of Master of Arts. John P. Poe, LL.D., was toastmaster at the banquet, not Dr. G. Lane Taneyhill, as stated.

Class Reunion.—The medical class of 1890 of the University of Maryland held its annual reunion May 30. Dr. Alexander D. McConachie acted as toastmaster at the banquet. The following officers were elected: President, Dr. Alexander D. McConachie, Baltimore; vice-president, Dr. Joseph E. Gichner, Baltimore; secretary-treasurer, Dr. Charles F. Nolen, Baltimore, and executive committee, Drs. J. William P. France, Baltimore; Henry F. Cassidy, Roland Park, and St. Clair Spruill.

Personal.—Dr. N. Moreland Owensby, of Bayview Asylum, has returned from Europe.——Dr. C. F. Farris has moved to San Francisco.——Dr. Philip Kingsworth Gilman has started for Manila, where he has accepted the assistant professorship of pathology in the new medical college.——Drs. W. F. Schwartz, Oscar E. King, Thomas H. Philips, A. W. Van Kirk, E. A. Corbin, John W. Wiseman, Herbert Schoenrich, John A. Smith and Walter V. S. Levy have been elected assistant resident physicians at the Bayview Asylum. Dr. Richard H. Follis has been elected visiting surgeon to the institution.——Drs. Frederick Taylor and John B. Thomas sailed for Europe June 8.——Dr. William Simon sailed for Europe June 10.——The election of Dr. Marshall Price as successor to Dr. John S. Fulton, as secretary of the State Board of Health, was confirmed June 12. Dr. Caleb W. G. Rohrer was elected medical assistant.——Dr. Eben C. Hill will spend the summer as resident physician of a camp on Mallet's Bay, Lake Champlain.

Commencements.—The College of Physicians and Surgeons graduated a class of 66 June 3. Dr. Charles F. Bevan, dean of the faculty, conferred the degrees. Dr. Spencer M. Free distributed the prizes, and the annual oration was by Hon. John Gill, M. C.——At the thirty-second annual commencement exercises of the Johns Hopkins University, held June 10, degrees were conferred on a class of 70 by President Ira R. Remsen of the university, and the doctorate address was delivered by the Hon. Wendell Phillips Stafford of Washington, D. C. The following changes in the corps of instructors were announced: Associate in physiology, Dr. John R. English Eyster; instructor in biology, R. P. Cowles, Ph.D.; instructor in gynecology, Dr. Elizabeth Hurdon; instructors in medicine, Drs. Joseph A. Chatard and John A. Luetscher; instructor in physiology, Dr. Donald M. Hooker; assistant in experimental psychology, Dr. N. Trigant Burrow; assistants in gynecology, Drs. Curtis F. Burnham and DeWitt B. Casler; assistant in medicine, Dr. Harry S. Greenbaum; assistant in neurology, Dr. Harry D. McCarty, and assistant in obstetrics, Dr. Harry J. Storrs.

MASSACHUSETTS.

Must Build Hospital.—The State Board of Health has served notice on the municipality of Fall River that it must take immediate steps to provide a suitable hospital for contagious diseases to replace the one recently destroyed by fire.

Tuberculosis Exhibit at Lawrence.—The Lawrence Medical Society has made arrangements to have the tuberculosis exhibit of the Society for the Relief and Control of Tuberculosis of Boston shown in the city from October 12 to 20. Popular free lectures will be given and the public will be invited to inspect the methods of prevention and cure of the disease.

Personal.—Dr. Arthur T. Cabot has been elected chairman, and Dr. Thomas F. Harrington, Boston, secretary, of the associated district committee of the Massachusetts Medical Society for the Prevention and Control of Tuberculosis.——Dr. and Mrs. James R. Fuller, Andover, have started on a six-months trip to Europe.——Dr. Luther O. Whitman, Barre, has recovered from appendicitis and resumed practice.——Dr. Francis A. Cregg, Lawrence, has been appointed instructor in clinical medicine at Jefferson Medical College, Philadelphia.——Dr. Robert H. McNair, Springfield, has returned after six months in the South.——Dr. Benjamin Hicks Metcalf, Winthrop, was seriously injured in an automobile accident at Sanbornville, N. H., June 16.——Dr. Nathan P. Thayer, resident physician at Long Island Hospital, Boston Harbor, has resigned, to take effect July 1.

MICHIGAN.

Graduation Exercises.—At the annual commencement exercises of Detroit College of Medicine, May 31, a class of 69 was graduated. Dr. Thomas A. McGraw delivered the doctorate address, and Dr. Sidney T. Miller, dean of the college, presented the diplomas. The alumni association of the college held the annual clinics in Detroit from May 22 to May 30. In addition to clinics by the local profession the following gave clinics: Drs. Fenton B. Turck, Chicago; Abraham Jacobi, New York City; Charles A. L. Reed. Cincinnati, and Hugh T. Patrick, Chicago. At the annual meeting of the alumni Dr. Augustus W. Ives, Detroit, was elected president, and Dr. John C. Dodds, Detroit, was re-elected secretary. Among the entertainments given for the alumni was a reception tendered by Dr. Charles G. Jennings, and a boat ride and supper, at which the members of the association were the guests of Dr. Henry O. Walker.

Personal.—Dr. and Mrs. Robert Burnett Bean, Ann Arbor, left for Manila, P. I., May 31, where Dr. Bean has been placed in charge of the department of anatomy in the new medical college.——Dr. James F. Breakey has been appointed health officer of Ann Arbor.——Dr. George B. Hammond, Royal Oaks, recently underwent operation at Harper Hospital Detroit, for tumor of the stomach.——Dr. Clark D. Brooks, house surgeon at Harper Hospital, Detroit, has resigned.——Dr. John H. Kellogg, Battle Creek, has returned from St. Petersburg.——Dr. Hugo Freund, instructor in internal medicine in the University of Michigan, Ann Arbor, has resigned, to take charge of the Jewish clinic and dispensary in Detroit.——Dr. Robert McGregor, Saginaw, sailed for Europe on the *Kaiserin Auguste Victoria*, June 13.——Dr. Noah E. Aronstam, Detroit, sailed for Europe, June 11.——Dr. O. C. Breitenbach, who, as health officer of Escanaba, has been carrying on a steady warfare toward eliminating those factors which have been instrumental in maintaining the high typhoid fever mortality in that city, has been reappointed health officer.

MINNESOTA.

Graduation Exercises.—The twenty-fourth annual commencement exercises of Hamline University, Medical Department, Minneapolis, were held June 6, when a class of 19 was graduated. The annual address was delivered by Rev. James S. Montgomery; the address to the graduates by Rev. J. A. Watson, and the degrees were conferred by President George H. Bridgman.

Hospital Notes.—The Henry Christian Memorial Hospital for Consumptives, Minneapolis, for which an unknown donor gave $50,000, will be erected in connection with the United Church Fairview Hospital, Minneapolis.——The State Hospital for Tuberculosis, for which $65,000 was appropriated by the recent legislature, is to be located at St. Peter.——The board of control has decided to erect a $10,000 hospital for contagious diseases in connection with the State Hospital at Fergus Falls.

State Board Meeting.—At the annual meeting of the State Board of Health Dr. Henry Hutchinson, St. Paul, was re-elected president of the board, and Dr. James B. McGaughey, Winona, vice-president. It was announced that the new state Pasteur Institute, for which the legislature made an annual appropriation of $5,000, will be opened in Minneapolis, August 1, in charge of the State Board of Health. It was decided to treat Minnesota patients free, while $100 will be charged for the course of treatment in the case of patients from other states.

Personal.—Dr. Saxe W. Mowers, assistant surgeon of the Northern Pacific Hospital, Brainerd, has been appointed chief surgeon to the Northern Pacific Hospital, Tacoma, Wash., and has been succeeded by Dr. Arthur W. Ide.——Dr. I. Daniel Webster, Mankato, has sailed for Europe.——Dr. Jeannette McLaren, St. Paul, has been appointed a member of the State Board of Examination and Registration of Nurses.——Dr. Frank F. Wesbrook, dean of the University of Minnesota College of Medicine and Surgery, Minneapolis, has been appointed chairman of the research committee of one hundred of the American Association for the Advancement of Science to consider the subject of a national board of health.

MISSISSIPPI.

Personal.—Dr. W. H. Frizell, Brookhaven, has been appointed health officer for Lincoln County.——Dr. Oscar N. Arrington, Brookhaven, has been appointed interne at the Charity Hospital, Vicksburg.——Dr. John F. Hunter, Jackson, for twelve years secretary of the State Board of Health, announces that he will retire from that position at the close of his present term of office and devote himself to private practice.——Dr. R. L. Robinson, Meridian, was severely injured recently in a collision between his buggy and an electric car.

Additions to Faculty.—The president of the faculty of the Mississippi Medical College, Meridian, has announced the following additions to the faculty: Dr. John R. Tackett, professor of general practice and theory of medicine; James McQ. Buchanan, professor of mental diseases; Dr. A. W. Pigford, demonstrator of anatomy; Dr. Charles P. Mosby, lecturer on ophthalmology, and Dr. T. Alexander Barber, chairman; Dr. Samuel H. Hairston, secretary; Dr. D. W. Bethea, treasurer, and Drs. Nathan L. Clark and William W. Hamilton, members of the executive committee.

Anti-Tuberculosis League.—The Mississippi Anti-Tuberculosis League held its first annual session in Meridian, May 8-9. The object of the league was stated to be the education of the people as regards the nature and spread of tuberculosis, so as to invoke their aid in stamping out the disease. This the president, Dr. S. B. Flint, said could be done by the following procedures:

> First. By prevailing on the boards of supervisors, mayors, aldermen and councilmen to enact laws prohibiting any one from spitting on the streets or sidewalks. Let containers be placed convenient to the sidewalks to receive the sputa. This should be burned every day.
>
> Second. It should be compulsory for every physician to report every suspicious case to the city or county health officer. These officers should be provided with the necessary apparatus to make the tests required for a positive diagnosis.
>
> Third. Make it compulsory for every city and county health officer to keep a mortuary record of all deaths and causes of same.
>
> Fourth. To bring such pressure to bear on the next legislature that they will enact laws necessary, and make appropriations to build sanatoriums to care for the indigent poor of our state.

The next meeting of the league will be held in Gulfport. The following officers were elected: President, Dr. Robert W. Shipp, Gulfport; secretary, Dr. R. W. Hall, Clinton, and treasurer, Dr. Daniel T. Price, Booneville. The four vice-presidents will be selected at a later date and the appointments announced by the president.

MISSOURI.

Senior Student Dies.—Joseph H. Magana, a Mexican, and a senior student at the St. Louis College of Physicians and Surgeons, died April 5, from appendicitis, for which an operation had been performed, aged 27.

Smallpox.—Several cases of smallpox of mild type are reported from Independence.——Kansas City is said to have 20 cases of smallpox.——The smallpox situation at Sedalia is said to have been greatly exaggerated, as only 10 cases are under supervision.

Banquet to Dr. Sander.—Dr. Enno Sander was tendered a banquet, May 21, by the members of the St. Louis College of Pharmacy, at which a life-size portrait of Dr. Sander was presented to the college. The occasion was also celebrated as the eighty-fifth birthday anniversary of Dr. Sander.

Commencement Exercises.—At the annual commencement exercises of the University Medical College, Kansas City, April 23, a class of 59 was graduated. Dr. James E. Logan conferred the diplomas and Rev. Daniel McGurk delivered the baccalaureate address.——Washington University Medical Department, St. Louis, graduated a class of 50, May 23. Chancellor Winfield Scott Chapin conferred the degrees and the doctorate address was delivered by Dr. Arthur D. Bevan, of Chicago, on "Medical Education."

Alumni Meetings.—The annual banquet of the Alumni Association of the Medical Department of Washington University, St. Louis, was held May 22. Dr. William S. Deutsch, the retiring president, acted as toastmaster.——The class of 1897 of the Missouri Medical College, now a part of Washington University, held a reunion in St. Louis, May 24 at which twenty members were present.——A reunion of the class of 1897 of the University Medical College, Kansas City, was held April 22. Dr. William T. Phy, Hot Lake, Ore., was elected life president of the association.

Hospital Notes.—The new charter of the St. Louis Children's Hospital was received May 26. The new training school will be established at once in connection with the hospital.——The new Kansas City General Hospital, which is now under construction, is expected to cost more than $320,000.——At the annual meeting of the St. Luke's Hospital Association, May 31, Dr. Harvey G. Mudd was elected a director.——John W. Estes, St. Louis, has been elected president of the new Charity Maternity Hospital, Dr. Davis Forster, secretary, and R. L. Emory, treasurer.——The board of control of the Levering Hospital, Hannibal, has made the following appointments for the year: Physician in charge, Dr. James N. Baskett; attending surgeon, Dr. Thomas Chowning; consulting staff, Drs. Charles E. Paxon, Henry L. Banks, Robert H. Goodier, Elmer E. Waldo and John J. Bourn; attending obstetrician, Dr. E. H. Bounds; consulting obstetricians, Drs. F. Janet Reid and John N. Primm; pathologist, Dr. W. Cloyd Gus; attending oculist and aurist, Dr. James S. Howell; consulting oculists and aurists, Drs. Edward T. Hornback and Ulysses S. Smith.

Personal.—Dr. C. D. Scott is appointed chief dispensary physician of St. Louis, vice Dr. Henry J. Scherck, and Dr. William B. Winn, assistant health commissioner, vice Charles W. Francis.——At the request of Circuit Attorney Sager, Dr. H. J. Scherck, chairman of the committee on legislation of the St. Louis Medical Society, has organized a commission on malpractice, consisting of Drs. Harry S. Crossen, Hugo Ehrenfest, Guthrie McConnell and Henry J. Scherck. The function of the committee is to report on cases of illicit practice or offenses against women.——Dr. Emmett S. Ballard has been appointed assistant city physician of St. Louis.——Dr. Hugh P. Lewis, Curryville, who has been ill for six months, has recovered and resumed practice.——Dr. William M. Bayliss has been elected superintendent of the State Sanatorium for Tuberculosis, Mount Vernon.——Dr. Morris C. Tuholske has been appointed assistant chief dispensary physician of St. Louis; Drs. Jacob J. Singer and Albert Beisbarth, dispensary physicians, and Drs. John F. Gallagher, Allen G. Wainright, T. R. Mulford and M. F. Khouri, vaccine physicians; Dr. Cleveland H. Shutt, assistant physician at the City Hospital, and Drs. Rodney J. Bunch, F. J. Sullivan and F. C. Esselbruegge, senior assistants; Dr. Martin J. Glaser, physician in charge of the Emergency Hospital, and Drs. Samuel T. Lipsitz and Marsh Pitzman, assistants; Dr. C. W. Barr, assistant physician of the Female Hospital, and Drs. Fred F. Zelle, Albert Boder and O. R. Engelmann, senior assistants, and Dr. G. R. Barber, assistant physician of the poor house, and Dr. R. A. Collins, assistant physician at the Insane Hospital.——Dr. Oscar H. Elbrecht, superintendent of the Female Hospital, St. Louis, was given a library suite by the internes, nurses and employés of the institution, May 21.

NEW JERSEY.

Change in Place of Meeting.—As the new hotel at Cape May will not be completed in time, the Medical Society of New Jersey has changed the place of its meeting to Long Branch. The meeting will be held in that city, at the Hotel Scarboro, June 25-27.

Personal.—Dr. W. P. Parker, Hornerstown, has been appointed second resident physician at the Mercer Hospital, Trenton.——Dr. Edgar B. Grier, Elizabeth, was seriously injured in an automobile accident May 24.——Dr. Henry H. Davis, Camden, has been appointed medical superintendent of the State Sanatorium for Tuberculous Diseases at Glen Gardner, which will be open for patients in August. The commission in charge of the sanatorium has elected Dr. William S. Jones, Camden, president, and Dr. Elmer Barwis, Trenton, vice-president.——Dr. Harry J. Harp, on the completion of his service as resident physician at the Paterson General Hospital, was presented with a handsome medical case by the nurses of the institution.——Dr. Edward LeRoy Minard, Rockaway Valley, has been appointed resident physician at the Mountainside Hospital.——Dr. J. J. Beckwith, Atlantic City, for several years surgeon of the field hospital on the beach, has been made police surgeon and the position has been made permanent.

NEW YORK.

New York City.

Hydroptherapy in Vanderbilt Clinic.—Plans have been filed for the partial remodeling of the Vanderbilt Clinic building of the College of Physicians and Surgeons for the establishment of a hydrotherapy department, which will be fully equipped with baths and a series of rain douches.

Changes in Faculty.—Dr. James D. Voorhees has been made adjunct professor of obstetrics in the Medical Department of Columbia University; Dr. Royal Whitman, adjunct professor of orthopedic surgery, and Drs. George R. Lockwood, William K. Draper and Van Horne Norrie have been appointed adjunct professors of clinical medicine.

Free Milk Stopped.—The supplying of milk and eggs as a special diet for consumptives by the board of health has been discontinued for lack of funds. During 1906 the health department furnished over 22,000 quarts of milk and 44,500 eggs in Manhattan alone. Altogether there were 50,000 quarts of milk and 96,000 eggs given away.

Personal.—The degree of LL.D. was conferred on Dr. Edward G. Janeway by Princeton University, June 12, and on Dr. Andrew H. Smith by Union College, June 12.——The degree of doctor of science was conferred on Dr. William Seaman Bainbridge by the Western University of Pennsylvania, June 7.——Dr. and Mrs. John G. Curtis sailed for Plymouth, June 13.

Gifts to Hospitals.—The will of the late Louis Josephthal bequeaths $5,000 to Mount Sinai Hospital to endow a bed in his memory, and $2,500 to the Montefiore Home for Chronic Invalids, for the endowment of a bed.——The late James Morris of Ridgefield, Conn., has bequeathed $18,000 to St. Luke's Hospital, the income of which is to be used in providing rides for sick children. Another bequest of $19,000 was also made to the same hospital, to be added to $6,000 already given in memory of the testator's son. The income from this is to provide for song services in the children's ward.

Reformation at Bellevue.—At the last meeting of the board of trustees of Bellevue and Allied Hospitals the following resolutions were adopted:

> WHEREAS, The collection of fees by any member of the medical boards of Bellevue and the Allied hospitals for services rendered to actual or prospective patients of such hospitals is, in the opinion of the board of trustees thereof, improper and likely to lead to serious abuse and public scandal; therefore, be it
>
> *Resolved*, That no member of the medical staffs of Bellevue and Allied hospitals shall either directly or indirectly be party to any charges made to actual or prospective patients of such hospitals.

This is the result of an investigation which revealed the fact that some members of the staff had accepted compensation for services. One member of the staff has resigned and several more resignations will probably be asked for.

Commencements.—The College of Physicians and Surgeons of Columbia University celebrated the one hundredth anniversary of its founding at the commencement, June 12. There were about 500 graduates, and addresses were made by Dr. William H. Welch of Baltimore, Dean S. W. Lambert, Rev. Dr. Aked and Dr. Darlington. The portraits of Dr. John G. Curtis, holder of the chair of physiology for many years, and of Dr. George W. Lefferts, emeritus professor of laryngology, were received. Wilbur Ward and H. W. Schulte received awards of fellowship valued at $500 each, and A. B. Wadsworth received the Alonzo Clark scholarship, valued at $600 a year.——At the commencement of Cornell University Medical College 72 graduates received degrees. Col. William C. Gorgas, U. S. Army, made the address of the day, telling of the work of the sanitary engineers in eradicating malaria and yellow fever in Havana and the Isthmus of Panama. It was announced that 89 per cent. of the graduates had received appointments to hospitals outside the college by competitive examination. Cary Eggleston received the first of the Metcalf Polk prizes, amounting to $300, and Robert E. Gaty was awarded the second.

NORTH CAROLINA.

State Board of Health Items.—At a recent meeting of the State Medical Society Drs. David T. Tayloe, Washington, and James A. Burroughs, Asheville, were appointed members of the State Board of Health.——At the annual session of the State Board of Health, held in Morehead City, Dr. Richard H. Lewis, Raleigh, was re-elected secretary-treasurer.

Personal.—Drs. James A. Burroughs and James Sawyer have been appointed members of the Asheville board of health.——Dr. Henry McKee Tucker has been elected physician to the State Agricultural and Mechanical College, Raleigh.——Dr. Albert Anderson, Wilson, has been elected medical director of the Jefferson Standard Life Insurance Company, Raleigh, and will remove to that city.

PENNSYLVANIA.

Personal.—Dr. Jesse L. Lenker, Linglestown, has been elected resident physician at the Harrisburg Hospital.——Dr. Nathaniel Z. Dunkelberger, Kutztown, who has been seriously ill since March, and suffered a relapse May 23, is now reported to be improving.——Dr. William H. Knipe of Limerick Square was thrown from his carriage and sustained a fracture of the leg. ——Dr. Hamilton Graham has been elected president of the board of education of Kennett Square.

Typhoid in Pittsburg.—Typhoid fever prevails in Pittsburg to an alarming degree. On June 13, 27 cases were reported. Pittsburg is seldom, if ever, free from the disease, but its marked prevalence at this time causes concern to the health authorities. The infection is attributed to the polluted drinking water. It is said that several smaller towns beyond the city are infected with typhoid and the sewage of these places drains into the Allegheny River, from which Pittsburg derives its water supply.

Vaccination Sustained.—Governor Stuart vetoed the bill to amend the vaccination act, providing that certificates of successful vaccination or of having had smallpox shall not be required when smallpox is not known to exist in the said locality. He said that the words "known to exist" are indefinite. "In view of the fact that vaccination is a preventive measure, it would probably afford little protection to enforce the requirements relative to the said certificates only after smallpox is known to exist therein."

Philadelphia.

Jurisprudence Society Elects Officers.—The following officers to serve the ensuing year were elected at the meeting of the Medical Jurisprudence Society of Philadelphia, June 3: President, Dr. W. M. Late Coplin; vice-presidents, W. W. Smithers and Dr. A. Bern Hirsch; secretary, Dr. Henry Leffman, and treasurer, Pascal H. Coggins.

Personal.—Dr. James William White will sail for Europe July 1.——Dr. and Mrs. Charles E. deM. Sajous sailed for Europe June 15.——Dr. Abraham J. Cohen has been elected visiting physician to the tuberculosis wards of the Jewish Hospital. He succeeds Dr. Charles J. Hatfield, recently elected president of the Pennsylvania Society for the Prevention of Tuberculosis.——Dr. and Mrs. James A. Irwin sailed for Europe June 20.——Dr. W. W. Keen has had conferred on him the honorary degree of LL.D. by the University of Upsala, Sweden.——Dr. J. H. White, Public Health and Marine-Hospital Service, medical officer in the command of the New Orleans quarantine office, delivered an address before the American Society of Tropical Medicine in the Polyclinic Hospital, June 7, on "The Prophylaxis of Tropical Diseases."——Dr. Charles Fox, who is in Europe, will not return until the fall.——Dr. R. Tait McKenzie, physical instructor in the University of Pennsylvania, sailed for Europe, June 7.——Dr. Anita Newcomb Magee, Washington, D. C., was tendered a reception by the Society of Spanish War Nurses, June 7.——Dr. Henry B. Nightingale has been appointed surgeon on the staff of the Philadelphia Charity Hospital.——Dr. Albert Kocher of Berne, Switzerland, conducted a clinic in the Medico-Chirurgical Hospital, June 8.——Dr. F. W. White sailed for Europe, June 13.

GENERAL.

No Yellow Fever in Cuba.—During June no cases of yellow fever have been discovered in Cuba, and none remain of those already reported.

New Medical College at Manila.—Announcement is made that the new medical college of the University of Manila will be opened early in September. Especial attention will be paid, it is said, to tropical diseases. The Philippine government has appropriated $62,500 for the expenses of the first year of the institution.

Gastro-enterologists Meet.—At the tenth annual meeting of the American Gastro-enterological Association, held at Atlantic City, N. J., June 3 and 4, the following officers were elected: President, Dr. John P. Sawyer, Cleveland; vice-presidents, Dr. John A. Lichty, Pittsburg, and Dr. George D. Kahlo, Indianapolis, and secretary and treasurer, Dr. Charles D. Aaron, Detroit.

Tuberculosis in Cuba.—Minister Morgan reports that $60,000 has been appropriated for a free tuberculosis sanatorium for the poor of both sexes, to accommodate 50 persons, the number to be doubled when the capacity of the institution has been enlarged. The site is near Arroyo Arenas, 12 miles from Havana. In Havana there already exists a "League Against Tuberculosis" which has done good work, the president of which is *ex officio* a member of the superior board of health.

Southern Railway Surgeons Meet.—The Association of Surgeons of the Southern Railway held its twelfth annual session in Washington May 28 to 30. The following officers were elected: President, Dr. Hanson T. A. Lemon, Washington; vice-presidents, Drs. Charles H. Starkel, Belleville, Ill., and T. H. Happel; historian, Dr. George Ross, Richmond, Va., and secretary-treasurer, Dr. Jacob U. Ray, Jr., Woodstock, Ala. Birmingham was selected as the place of meeting for 1908.

Virginia Tri-State Meeting.—The Tri-State Medical Association of Virginia and the Carolinas held its annual session at the Jamestown Exposition June 3 and 4 and elected the following officers: President, Dr. Stuart McGuire, Richmond, Va.; vice-presidents, Drs. Southgate Leigh, Norfolk, Va.; Edward C. Register, Charlotte, N. C., and Charles M. Rees, Charleston, S. C., and secretary, Dr. J. Howell, Way, Waynesville, N. C. Charlotte, N. C., was selected as the place for the next meeting in February, 1908.

Confederate Officers.—At the annual meeting of the Association of Medical Officers of the Army and Navy of the Confederacy, held at Richmond, Va., recently, the following officers were elected: President, Dr. Samuel E. Lewis, Washington, D. C.; vice-presidents, Drs. E. A. Flewellen, Georgia, Claire Burwell, Virginia, and Isham G. Wilson, Demopolis, Ala.; secretary, Dr. A. A. Ryan, Nashville, Tenn. A resolution was adopted, thanking Major General F. C. Ainsworth, U. S. Army, for his efforts to prepare a complete roster of the medical officers of the Confederate army, together with their orders of assignment and dates.

Graduating Exercises of Army Medical School.—The graduating exercises of the Army Medical School took place in the lecture hall of that institution, May 31, in the presence of the faculty and the Assistant Secretary of War, who made a few appropriate remarks in delivering the diplomas to the graduates. Of the ten contract surgeons and one militia officer who took the course, nine reached the degree of efficiency entitling them to graduation. Contract Surgeon Frederick Stevens Macy won the Hoff memorial medal for the highest general excellence in class standing. The graduates then took their final examinations for admission to the medical department.

Teachers of Pediatrics Organize.—The Association of Medical Teachers of the Diseases of Children is a new society organized at Atlantic City, June 6. The aim of the organization is the advancement of the study of children and their diseases and the raising of the standard of the teaching of that department in medical colleges. The organization will also consider particular questions relative to hospitals and their management and the treatment of children at dispensaries and their homes. The following officers were elected: President, Dr. Samuel W. Kelley, Cleveland; vice-president, Dr. Charles Douglas, Detroit; secretary, Dr. John C. Cook, Chicago; treasurer, Dr. George H. Cattermole, Boulder, Colo., and censors, Drs. William C. Hollopeter, Philadelphia, Harry M. McClanahan, Omaha, and Richard B. Gilbert, Louisville.

CANADA.

New Site.—McGill University has secured a site for the new medical building directly opposite the Royal Victoria Hospital, the land having been donated by Lord Strathcona.

Hospital News.—No work will be done this season on the new Toronto General Hospital. The work of securing the site from the different owners is progressing favorably.——The local council of women in Winnipeg will endeavor to secure a children's hospital for that city.——Brandon, Man., will enlarge its general hospital at an expense of $5,000.——The capacity of the hospital at Rock Bay, B. C., is to be increased from ten to twenty beds, and Dr. MacDermott, formerly of the Vancouver General Hospital, will be in charge.——The trustees of the Manitoba Sanitarium for Consumptives have appointed a special committee to select a site for the new sanatorium.

Personal.—Dr. George W. Ross, who worked under Sir A. E. Wright, has been placed in charge of the inoculation department of the Toronto General Hospital.——Dr. H. R. Spence has been appointed house surgeon in the Hanot Hospital, Erie, Pa.——Dr. Alexander P. Reid, Middleton, medical health officer of Nova Scotia, has organized a public health association in that province.——Dr. John Stewart, Halifax, is recuperating in Scotland.——Dr. William A. DeWolf Smith, medical health officer of New Westminster, B. C., has resigned.——Dr. O. R. Avison, some years ago a practitioner in Toronto, but for fifteen years missionary in Korea, has been given a decoration by the Emperor of China.——Dr. William Bayard, St. John, N. B., who is still practicing in that city at the age of 95 years, and who has been practicing over seventy years there, will be honored by his fellow practitioners of St. John on his birthday in August, with some suitable celebration.

FOREIGN.

Cerebrospinal Meningitis in Turkey.—It is reported that several isolated cases of cerebrospinal meningitis have occurred in Constantinople. Precautions have been taken to prevent dissemination of the disease.

Bamberger Prize for Wiesel of Vienna.—The medical faculty of Vienna have awarded the triennial Bamberger prize to J. Wiesel for his important works on the affections of the arteries in the course of acute infections.

Hamburg Editor Fined for Publishing Extravagant Advertisement.—The Hamburg courts recently fined the editor of a local paper 50 marks, about $12.50, for publishing an advertisement praising in extravagant terms "coza powder," an alleged remedy for inebriety.

Double Fees on Sunday.—The French Congress of Practitioners declared its approval of the plan to charge double rates for professional calls made on Sunday. This plan has already been adopted in the Lyons district, the public having been notified to this effect by the local medical society.

Personal.—Dr. I. Boas, Berlin, the specialist in gastrointestinal diseases, has just been given the title of professor by the University of Berlin. This is a well-deserved recognition of his many years of scientific work. He is at present the editor of the *Archiv für Verdauungs-Krankheiten*, and has published many works on diseases of the stomach and intestines.

City Physician and Assistant at Dresden.—The city of Dresden advertised recently for a second assistant city physician, offering an annual salary of $750—$900, but no one applied for the post. The salary offered has now been raised to $1,000—$1,350. Special training in hygiene is required and private practice is not allowed. The first assistant receives $1,125—$1,500.

Poirier Leaves His Property to His Native Town.—Professor Poirier of Paris left a property of a little more than a quarter of a million. Half of this, with reversion of most of the rest, was bequeathed to his native town of Granville "for the benefit of the poor." The trustees are left free to apply the sum as they deem best, but an "Institute for Puericulture" is known to have been Poirier's ideal.

Prepared Sera Supplied by German Central Authorities.—Eight prepared sera are now supplied by the German Imperial Board of Health for diagnostic and medicolegal purposes: agglutinating and bactericidal cholera and typhoid sera, agglutinating paratyphoid serum and dysentery serum, and a precipitating serum for the biologic blood test. These sera are kept constantly on hand ready for official tests at any time.

Social Amenities Between Universities of Paris and London.—The University of London accepted the invitation of the University of Paris for a visit during the last week in May, and a party of 100 were fêted and given receptions and luncheons and banquets by the Paris University, the president of the republic and others. The party were also escorted to visit the various educational centers in Paris, the Pasteur Institute, etc.

Next Meeting of the Continental Anglo-American Society.—Once a year this association of English and American physicians practicing or residing on the continent gathers for a business meeting and luncheon. The meeting this year is to be held in connection with the annual meeting of the British Medical Association, August 1, at Exeter. Those wishing to attend the luncheon will confer with Dr. D. W. Samways, Knowle, Topsham, Devon.

Memorial to von Ziemssen Unveiled at Munich.—A large bronze bust of Hugo von Ziemssen was unveiled, May 25, with appropriate ceremonies. It stands in the grounds of the public hospital, on a marble pedestal, part of which is arranged to serve as a settee, while at each end of the pedestal water spouts from a lion's head. After the ceremonies the board of twelve physicians who publish the *Münchener med. Wochschr.* invited the guests at the ceremony to a banquet, as von Ziemssen was long a member of this board.

Honors for Maragliano.—June 22 is the twenty-fifth anniversary of Maragliano's assumption of the chair of clinical medicine at Genoa as successor to De Renzi. The occasion is to be celebrated by his pupils and friends with much ceremony. A souvenir volume is to be presented to him containing all the articles that have been published by him or under his direction, and an endowment fund for providing an annual prize for the best work on tuberculosis. Representatives of the king and cabinet take part in the proceedings, which will conclude with a banquet in the ducal palace.

Silver Jubilee of the Russian Surgical Association.—On the occasion of the celebration of the twenty-fifth anniversary of the founding of the Russian Pirogoff Surgical Association at St. Petersburg several honorary members were elected, including five Russians and ten in other lands. The list includes Senn, Roux, Lennander, Watson, Horsley, Quénu, Poncet, Rydigier, Roentgen and Trendelenburg. Telegrams of congratulations were received from Boston, Harvard, Paris and Berlin.

Memorial to Roussel at Paris.—Théophile Roussel was the Paris physician to whose efforts France owes much of its reputation for the care of child life. He died not long ago, and a monument to his memory was recently unveiled by the president of the republic. It stands at the intersection of the avenue de l'Observatoire and the rue Denfert-Rochereau, but the "Roussel law" is a still more enduring monument. It provides, among other things, for medical inspection of foundlings and other infant charges of the state.

Italian Antimalaria Crusade.—The malarial districts in Italy are placed in charge of prominent physicians who, with their assistants, direct the campaign against malaria. Baccelli is in charge of the Rome district, Golgi of the provinces of Cremona, Milan, Novara, Pavia and Padua, Rummo of the Naples district, De Renzi of the Caserta district, Gabbi of Messina, Zagari of the Sassari district and Cardarelli of the Campobasso district. All but four of the twelve physicians entrusted with the task are members of the national legislature. The present appointments are merely the continuation of the work of each during the last years.

Italian Campaign Against Tuberculosis.—The committee appointed at the last Italian antituberculosis conference decided at a recent meeting to petition the government to appoint a permanent consulting committee for matters relating to the protection of the public against tuberculosis. It is proposed that the permanent committee should advise with the public authorities, the hospitals, etc., and with legislative bodies in all questions regarding repression of tuberculosis. Baccelli, Gatti, Maragliano, Rampoldi and Montemartini are the members of the present committee, several of whom are senators. Baccelli was delegated to present the petition to the government.

Repression of Venereal Disease.—The fourth public meeting of the Berlin branch of this national society was held in the city hall building May 11. Bruhns delivered an address on "The So-called Syphilis of the Innocent" acquired by infection from husband or wife, by infection of children, and by transmission without sexual intercourse, commenting on each of these three modes of infection. He referred to infection of physicians and nurses in the exercise of their profession, to infection by eating and drinking utensils, by pipes, by workmen's tools, and the like, adding that infection in barber shops is much rarer than generally believed. To protect infants and wet nurses against syphilitic infection he urged state control of the examination of wet nurses. In conclusion, he urged that every one who had had the misfortune to acquire syphilis should refrain from marrying until four or five years at least after all symptoms have subsided.

The Agassiz Centennial.—The Swiss Society of Naturalists will hold its ninetieth annual meeting at Freiburg July 28-30. The last day the centennial of the birth of Louis Agassiz will be celebrated by a pilgrimage to his birthplace, in the vicinity. It is not generally known that the great scientist was a physician. He studied medicine at Zurich, Heidelberg and Munich, where he was graduated about 1830. He was professor of natural history at Neuchâtel until he came to this country in 1846, and two years later accepted the chair of zoology and geology at Harvard. His "Outlines of Comparative Physiology" is about the nearest to a medical work among the numerous scientific communications which he published after his graduation. His son, Alexander Agassiz, was appointed curator of the museum at Harvard after the death of his father in 1873. A few years before he had developed the two richest copper mines in the world, the Calumet and Hecla. The Agassiz Association, founded in 1879, to stimulate scientific interest, had, in 1904, 1,000 chapters all over the world, with 10,000 members.

Agitation for Reform in Medical Instruction in France.—As a result of the deliberations of the Congress of Practitioners, which was recently held at Paris and described on page 1611 of The Journal for May 11, the professors and students of Paris have been holding joint meetings to discuss ways and means. Many of the reforms urged by the students have been shown to be the ardent wish of the professors, for which they have long been working, but they have hitherto found it impossible to influence the central authorities. A committee from the meetings afterward waited on the minister of public instruction and obtained an encouraging hearing. In commenting on the matter the *Presse Médicale* remarks that these meetings just held have revealed the modern medical student in a new light. Less amusing but more practical than the medical student of old, the modern student is anxious to learn and realizes the points in which the instruction he is receiving fails to supply what he needs. The discussion with the professors was marked with zeal, dignity and respect. It seems that the routine administration of the medical schools in France has not kept pace with the growth of science, but is still hampered by the red tape of the Napoleonic era.

LONDON LETTER.

(From Our Regular Correspondent.)

London, June 8, 1907.

The Superior Physique of Jewish to English Poor Children.

At the receiving room of the London Hospital, situated in the crowded East End and in a largely Jewish district, the superior physique of the Jewish to the English poor children is remarkable. Yet overcrowding is more rife among the Jews than among the English poor. Every house in a poor Jewish quarter contains not merely one or two families, but often four or five. The families, as is characteristic of the race, are large and generally three, if not four, generations are represented in the same house. They are not particularly clean. Nevertheless, Jewish children are taller, weigh more and have better bones and teeth than gentile children of a corresponding or even better class. The same fact has been observed in the poor-district schools of the large manufacturing city of Leeds, where many statistics have been obtained. A lesson taught by these facts is that, in the rearing of children, food is the most important factor, more important than hygienic surroundings. The Jewish poor are notoriously better parents than the gentile. On the other hand, their hygienic conditions are worse than those of the corresponding gentile class. Ninety per cent. or more of the mothers suckle their children, compared with 10 to 20 per cent. among the gentiles. Further, very few Jewish mothers go out to work in factories. Lastly, Jewish children get much fat in various forms—oils, milk, oatmeal.

The Decline of Physic.

At the opening of an isolation hospital at Preston, Sir Frederick Treves made a remarkable pronouncement on the subject of physic. He believes that the time will come when hospitals for infectious diseases will be empty and not wanted. This is to be accomplished by hygiene. The fight is against millions of microbes, and the weapons are sanitary regulations, municipal government, the sanitary inspector and the health officer. The mystery of the ancient doctor, his long words and extraordinary prescriptions is passing away. The multitude of shelves of bottles which surrounded him also is passing away and being replaced by simple living, suitable diet and plenty of sun and fresh air. Sir Frederick looks forward to the time when people will leave off the extraordinary habit of taking medicine when they are sick and when it will be found as anomalous for persons to die of scarlet fever, typhoid, cholera or diphtheria as for a man to die of a wolf's bite in England.

The British Medical Association and the General Medical Council.

The General Medical Council is the body commissioned by the government for supervising medical education and maintaining discipline in the profession. It is a judicial body whose findings are final on all professional misdemeanors. The British Medical Association has decided to act as complainant in cases which may be brought before the Medical Council. As many members of the council are also members of the association, a curious situation has arisen. It would be anomalous for members of an association which is a party in a case to act also as judges. The legal advisers of the council have advised that the proper course to be taken by a member of the council who is also a member of the association is not merely to withdraw from the decision of a case in which the association is complainant, but to withdraw from membership of the association altogether. The president of the council, Dr. Macalister, has accordingly sent his resignation to the secretary of the association. Other resignations will no doubt follow.

New Departure in the Treatment of Consumption.

At the out-patient department of the Brompton Hospital, the largest hospital in London devoted to diseases of the chest, an important new departure has been made in dealing with outpatients suffering from consumption. Each one is asked to allow his condition to be reported to the health officer of his district. If he consents, active steps are taken by the health officer to improve his hygienic surroundings and to prevent the spread of the infection. Further, the health officer is asked to send to the hospital any members of the patient's family who appear to have been infected with consumption.

The Epidemic of Cerebrospinal Fever.

In Glasgow, up to March 31, 312 patients with epidemic cerebrospinal fever had been treated, with 230 deaths (a mortality of 73 per cent.). On May 31, 110 patients were under treatment.

Action by a Surgeon for the Recovery of His Fee.

Though actions for the recovery of fees by general practitioners are common enough, actions by consultants are exceedingly rare. The reason is obvious: The former, like a tradesman, allows his patients to run accounts which he presents periodically, and on which he makes bad debts, often as much as 25 per cent. The fees of the latter are generally arranged at the time of the consultation or operation, and paid there and then. Moreover, there is a feeling in the upper ranks of the profession that it is *infra dignitatem* to sue for fees. Indeed, one of the conditions attaching to membership of the Royal College of Physicians forbids suing for fees. No such condition is attached to the corresponding diploma of the Royal College of Surgeons, but the suing of a patient by one of its Fellows, such as occurred in the following case, is almost unprecedented: Mr. C. H. Fagge, the well-known aural surgeon, was summoned to Dulwich, a London suburb, by a physician who was attending a child with measles, who developed acute suppurative otitis and mastoiditis. Under ether Mr. Fagge trephined the mastoid process. The operation was necessary to save the patient's life and was successful. He arranged with the local physician to charge a fee of $250, the income of the father of the patient being $4,000. The father did not know the amount until after the operation. He demurred and tendered a fee of $125. Mr. Cheatle and Mr. Waggett, aural surgeons, gave evidence that the fee of $250 was a reasonable one under the circumstances. The defendant alleged as a reason for thinking the fee excessive that the operation occupied only 40 minutes. The judge made a point of the fact that the defendant produced no evidence to show that such operations were performed at a lower fee. The jury returned a verdict for the plaintiff.

Lead and Arsenic in Tartaric Acid, Citric Acid and Cream of Tartar.

As a result of representations that certain manufacturers and importers refused to give any guarantee of purity in respect of lead and arsenic in the tartaric acid which they sold, the government directed inquiries to be made on the subject of contamination of tartaric acid. The inquiry was extended to citric acid and potassium bitartrate, since all these substances are liable to contamination from similar causes and are largely employed in domestic articles of food and drink, as well as in medicine. The lead is derived from the lead linings of the pans in which the earlier stages of manufacture are performed. Arsenic is derived from the sulphuric acid used in the process. The amounts consumed in Great Britain are approximately as follows: Tartaric acid, home manufacture, 1,300 tons; imported, 1,800 tons; citric acid, home manufacture, 800 tons; imported, 200 tons; cream of tartar, 3,000 tons, practically all imported. Analyses of 50 selected samples showed no arsenic in the English ones, and in no case more lead than 0.002 per cent. In nearly half the foreign samples this figure was exceeded, the worst sample being tartaric acid from Germany containing 0.0062 per cent. of lead. The largest amount of arsenic was found in a sample of Spanish acid, which contained 0.0008 per cent. It is noteworthy that the specimens examined did not include any of the "commercial tartaric acid" which is sold.

Professor Sir James Dewar.

Professor Dewar, certainly one of the two most brilliant British chemists, Sir William Ramsay, of course, being the other, is the last of a distinguished series of workers in the realm of the atom and the molecule. His greatest achievements were the liquefaction of oxygen and hydrogen and common air. It is said that his first pint of liquid air cost $5,000, most of which came out of his own pocket. The tale is told that the physicians of Belfast once invited him to a smoking concert, and, Scotsman though he be, he was vastly amused at the design on the program, which represented him leading a donkey into the linen city laden with bottles of liquid hydrogen.

Jewish Tribute to Medicine in London.

The Jewish society of professional men in London, known as the Maccabeans, whose custom it is to honor, from time to time, distinguished members, whether Jew or Gentile, recently gave a banquet in London to a number of prominent physicians and surgeons. Many of the most distinguished British medical men were present. Dr. Bertram Abrahams was chairman. In returning thanks for the toast, "The Medical Profession," and speaking of the debt the public owed to the profession, Dr. Abrahams remarked that the profession of medicine does not offer such prizes as are open to a popular jockey or a music hall artist, but at least the physician who does honest work is sure of a living. He lamented the fact that in England the members of the Jewish race seemed to prefer the destructive professions of the army and the law to that of medicine.

LONDON, May 31, 1907.

Vivisection in Great Britain.

The British home office has just published a report showing that 46,073 experiments on living animals were performed in the United Kingdom during 1906 under license. In the experiments, 1,198 in number, performed under the certificate exempting the experimenter from the obligation to kill the animal before it recovers from the influence of the anesthetic, the initial operations are performed under anesthetics from the influence of which the animals are allowed to recover. If the antiseptic precautions fail and suppuration occurs, the animal is required to be killed. In no case has a cutting operation more severe than a superficial venesection been allowed to be performed without anesthetics. The total number of experiments performed for the Imperial Cancer Research Fund during 1906 was 21,082, of which 20,795 were inoculations into mice. Nearly 6,000 experiments were made on behalf of public bodies; 2,114 experiments were performed for the Royal Commission on Tuberculosis; 4,732 experiments were made for the preparation of sera and 1,079 for the testing of drugs. There were 26 injections for the diagnosis of rabies in dogs. The total number of experiments was 8,138 more than in 1905.

Causes of Crime in Great Britain.

The annual report for 1906 of the Prison Commissioners for Scotland has been issued recently. The report states that the number of receptions into ordinary prisons in Scotland in 1906 was 60,115. Of these, 42,121 were males. The females numbered 17,994. The curious paradox is advanced that material prosperity tends to foster crime. Last year was a good one, and the commissioners' experience has been that such circumstances tend to produce an increase of crimes connected with drink. The evil of excessive drinking provides not only tens of thousands of prisoners for offenses, which may be grouped under the head of disorder, but the commissioners find that drink is closely allied with serious crime. The fact most to be deplored is the large number of persons who are every year reported as having appeared in prison for the first time. In Scotland they generally number about 13,000, and it is this steady supply of new prisoners which maintains the high population of the prisons.

Alcoholism and Depopulation.

In consequence of the proposal that children under 14 years of age should be prohibited by legislation from entering public houses, the consulting medical staff of the National Association for the Feeble-minded has gathered statistics bearing on the relation of alcoholism to degeneracy. The conclusions were as follows: 1. Parental intemperance is a large factor in the degeneracy of offspring, both mental and physical. 2. Parental intemperance (*per se*) is not so large a factor as has sometimes been assumed in the causation of consequential mental defect, but in combination with other terrible taints—tuberculous, neurotic and syphilitic—alcoholism is a prevalent, though not altogether predominant cause of idiocy, imbecility and feeble-mindedness. Parental intemperance is sometimes a consequence of a neurotic or insane heredity and must be taken into account in estimating the influence of the alcoholism.

Minister of Public Health Suggested for Great Britain.

Of late it has frequently been suggested that there should be a minister of health for Great Britain. The idea has found favor with the public and is not unlikely ere long to materialize. Of course, it is absurd to educate a child while neglecting his bodily needs. Undoubtedly the care of health is a matter of first importance, and the creation of a minister of health would be a forward step toward the successful attainment of this object.

The Navy and Army Nursing Association.

In this country women are almost exclusively employed as nurses, and their skill and training is probably unsurpassed by those of any other country. On the other hand, male nurses are seldom employed and male nursing is both inefficient and unorganized. Indeed, there is no hospital at which male nurses can be trained. A step has at last been taken to remedy this defect by the formation of the Navy and Army Male Nursing Association. Its primary object is to enable first-class orderlies to find employment in civil nursing on leaving the services and to provide a good nursing reserve for the country, as every member will pledge himself to serve again in time of war. The training which these orderlies have received in the navy and army is as good as it possibly can be and they will supply a great want.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

VIENNA, June 3, 1907.

An Action Against the Dentist-Monks in Vienna.

Attention of the government has been called to the fact that unqualified dentistry is practiced in Vienna. For many years the "Barmherzige Brüder," an order of the Samaritans, has practiced dentistry in this city and the number of extractions done every year has been ever increasing until in 1906 the number reached 60,000, or nearly 200 daily. It is true the majority of the patients are of the hospital class, but many are well to do. The main reason, however, for the action is a protest from the Medical Council, stating that the extractions were generally done by absolutely unqualified monks, without the supervision of medical men; neither asepsis nor antisepsis were always adhered to, and, as a rule, no anesthetics were employed. The action of the Medical Council was seconded by the Union of Stomatologists, which in strong terms deprecated the abuse of the exceptional position of the monks. The general has ordered several brothers to enter the medical curriculum in order to comply with the requirements of the law in regard to dentistry, which compels the dentist to obtain the degree of M.D. before being permitted to practice.

Fighting Quacks and Proprietary Medicines in Austria.

A vigorous campaign is being conducted in Austria against unqualified practitioners and the nostrum business. The higher courts of justice have lately taken a decided position in this respect by stating that, for the conviction of a person charged with an offense of this kind, the fact that the patient had not suffered by the remedy recommended or the therapeutic measure employed by the defendant was of no importance. If such a person was not entitled to offer medical help, or, in other words, if he could not produce a diploma from a medical school, the law was brought to bear on him. Especially the so-called nature-healers, a species which lately has been very conspicuous by their advertisements, fall under the scope of the new view. A similarly strong stand is taken by the courts in regard to proprietary medicines, the composition of which must be disclosed to the board of health, and which must be admitted by this board. Acting on a suggestion by several medical corporations, the minister of the interior has issued several orders against the advertisements of so-called "cures," the best known and best advertised of which are cures for deafness, hernia and "female illness." The latter especially are simply announcements of a criminal nature, since they mean, under a slight disguise, nothing more than advertisements of criminal abortion. In order to suppress such advertising, newspapers have been forbidden to accept them. The description of "patent medicines" must be confined to their actual virtues, without duping the public by fraudulent testimonials and misquoted endorsements from the profession. The new parliament, which has been elected on an entirely new basis, will, no doubt, favor the movement against the people's enemies; a number of medical men have been elected, and these mostly of a radical turn of mind, so that energetic actions in this respect are justly to be expected.

Pharmacology

PRINCIPAL NEW REMEDIES FOR 1906.

Report of the Investigations Made at the Institute of Berlin University.

F. Zernik made a report to the German Pharmaceutical Society[1] at its meeting Feb. 7, 1907, on the principal new remedies for the last year. The investigations on which the report is based were made at the Institute of Berlin University under the auspices of the society. Thirty-six new preparations were investigated and of these 12 were thoroughly objectionable. In 12 others the statements of the literature were false, and only in one-third could the statements of the manufacturers or of the literature be confirmed. These figures show how necessary is a systematic and regular investigation of the new remedies.

In introducing the subject Zernik points out that the institute has entered into an arrangement with the Council on Pharmacy and Chemistry of the American Medical Association whereby the work of one becomes available to the other party. Commenting on the scope of the work done by the Council, Zernik recommends that in Germany pharmaceutical chemists and physicians cooperate in a similar manner. He further notes that the exposition of the defects or unreliability of new remedies can have little effect unless these results become known to the physicians. It will be of little service for the pharmacist to be informed that a proprietary remedy does not sustain the claims made for it if the physician, in ignorance of these exposures and trusting to literature of the manufacturer, continues to prescribe it.

AUTAN.

Autan is a preparation intended for use as a disinfectant. The process of preparing it is protected by patent and depends on the fact that all alkaline peroxids in the presence of water are capable of converting paraformaldehyd into formaldehyd. In place of an alkali peroxid a peracid salt may be used, for instance, sodium perborate. By the addition of an alkaline substance the development of formaldehyd is accelerated. The autan of commerce is a mixture of barium peroxid and paraformaldehyd. The application is very simple. The amount corresponding to the size of the room is put in an appropriate vessel and the prescribed quantity of water added. Gas is evolved immediately. After disinfection is completed a corresponding quantity of "ammonia-developer" supplied with the disinfectant is set into activity by moistening with water, the formaldehyd vapors present are converted into hexamethylenamin.

FESTOFORM.

Festoform is made by solidifying a solution of formaldehyd by the addition of soap. It dissolves in water, forming an opalescent neutral liquid which is applied to the disinfection of rooms with a specially constructed apparatus.

PHENYFORM.

The action of phenyform, which is recommended as a non-irritating, rapidly drying and non-toxic antiseptic for wounds, also depends essentially on the splitting off of formaldehyd. According to the German patent, it is produced by heating phenol with a solution of potassium hydroxid and formaldehyd. After the reaction is completed the mixture is acidified and the voluminous precipitate collected. It is an almost colorless, very light, odorless and tasteless powder, insoluble in water, ether and fixed oils, but soluble in alcohol, acetone and alkaline solutions. On warming with an alkali it develops formaldehyd. According to Zernik's investigations phenyform is a mixture of at least two condensation products of phenol and formaldehyd. The reaction with ferric chlorid shows that phenyform contains phenolic hydroxyl. The theoretically possible combination $OHC_6H_4.CH_2.C_6H_4.OH$ could not split off any formaldehyd on warming with an alkali. It is not chemically correct to designate it as polymerized oxybenzyl alcohol as has been done by Schuftan. Zernik found the remedy to be caustic, probably because of free phenolic hydroxyl.

IODOFAN.

Iodofan is the subject of many contradictory statements as to its composition and properties. It has been given the formula $C_6H_3I(OH)_2HCHO$ or $C_6H_3I(OH)_2HCHO,2H_2O$. The product obtained in the market is amorphous, brownish red, scarcely soluble in alcohol, ether or chloroform, insoluble in cold water. On warming with water or with alkali some iodin is split off which can be demonstrated in the filtrate together with a reducing substance. Formaldehyd can not be distilled from the extract obtained by shaking iodofan either with acid or with alkali. It contains 15 per cent. water, yields 0.26 per cent. ash and about 4 per cent. iodin. According to the formulas given it should contain from 42.04 or 47.75 per cent. iodin. It is evident that it does not possess the composition claimed.

ALFORMIN.

Alformin is recommended as a substitute for solution of aluminum acetate on the claim of greater permanence and greater astringent and disinfecting power. It is a mixture of free formic acid and aluminum formate having the formula $Al(HCOO)_2OH$. Zernik could not substantiate the claim to greater permanence and attributes the increased disinfecting power to free formic acid, which would also be more irritating.

Tannisol is a preparation similar to tannoform produced by evaporating tannin with a solution of formaldehyd.

Novocain (See "New and Non-official Remedies," The Journal, Nov. 10, 1906), and Alypin (See "New and Non-official Remedies," The Journal, Feb. 2, 1907), are now offered in the form of nitrates so they can be mixed with silver nitrate.

BENZO-SALIN AND VESIPYRIN.

Benzo-salin and vesipyrin are new salicyl preparations isomeric with each other. Benzo-salin is the methylester of benzosalicylic acid $C_6H_4(COCH_3)$ $(OCOC_6H_5)$ and vesipyrin is acetyl-phenyl-salicylate $C_6H_4(COOC_6H_5)$ $(OCOCH_3)$. Benzosalicylic acid is a hitherto unknown compound and is produced by the action of benzoylchlorid and disodium salicylate. Benzo-salin is a white powder insoluble in water, unaffected by the stomach, but decomposed into its constituents slowly in the intestine. Vesipyrin has similar properties.

Salimenthol is a menthyl ester of salicylic acid decomposed in the intestine into its constituents.

ASPIROPHEN.

Another new salicyl preparation had been introduced into trade under the name aspirophen. While it is claimed to be a definite compound of acetyl acetic acid and phenocoll, investigation showed that it is not a chemical compound but rather a mixture in molecular proportions of free salicylic acid and monoacetyl phenocoll. In this connection it is noted that the claims of the manufacturers are based on the ground that it does not contain free salicylic acid.

Citrocoll is a similar preparation; its real composition is not yet definitely determined, but it is certainly not what the manufacturers claim it to be, triphenyl citrate.

Migrophen, sulphopyrin and beta-sulphopyrin were found to be mixtures instead of definite chemical compounds.

Iodipin (See "New and Non-official Remedies," The Journal, Oct. 27, 1906), has been improved by converting it into a solid form by emulsifying it with the albumin preparation roborat.

SAJODIN.

The calcium salt of mono-iodo-behenic acid has been put on the market under the name sajodin (See "New and Non-official Remedies," The Journal, Feb. 23, 1907), as a substitute for potassium iodid. Its composition should be $Ca(C_{22}H_{42}O_2I)_2$ and it should contain 26 per cent. of iodin. The samples of sajodin on the market have varied considerably in their iodin content. It is claimed that the preparation of a compound containing this per cent. of iodin presents some difficulties to the large manufacturer, but Emil Fischer on behalf of the manufacturers has promised that hereafter it shall contain as a minimum 24.5 per cent. of iodin reckoned on the dry material. The commercial preparation is somewhat hygroscopic and contains from 1 to 2 per cent. of water. Zernik has devised a process whereby the iodin content of this and similar preparations can be conveniently determined.

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[1] Berichte der deutschen pharmaceutischen Gessellschaft, 907, p. 81.

Estoral is a mentholborate which is decomposed into its constituents by moisture, as when applied to mucous membranes. In this way it secures the application of menthol and boric acid to surfaces affected with catarrh. On wounded surfaces it produces some burning which can be obviated by mixing it with some milk sugar.

Coryfin is said to be a menthyl ethylglycollate and is recommended as an external application for catarrh and headache.

Bismuth bisalicylate and bismuth bitannate are new bismuth salts less basic than the official bismuth compounds, and half their salicylic or tannic acid is readily set free. Examination showed them to be not quite pure and not up to the standard set by the patent specifications.

For diabetics the dulcinol chocolate is of interest. Dulcinol is mannite, the sweet principle of manna, made palatable by the addition of a little common salt.

Ovagol is a combination of the biliary acids with albumin which is said to pass into the stomach without causing irritation but to be decomposed in the intestine and exert there its cholagogue action.

Theophorin, theobromin-sodium formate, is introduced as a new diuretic. Its incompatibility with acids, even the carbonic acid of the air, is to be remembered.

Two new urinary disinfectants, borovertin and formurol, have been introduced. The former is a combination of hexamethylenetetramin with boric acid, the latter with citric acid. Formurol has been found by Zernik to be a mixture.

Novargan (See "New and Non-official Remedies," The Journal, Feb. 16, 1907), was introduced the year before last as a new silver preparation, but failed because of its irritating character and because of the ease with which its solutions decompose. The manufacturers have introduced two new compounds, one of which, novargan III, appears adapted to overcome the objections to the compound first introduced. The new compound gives a clear yellow 1 per cent. solution that can be warmed to 40 C. (104 F.) without decomposition.

Serious objections to introducing a new substance under the protected name already given to a preparation that is also on the market are noted by Zernik, chief of which is that the pharmacist may put up the old for the new, to the disappointment of both patient and physician.

Omorol is an organic silver preparation, which is recommended for local application to the throat in diphtheria, etc.

Sophol is a silver preparation, claimed to be a combination of silver with formonucleinic acid, but it has not proven to be permanent or of constant composition.

Mergal is said to be a mixture of two parts albumin tannate with one of mercuric cholate. The object of the preparation is to present mercury to the liver in a form related as nearly as possible to the constituents of the hepatic tissues in the hope that it will be more quickly excreted.

Hygiopon is an iron preparation, said to be obtained by an electric process and to possess an electrolytic action. Nothing is known of the method of preparation.

Isn, which has been claimed to be a ferrous saccharate, was shown by Koch to be a mixture of ferric and ferrous citrate with sugar.

Trypanroth has been shown to be an effective agent against the trypanosoma, which it destroys while circulating in the blood, but is powerless to do this after the dye has been fixed in the tissues. It is believed that the dye stimulates the organism to the production of a temporary defense against trypanosomes.

Annual Pharmacopeia Meeting.

The seventh annual meeting of the trustees of the United States Pharmacopeial convention was held in St. Louis, May 2-3, 1907.

The committee on Albert E. Ebert portrait reported progress. The additions and corrections to the Pharmacopeia submitted by the committee on revision were approved. It was decided to hold a meeting at Columbus, Ohio. The annual report of the treasurer was referred to the auditing committee. A committee was appointed to receive bids for the printing of the Spanish translation of the United States Pharmacopeia. A communication was received from C. S. N. Hallberg suggesting a systematic examination of perhaps 1,000,000 prescriptions in various parts of the country to ascertain the relation of articles prescribed to those now official. This was referred to the committee on revision, with a recommendation that the suggestion be carried out.

It was decided that the title page of the Pharmacopeia shall not bear the name of any individual connected with the production of the matter included therein, this rule, however not to exclude the names of persons or firms authorized by the board of trustees to act as agents for the sale of the book. A committee was appointed to prepare recommendations to be submitted for the consideration of the U. S. P. convention of 1910.

The officers of the board of trustees were re-elected for the ensuing year. The committees were reappointed with the exception of the vacancy on committees caused by the death of Albert E. Ebert, which was filled by Frederick W. Meissner, the recently elected member of the board. On the evening of the first day the members were tendered a banquet by prominent pharmacists and physicians of St. Louis.

Give Medicine for Physiologic Effect.

Dr. John B. Roberts, in the *St. Louis Medical Review*, thinks that one of the reasons why satisfactory results are not gotten from prescriptions written by physicians is that too small amounts of the drug are prescribed. "The physician must know what he is giving, and how much," he says, "and must have the courage to give enough. Much of the vaunted value of nostrums comes from the fact that the careless and ignorant practitioner unwittingly gives these medicines in larger doses in the form of the advertised remedy than he has been accustomed to give in prescriptions."

Correspondence

The Temperance Lunch.

Hartford, Conn., June 13, 1907.

To the Editor:—I have received several letters from persons who evidently were not present at the Atlantic City meeting, inquiring about the "temperance lunch." A general statement of this occasion will be a sufficient answer to all inquiries and will be of interest to others.

For some time past a marked sentiment was expressed to us that the American Medical Association should show more interest in the alcohol problem at its annual meeting. The American Association for the Study of Alcohol and Other Narcotics has for the past twelve years held its annual meetings at the same time and place as the American Medical Association, but has not attracted much attention. The feeling has been expressed widely that a general meeting should be held, in which all members of the American Medical Association might join and discuss some of the great problems.

Following the example of the British Medical Association, a "temperance lunch" was arranged at Atlantic City, at which the President and eight ex-presidents of the Association agreed to be present and speak, together with others.

This was an unmistakable indication of the popularity of the movement, and arrangements were made to accommodate forty or fifty persons. The occasion was postponed a day to accommodate the landlord of the hotel and some of the speakers. The time was so arranged as not to interfere with other exacting duties of the Association, and to the surprise of the managers 118 tickets were sold, the full limit of the room, and this did not include a dozen more, who were invited guests, and were crowded in.

Four of the speakers were present. Two of the others sent notes of regret explaining their absence, and one was prevented by illness from attending the meeting. Dr. H. O. Marcy, Boston, presided, and most felicitously announced the purpose and object of the meeting, and introduced the speakers as appearing for the first time in the rôle of temperance orators. To this the speakers replied with anecdotes and jests which kept the audience in a roar of laughter. Dr. Marcy said that the time has come for the profession to show its interest in a topic which is so intimately associated with the practice of every physician. Most unfortunately, the subject of temperance has been left to laymen and quacks, and the profession has stood by indifferent. A little band of pioneer men has been working over thirty years on this line, and it seems now that the time has come when the American Medical Association should come to their rescue and show an interest in the subject. He hoped that this would be the beginning of yearly meetings in which the American Medical Association would take a decided stand, not as defenders of any one theory, but as scientific students encouraging more exact study of the causes and methods of prevention.

The President, Dr. Bryant, followed, expressing his intense interest in all phases of the subject and congratulated the persons present on their interest to encourage the scientific study, and, if possible, point out means of prevention, in the broad sense, by which we can be freed from the terrible evils which gather about it. As a surgeon he believes that there is greater possibility of success in treating total abstainers and greater triumphs to be achieved when we can have eliminated the alcoholic factor of degeneration in the history of our patients.

He was followed by Dr. Musser, who pointed out many fields of causes that lead directly to the use of spirits and drugs. Discovering and preventing these would open up a new field with the greatest possibilities of success. He expressed his hearty sympathy with this effort and hoped that each one would make a scientific study of the conditions which terminate in such disastrous use of spirits.

Dr. Frank Billings urged the necessity of taking up the alcoholic problem as a scientific one, in which the study of causes and means of prevention should be the central object and purpose. He believes that there are large fields of preventive medicine in this direction that are yet to be occupied, and this movement is in the right direction and receives his heartiest approval.

Dr. McCormack followed, showing what a change there has been in public sentiment concerning the alcohol problem. He finds physicians in every state intensely interested and anxious to know how to bring about a revolution of the present theories and efforts to prevent the evils.

Professor Hall called attention to the delusion of alcohol as a stimulant and the failure of modern scientific methods to confirm the theories of the past. He believes that laboratory work will revolutionize and change the subject of alcohol as at present understood.

Dr. Grosvenor considers the alcoholic problem one of the most important of the present time and peculiarly a medical topic which the physicians, of all others, should teach.

Dr. Crothers mentioned the various anti-alcohol congresses held in Europe and the one projected to occur in Stockholm in July, which the Swedish government has officially recognized.

The meeting closed with appeal from the chairman to join n a new effort to place the medical profession right on this great problem. An effort is now being made to have these peeches gathered in a pamphlet form. not only because of heir historic interest, but as expressions of the prevailing entiments of some of the leading men of the profession at the eginning of the century. While there is difference of opinion oncerning many of the alcohol problems, there is remarkable nanimity that the great question should come into the hands f physicians and be studied entirely from its scientific side.

The American Association for the Study of Alcohol was organized in 1807, and has held meetings every year, studying ll phases of the problem.

It is now evident that the profession as a whole is going to ake up the subject, and from all sides there are unmistakable ndications that this will be one of the great topics that will ccupy the attention of the profession in the future. A similar meeting next year has already been projected, and as secretary, the work will come into my hands, and with the cooperation of all persons interested a most enthusiastic meeting may be expected.

T. D. Crothers, M.D.

Veronal Dermatitis.

Portland, Ore., June 5, 1907.

To the Editor:—In The Journal, June 1, Dr. L. Duncan Bulkley reported a case of veronal dermatitis which substantiates the case reported by me in the issue of April 20. I will pass over his remarks on, and the moral he draws from, my apparent neglect of the antecedent history, with the statement that a careful history had been taken. It is a good point always to omit unnecessary detail in recording cases, assuming that the intelligent reader appreciates the value of negations. The brief things are read—the lengthy are laid aside for an idle hour which never comes. The essentials of my case were the dermopathic possibilities of veronal, which were reported with sufficient fulness so that even my dermatologic friend did not attempt to improve on the description except to call my "blotches" maculo-papules.

It is noteworthy that both his patient and mine were elderly men. Each suffered from vertigo, depression and mental haziness after taking the veronal. This points to the probability that veronal is not a wise drug to use in aged persons except perhaps in small dose. Indeed, this conclusion has been forced on me from its use in several senile patients in whom it caused staggering, vertigo and stupor for half a day after the hypnotic effects had worn off. In such patients I have found that trional is the preferable drug. It seems, therefore, that senility is one of the few contraindications against the use of veronal. This conclusion I regard as of very considerable importance in connection with a drug which is being so extensively used.

William House.

Miscellany

TOILET PREPARATIONS.

Analyses of Ayer's Hair Vigor, Pond's Extract, Danderine, Herpicide and Others.

Examinations of various toilet articles by C. D. Howard, chemist for the New Hampshire State Board of Health (*New Hampshire Sanitary Bulletin*, April, 1907), yielded some interesting results. These articles partake partly of the nature of medicinal agents and when used purely for toilet purposes are still of interest to the physician on account of the poisonous, irritating or injurious ingredients entering into many of them.

The hair tonics and dandruff cures belong to the following classes: 1. Mixtures of sulphur and glycerin, with or without lead acetate—depending on whether the preparation is to act as a dye, as well as a tonic. 2. Dilute alcoholic solutions of essential oils and some counterirritant, with or without glycerin or borax. 3. A class combining the second class with the alkaloids of cinchona and, rarely, of nux vomica.

The following brands come under class 1: Hay's Hair Health (contains lead acetate), Parker's Hair Balsam (contains lead acetate), Hall's Vegetable Sicilian Hair Renewer, Ayer's Hair Vigor.

Under class 2: Coke's Dandruff Cure (30.4 per cent. alcohol, practically all of which was found to be methyl or wood alcohol), Zepp's Dandruff Cure, Corolla's Hair Tonic, Westphal's Auxiliator (containing more than 10 per cent. of wood alcohol), Seven Sutherland Sisters' Hair Grower, Mme Yale's Excelsior Hair Tonic, Danderine, Newbro's Herpicide ("contains 56.2 per cent. of alcohol, practically all of which was found to be methyl or wood alcohol"), Foso Bark.

Lotions, cosmetics, cold creams, etc., may be divided into two classes: 1. Preparations intended for the removal of some facial disfigurement, or for the bleaching of the complexion. 2. Substances designed as soothing applications for minor or temporary disorders of the skin. "While certain constituents of the second class, such as borax, benzoin, almond meal, etc., serve to some extent as bleachers, yet most of the 'patent' preparations sold for this purpose and for the removal of tan, freckles and the like, contain such drastic and objectionable substances as salts of mercury, lead and zinc." The examination of these substances reveals the fact that many which are advertised as "perfectly harmless" contain poisons which might result in serious accidents if used in an improper manner and which might be absorbed from the skin so as to produce injurious effects or even fatal poisoning. Doubtless this form of misbranding can be brought under the control of the present law, but it seems as if the obligation to put the ingredients on the label ought to be extended to include the dangerous poisons as well as narcotic drugs.

Among the lotions examined, Mrs. McCorrison's Famous Diamond Lotion and Soule's Eradicator contain corrosive sublimate, Champlin's Liquid Pearl contains lead carbonate, and Dr. T. Gelix Gouraud's Oriental Cream or Magical Beautifier contains calomel. "The 'Magical Beautifier' was found to consist of approximately one-half ounce of calomel suspended in a short half-pint of water—a liberal valuation would be about five cents." The price at which the preparation is intended to sell is $1.50. Hind's Honey and Almond Cream contains no honey, so that the use of the word in the name is illegal.

The use of the word water in the naming of Florida waters is somewhat misleading, as most of these preparations contain a considerable but varying percentage of alcohol, which is necessary to dissolve the essential oils which form the active constituents. Florida water prepared by Diaz & Co. contains 13 per cent. of alcohol—all methyl or wood alcohol—and Violet Toilet Water, Dupont & Co., Paris, shows total alcohol, 67.60 per cent., of which 33.80 per cent. is wood alcohol.

The extracts of witch hazel examined show an absence of wood alcohol and formaldehyd, and contain ethyl alcohol in proportions varying from 7.8 per cent. to 14.95 per cent. The later quantity was found in the well-known brand, Pond's Extract. The residue on evaporation of this preparation was 0.01 per cent. Howard says: "Notwithstanding the extreme (and, it would appear, misleading) claims of the manufacturers, we are unable to find wherein this product differs (aside from alcoholic content) in any essential particular from other so-called 'extracts' of witch hazel." These preparations must be sharply distinguished from the official extract of witch hazel made by percolation and contain little if any medicinal agents except the alcohol.

Matis, advertised as a purely vegetable compound, contains 2.1 per cent. of saline matter, largely potassium iodid. Two preparations labeled honey and tar were found to contain no honey.

Sanitary and Moral Prophylaxis.—All sanitary efforts involve more or less of social and moral interests, and this is especially true of the three great plagues, tuberculosis, alcoholism and venereal diseases, which threaten the very life of civilized society. The organization of effort against the last of these evils, while originating with the medical profession, must of necessity enlist the aid of other classes and appeal to the public as a moral movement of greater scope than the mere prevention of disease. The magnitude of the problem confronting the Society of Sanitary and Moral Prophylaxis is partly shown by the statistics which its president, Prince A. Morrow, cited in his plea for such an organization, which was delivered before the Medical Society of the County of New York, May 23, 1904, and is now reprinted in the first volume of the Transactions of the society. This book shows that its members have not been idle in furthering the object of its existence, viz., the study of means for limiting the spread of diseases which have their origin in the social evil. The volume of 166 pages contains a list of 334 members of the society, composed largely of New York physicians, but including a fair number from other parts of the country and a considerable number of the laity, largely members of the clergy. The Transactions consist of addresses and papers read before the society from its first meeting, Feb. 8, 1905, to that of April 12, 1906. The society has early recognized that the chief means to be relied on for the suppression of these diseases is education, and the papers and discussions are chiefly concerned with the questions of what should be taught and how it can best be taught to those who need the knowledge. That knowledge alone will suffice to remove this evil is not to be supposed, but it must be admitted that it is likely to have a great deterring force. The discussions, however, indicate clearly that the success of the movement depends not merely on the impartation of physiologic knowledge or instruction in regard to disease. It necessitates the inculcation of higher ethical standards in regard to sexual matters and the uprooting of misconceptions which have taken possession of the lay mind, and to some extent have affected the judgment of the physician. In pursuance of its plan of education the society has published a pamphlet written by one of its members and entitled "The Young Man's Problem." While starting with the discussion from a purely physical and hygienic standpoint, this pamphlet leads at last to the moral aspect of the question and suggests that the education of the young man should be such as to lead him to a high ideal and to such respect for women that he will refrain from illicit intercourse on moral grounds. While the pamphlet will appeal strongly to the educated young man, its language appears to be too technical and its tone too philosophic to be understood by, and to make an impression on, the men who are most liable to fall victims to the venereal peril. For, while it is not proper to minimize the danger to the educated young man and it must be admitted that even the religious man may succumb to temptation, it is nevertheless true that the student or the young man who has received good moral training is already safeguarded to a certain extent by the very remedies which the society purposes to apply. Two other educational pamphlets have been put out by the society, one for teachers and one on the relation of these diseases to marriage. The importance of the issues which engage the attention of this society is its strongest claim to the support and cooperation of the medical profession as well as to that of other classes of the community.

Religious Body Aids in the Campaign for Venereal Prophylaxis.—An encouraging step has been taken by the Diocese of Massachusetts of the Protestant Episcopal Church in appointing a committee to inquire into the prevalence of immorality and its results and to recommend some action by that church in the matter. The appointment of this committee was largely due to the statements made in publications of the American Society of Sanitary and Moral Prophylaxis and in discussions before the American Medical Association and other bodies.

The committee reports that the statements made are correct and emphasize the responsibility of parents, teachers, physicians and the church. In order to awaken a deeper sense of responsibility among these different classes, they recommend that literature be prepared, not too technical nor diffuse, which should be widely disseminated either by societies of medical men for, or by such organizations as the New England Watch and Ward Society. They recommend efforts for the suppression of intemperance, for opposing the retardation of the age of marriage on account of too high a standard of living, the suppression of medical advertisements, improvement of industrial conditions which, by their oppressive burdens on poor girls, often increase the temptations to immorality, and lastly, they condemn sensational newspapers, which they declare Christians should not read, and, especially, should not advertise in.

The report is said to have stirred up a remarkable excitement throughout the state among the people as well as the clergy. The report of the committee concludes as follows:

"The church can not afford to be remiss in this every-day fight against the world, the flesh and the devil. Your committee respectfully urges that this convention should beg Christians everywhere to join in a more open, explicit and earnest battle against the forces of organized evil."

Frank's Technic for Cesarean Section.—As mentioned recently in these columns, page 1305, Frank performed Cesarean section in twelve cases, in thirteen of which the ordinary technic was contraindicated by suspicion or certainty as to the presence of infection. The results were excellent in every instance. He makes a small transverse incision above the symphysis, with the pelvis raised; opens the peritoneum and loosens the reflection of the peritoneum over the lower segment of the anterior aspect of the uterus. He seldom attempts to detach the peritoneum from the bladder, as this is liable to cause considerable hemorrhage, but incises the peritoneum again, beyond where it is firmly adherent to the bladder, leaving the adherent patch untouched. The lower lip of the lowest incision in the peritoneum is then drawn up and sutured to the upper lip of the first incision, thus suturing the peritoneum into a closed sac again, but out of the way above. The uterus is then opened with a transverse incision and the child delivered, the delivery being practicallly extraperitoneal. The loss of blood with this "suprasymphyseal delivery," as he calls it, was always surprisingly small, while he believes that it obviates danger of peritonitis and enlarges the sphere of the Cesarean operation.

A Lesson in Hygiene from the Turks.—The Turks never enter a mosque or residence or public building without removing the shoes they have worn in the street. The well-to-do wear an inner shoe, but the poor enter the building in their stocking feet or bare feet. They regard it as the greatest discourtesy to carry into a house or other building the filth clinging to the outer shoe, while it would be absolute desecration to take the filth into a sacred edifice. Remlinger (*Presse Médicale*), commends the practice. The extreme filthiness of their streets and the heavy oriental rugs indoors, which they wish to preserve from grit, have been important factors, of course, in the local adoption of the custom, but its advantages commend it for universal adoption. The women in Turkey do not sweep up the dust of the streets on their skirts, as is the custom with women in other lands. The trailing skirt is exclusively a product of occidental civilization.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Pennsylvania State Board of Medical Examiners, 708 Locust Street, Philadelphia, and in Pittsburg Academy, Ross and Diamond Streets, Pittsburg, June 25-28. Secretary, Dr. Winters D. Hamaker, Meadville.

Pennsylvania Homeopathic Board of Medical Examiners, N. W. Corner 15th and Cherry Streets, Philadelphia, June 25-28. Secretary, Dr. C. S. Middleton, 1523 Girard avenue, Philadelphia.

Pennsylvania Eclectic Board of Medical Examiners, Harrisburg, June 25-28. Secretary, Dr. W. H. Blake, 2116 N. Marvine Street, Philadelphia.

Texas State Board of Medical Examiners, Austin, June 25-27. Secretary, Dr. T. T. Jackson, San Antonio.

Utah State Board of Medical Examiners, Salt Lake City, July 1. Secretary, Dr. R. W. Fisher, Salt Lake City.

Arizona Board of Medical Examiners, Phoenix, July 1-2. Secretary, Dr. Ancil Martin, Phoenix.

Texas Eclectic Board of Medical Examiners, Dallas, July 1-3. Secretary, Dr. L. S. Downs, Galveston.

Washington State Medical Examining Board, Seattle, July 2. Secretary, Dr. C. W. Sharples, Seattle.

Colorado State Board of Medical Examiners, Denver, July 2. Secretary, Dr. S. D. Van Meter, 1723 Tremont St., Denver.

Rhode Island State Board of Health, Room 313, State House, Providence, July 2-3. Secretary, Dr. Gardner T. Swarts, Providence.

North Dakota State Board of Medical Examiners, Grand Forks, July 2-4. Secretary, Dr. H. M. Wheeler, Grand Forks.

Connecticut Eclectic Medical Examining Board, State Capitol, Hartford, July 9. Secretary, Dr. Thomas S. Hodge, Torrington.

Arkansas Eclectic State Medical Board, Little Rock, July 9. Secretary, Dr. A. J. Widener, Little Rock.

Arkansas Homeopathic State Medical Board, Little Rock, July 9. Secretary, Dr. V. H. Hallman, Hot Springs.

Arkansas State Medical Board, State Capitol Building, Little Rock, July 9. Secretary, Dr. F. T. Murphy, Brinkley.

Maine Board of Registration in Medicine, State House, Augusta, July 9-10. Secretary, Dr. William J. Maybury, Saco.

Connecticut Homeopathic Medical Examining Board, Grace Hospital, New Haven, July 9-10. Secretary, Dr. Edwin C. M. Hall, New Haven.

Vermont State Board of Medical Registration, Burlington, July 9-11. Secretary, Dr. W. Scott Nay, Underhill.

Wisconsin State Board of Medical Examiners, Capitol Building, Madison, July 9-11. Secretary, Dr. J. V. Stevens, Jefferson.

Missouri State Board of Health, Mexico, July 9-11. Secretary, Dr. J. A. B. Adcock, Warrensburg.

Oregon State Board of Medical Examiners, Portland, July 9-11. Secretary, Dr. Byron E. Miller, "The Dekum," Portland.

West Virginia State Board of Health, Charleston, July 9-11. Secretary, Dr. H. A. Barbee, Point Pleasant.

South Dakota State Board of Medical Examiners, Sioux Falls, July 10-11. Secretary, Dr. H. E. McNutt, Aberdeen.

California's New Practice Act.—The following is an abstract of the Practice Act, approved March 14, 1907:

Board.—The new Board of Medical Examiners of California will consist of eleven members appointed by the governor, five from a list of ten names furnished by the California State Medical Society, two members each from lists of four names each furnished by the State Homeopathic, Eclectic and Osteopathic Societies. Vacancies occurring will be filled from the other names on the list furnished. The term of appointment is for two years. Members are not to be in any manner connected with or interested financially in any medical college or school of osteopathy. No motion can be carried nor any rule or resolution adopted without having an affirmative vote of at least seven members. The secretary will not participate as an examiner in any examination held by the board.

Meetings.—Meetings may be held at such time and place as the board may designate. The legal residence of the board will be San Francisco.

Fees.—The registration fee is $25.00. When credentials are found to be insufficient or if applicant does not desire to take the examination, $15.00 will be returned.

Application and College Standard.—At least two weeks prior to the regular meeting of the board, applicants for license to practice medicine and surgery must file testimonials of good moral character, together with a diploma from a medical college, the requirement of which must be equal to that of the Association of American Medical Colleges at the time the diploma was granted; must prove that the diploma was received by him in the regular course of instruction and examination without fraud or misrepresentation, and must fill out an application blank containing such information regarding medical and preliminary education as the board may prescribe. Applicants for a certificate to practice osteopathy must file a diploma from a legally chartered school of osteopathy having a course of at least twenty months and after 1908 of three years of nine months each and including the studies examined on under the act. The examination is to be wholly or partly in writing, practical in character and to consist of ten questions on each of the following subjects: Anatomy, histology, gynecology, pathology, bacteriology, chemistry, including toxicology, physiology, obstetrics, general diagnosis and hygiene. Applicants must receive a general average of 75 and must not fall below 60 in any one branch. Five per cent. will be allowed for each ten years of reputable practice. In the examination applicants will be known by number only, the name to be kept secret until the board has finally voted on the application. Licenses must be recorded in the county where the holder is practicing. Practicing without first having a certificate so recorded is a misdemeanor, subject to a fine of $25 to $100 or imprisonment for thirty to sixty days, or both fine and imprisonment.

Refusal or Revocation of License.—After proof has been duly established, the board has the right to refuse a license for unprofessional conduct, which must have been within the two years next preceding his application. The board may also revoke a license for the same cause. Unprofessional conduct is defined to include procuring or aiding or abetting in procuring criminal abortion, wilful betraying of a professional secret, deceptive advertising of medical business, advertising of medicines or means regulating or re-establishing of the monthly periods of women, offenses involving moral turpitude, habitual intemperance and the impersonation of another licensed practitioner.

Exemptions.— This act does not apply to service in case of emergency or to the giving of family remedies nor to medical officers in the governmental services in the discharge of their official duties nor to dentists practicing dentistry, nor to a licensed physician of any other state while in actual consultation with a physician licensed in this state, nor to treatment by prayer, nor shall it be construed to discriminate against any particular school of medicine. All practicing under certificates issued under former laws are allowed to continue practice, but all certificates will be subject to revocation for unprofessional conduct as if issued under this act.

Practicing Without a License.—Any person who shall attempt to practice or advertise or hold himself out as practicing medicine, surgery, osteopathy or any other system of treating the sick or afflicted without having a valid unrevoked certificate will be guilty of a misdemeanor and subject to a fine of $100 to $500 or to imprisonment for 60 to 180 days, or to both fine and imprisonment. Impersonation of another practitioner constitutes a felony and is subject to the penalty so provided.

Utah's New Practice Act.—This Act, approved March 14, 1907, as abstracted, is as follows:

Board.—The Board of Medical Examiners of the State of Utah will consist of nine members appointed by the governor from licensed practitioners representing the various schools of medicine. This board will have the power to sue or be sued in its official name, to employ legal counsel and to conduct such business as is necessary in the performance of its duty. Any member of the board after trial may be removed by a two-thirds vote of the other members of the board.

Meetings.—The board will meet on the first Monday in January, April, July and October of each year in the state capitol.

Fees.—Examination fee, $15.00; reciprocity fee, $25.00.

Application and College Standard.—Applicant must show satisfactory evidence of having received a certificate from a first grade high school or an equivalent education. He must have received a diploma from a recognized medical college, which at the time of granting the diploma required at least the following hours of study: Anatomy, 420; histology, 90; physiology, 300; chemistry, 300; therapeutics, 90; bacteriology, 140; pathology, 240; physical diagnosis, 100; surgery, 540; obstetrics, 160, and gynecology, 160. Allowing a leeway of 10 per cent., the total minimum requirement is 2,286 hours. He must pass an examination, which must be wholly or partly in writing, in the above named subjects. License must be recorded in the county wherein holder resides.

Exemptions.—This act does not prohibit services in case of emergency, the administration of family remedies, nor to the medical officers of the government services in the performance of their official duties, nor to those healing by spiritual means without pretending to have a knowledge of medicine. Nor will this act apply to osteopaths now holding certificates from the Territorial or State Board of Medical Examiners. These, however, must within 60 days apply for a certificate entitling them to practice medicine and surgery.

Reciprocity.—Arrangement is made for reciprocity with states having standards at least as high as that of Utah.

Definition.—Any person shall be regarded as practicing medicine within the meaning of this act who shall diagnose, treat, operate on, prescribe or advise for, any physical ailment of another for a fee, or who shall hold himself out by means of signs, cards, advertisements, or otherwise, as a physician or surgeon.

Revocation of Licenses.—The board has the right to revoke or refuse a license for unprofessional conduct after due investigation has been made and proof established. Unprofessional conduct is defined to include criminal abortion, claiming to permanently cure manifestly incurable diseases, betraying of professional secrets, the making of grossly improbable statements in advertisements, the advertising of any medicine or means regulating or re-establishing the monthly periods of women, any offense involving moral turpitude, habitual intemperance, the excessive use of drugs or gross immorality. Nongraduate licentiates are not allowed to advertise as doctor, physician or surgeon, but as a "licensed non-graduate practitioner of medicine." Practicing without a license is a misdemeanor and one so practicing is liable to a fine of from $100 to $500 or imprisonment for 60 to 80 days, or both fine and imprisonment.

Colleges Adopt Higher Entrance Requirements.—The faculty of the College of Medicine of the State University of Iowa, at its session held May 31, 1907, voted to recommend to the board of regents that, beginning in September, 1910, the requirement for admission to the study of medicine be increased to two years of university work. The board of regents has already favorably acted on the one-year requirement, beginning September, 1909.——Cooper Medical College, San Francisco, by action of its faculty at a recent meeting, will require, after Jan. 1, 1910, that all students must have preliminary education equal to one year of work in a college of arts in addition to a four-year high school education, this additional year to include the subjects of physics, chemistry, biology and one language.

Corrections of State Board Statistics.—In The Journal, May 25, page 1764, line 21 was displaced; one of the two who failed in Alabama and who were charged against the Medical College of Georgia should be charged to the Atlanta School of Medicine. The totals, therefore, for the Atlanta School of Medicine, in tables A, D and G should read: Examined, 20; passed, 19; failed, 1; percentage of failures, 5.0. The one who failed in Alabama charged against the Medical College of Georgia on page 1768, line 21, should have been in line 22, for the Atlanta School of Medicine, while on page 1772 the one failing in Alabama, in line 22, should be obliterated.

Connecticut Will Have Higher Preliminary Requirements.—Dr. Charles A. Tuttle, secretary of the Medical Examining Board, sends us the following amendment to the Connecticut Practice Act, which has just been passed: "No person shall be eligible to said examination until he presents to the board satisfactory evidence that he has received a diploma from some legally incorporated and reputable medical college as determined by the provision of Section 4718 of the general statute, nor until he has presented to the board a certificate of good moral character signed by two reputable citizens of Connecticut, and also satisfactory evidence that before beginning the study of medicine he was graduated from a college, high school or preparatory school whose standing shall be approved by the board or that his preliminary education is equivalent thereto. From and after Jan. 1, 1912, no person shall be eligible to examination under this act until he shall in addition to the foregoing requirement present to the board satisfactory evidence that before beginning the study of medicine he has completed a course of at least nine months' duration which included physics, chemistry and general biology."

Marriages

Harold A. Fiske, M.D., to Miss Marie Shibley, both of Pasadena, Cal., June 1.

Annie R. Copelan, M.D., and Mr. Abraham Erott, both of Baltimore, June 7.

Arthur J. Zimlick, M.D., to Miss Daisy Davisson, both of Philadelphia, June 5.

Thomas Evans Chandler, M.D., Boston, to Miss Lesly Hill of Lawrence, Kan., June 5.

William Edward Fox, M.D., to Miss Lillian Whitcomb, both of Milwaukee, Wis., June 19.

Walter H. Fox, M.D., Iowa City, Iowa, to Miss Bess Peebles of West Union, Iowa, June 12.

Marytus Curtis Oldham, M.D., to Miss Sadie Muir Combs, both of Lancaster, Va., June 5.

Ebenezer L. McKinnie, M.D., to Miss Helen Fickes, both of Colorado Springs, Colo., June 19.

Albert J. Drolett, M.D., Lansing, Mich., to Miss Grace Lundy of Detroit, Mich., June 1.

Pliny Harold Hayes, M.D., Buffalo, N. Y., to Miss Agnes A. Myer of Auburn, N. Y., June 18.

Edward E. Webber, M.D., Marlette, Mich., to Miss C. Loise Kohler of Rochester, N. Y., June 5.

James Arthur Furnish, M.D., Moberly, Mo., to Miss Norma M. Maupin, at Shelbina, Mo., June 12.

Harris Garcelon, M.D., Los Angeles, Cal., to Miss Genevieve Smith, at Los Angeles, June 1.

Robert Underwood, M.D., Detroit, Mich., to Miss Katherine Edgington of Memphis, Tenn., June 5.

Robert John Mathews, M.D., Clarinda, Iowa, to Miss Ruth Kimball of Shenandoah, Iowa, June 11.

Harold M. Doolittle, M.D., Dallas, Texas, to Miss Leda Stimson of Grand Rapids, Mich., June 4.

Alonzo H. Stewart, M.D., to Miss Ethel J. Sexton, both of Philadelphia, at Portsmouth, Va., June 5.

George Francis Bracken, M.D., Chicago, to Miss Emma Gillet of Gibson City, Ill., in Chicago, June 5.

William Robert Peters, M.D., Stanton, Neb., to Miss Maude Tannehill of Norfolk, Neb., June 5.

John P. Nelligan, M.D., Cambridge, Mass., to Miss Gertrude H. O'Shea of Roxbury, Boston, recently.

William Wallace Carleton, M.D., to Miss Charlotte Elizabeth Reamer, both of Waterloo, N. Y., June 5.

John Brazelton Fillmore Dice, M.D., to Miss Alice Cary Murphy, both of Morristown, Tenn., June 10.

Joseph Vandevanter Milton, M.D., Hamilton, Va., to Miss Anna Page Maury, at Alexandria, Va., June 5.

Philip Kingsworth Gilman, M.D., to Mrs. Ellen Burbank, both of Baltimore, at Wilmington, Del.; in March.

Edmond S. Ferguson, M.D., Oklahoma City, Okla., to Miss Marie Haven of Denison, Texas, in Oklahoma City, June 6.

Theodore Jacob Abbott, M.D., New York City, to Miss Marie Matthiessen of Cornwall-on-Hudson, N. Y., June 8.

William F. Lauterbach, M.D., Dayton, Ohio, to Miss Jeannette Catherine Farrel of near Vandalia, Ohio, June 5.

Deaths

Felix Formento, M.D. University of Turin, Italy, 1857; a member of the American Medical Association; a surgeon in the Sardinian army during the war for Italian independence; surgeon in the Confederate service during the Civil War; in charge of the organization of the army medical service of Missouri and afterward chief surgeon of the Louisiana Hospital, Richmond, Va.; who won additional fame by his untiring efforts and skill during the epidemics of yellow fever in 1867 and 1878 in New Orleans; a member of the State Board of Health for two terms; vice-president of the Fourth International Congress of Hygiene and Demography in 1882; once president of the Orleans Parish Medical Society, and in 1891 president of the American Public Health Association; one of the most noted authorities in the country on hygiene and sanitation, died suddenly at his home in New Orleans, June 4, from cerebral hemorrhage, aged 70.

Valentine Mott Francis, M.D. New York University Medical College, New York City, 1859; a member of the Rhode Island and Newport County medical societies, and honorary president of the latter society; president of the Newport Historical Society; a life member of the Natural History Society of Newport; one of the founders of the New York Sanitary Association, and a life member of the New York Historical Society, died suddenly, June 7, from heart disease, at the home of his niece in West Roxbury, Mass., aged 72.

John Speed McLain, M.D. National Medical College, Medical Department of Columbian College, Washington, D. C., 1871; a member of the Medical Association of the District of Columbia and the American Therapeutic Society; acting assistant surgeon, U. S. Army, from 1878 to 1884, and president of the Board of Medical Examiners of the District of Columbia in 1891; died from kidney disease at his home in Washington, June 2.

Thomas Jefferson Riddell, M.D. Medical College of Virginia, Richmond, 1869; charter and honorary member of the Medical Society of Virginia, and member of the Henrico County Medical Society; a Confederate veteran and one of the oldest practitioners of Richmond, Va.; formerly a member of the city council, died at the Retreat for the Sick, Richmond, June 6, from nephritis, after an illness of several months, aged about 60.

Lewis T. Wilson, M.D. Washington University School of Medicine, Baltimore, 1872; of El Paso; formerly of Seymour, Texas, who had been ill for several years with diabetes, died May 6 at the Providence Hospital, El Paso, from the effects of self-inflicted stab wounds of the throat, arms and breast, aged 58.

Tobias Nagel, M.D. Cincinnati (Ohio) College of Medicine and Surgery, 1868; surgeon in the federal service during the Civil War and one of the leaders in the fight against yellow fever in New Orleans in 1878, died at his home in New Orleans, June 9, from paralysis, after a long illness, aged 78.

Alonzo Lawrence Stickney, M.D. Medical School of Harvard University, Boston, 1862; a member of the Massachusetts and Worcester North District medical societies; assistant surgeon in the Army during the Civil War, died at his home in Ashburnham, Mass., June 4, from heart disease.

Allen Henry Mead, M.D. Cleveland (Ohio) College of Physicians and Surgeons, 1901; a member of the Ohio State and Cuyahoga County medical societies; of Cleveland, Ohio, died at the Cleveland General Hospital, June 4, from pneumonia, after an illness of three weeks, aged 37.

Joseph D. Mansfield, M.D. Vermont Medical College, Woodstock, 1841; a member of the Massachusetts and Middlesex East District medical societies; one of the oldest practitioners of Massachusetts, died suddenly at his home in Wakefield, from angina pectoris, May 22, aged 90.

Isaac B. Walton, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1880; a Confederate veteran; three times register of Cheatham County, Tenn., and for many years a local preacher, died at his home in Ashland City, Tenn., June 8, from senile debility, aged 81.

Richard M. Fairchild, M.D. University of Toronto, Faculty of Medicine; College of Physicians and Surgeons, Ontario, 1883; formerly of Boise, DeLamar, Placerville and Emmett, Idaho, died at St. Luke's Hospital, Boise, Idaho, June 4, from cerebral thrombosis, aged 53.

Robert D. Wilkin, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1871; a pioneer resident of Cass County, Iowa; some-time city alderman, city clerk, mayor and supervisor of Atlantic, died at his home in that city, June 6, from arteriosclerosis, aged 69.

Jay Wesley Schooley, M.D. University of Vermont College of Medicine, Burlington, 1862; Toronto University Medical Faculty, 1863; member of the College of Physicians and Surgeons of Ontario, 1866; died suddenly at his home in Welland, Ont., June 4, aged 70.

John D. F. Lever, M.D. Jefferson Medical College, Philadelphia, 1860; of Blythewood, S. C.; a member of the Columbia Medical Society, and a veteran of the Civil War, was drowned in Cedar Creek while attempting to ford the stream, June 1, aged 72.

Jacob B. Shupe, M.D. Western Pennsylvania Medical College, Medical Department Western University of Pennsylvania, Pittsburg, 1890; died at his home in Westernport, Md., June 5, from heart disease, after an illness of one week, aged 56.

George Emerson King, M.D. Medical Department of Western Reserve University, Cleveland, Ohio, 1885; a member of the Kalamazoo Academy of Medicine, died suddenly, June 6, in the Kalamazoo Hospital, from cerebral hemorrhage, aged 47.

Cyrenius A. David, M.D. Rush Medical College, Chicago, 1869; University of the City of New York, 1881; died at his home in Chicago, June 11, from septicemia due to an operation wound, after an illness of two months, aged 62.

Edgar Archer, M.D. Medical College of Virginia, Richmond, 1848; said to have been the oldest practitioner of Manchester, Va., died at the residence of his daughter in Richmond, from paralysis, after an illness of three years, aged 79.

George W. Murray, M.D. Chattanooga (Tenn.) Medical College, Medical Department of Grant University, 1899; of Glenalice, Tenn., was drowned while attempting to ford White's Creek, near Rockwood, Tenn., June 9, aged 38.

William C. Kloman, M.D. University of Maryland School of Medicine, Baltimore, 1855; surgeon in the Confederate service during the Civil War, died at his home in North Baltimore, Md., June 2, from pneumonia, aged 72.

William Frederick Detwiler, M.D. New York Homeopathic Medical College and Hospital, New York City, 1849; died at his home in Hellertown, Pa., June 8, from chronic nephritis, after an illness of two years, aged 85.

James Ezra Gray, M.D. New York University Medical College, New York City, 1885; formerly a practitioner of Rochester, N. Y., and London, Ont., was found dead in his room in a hotel in Rochester, May 28, aged 45.

William L. Foster, M.D. Starling Medical College, Columbus, Ohio, 1866; surgeon of the One Hundred and Twenty-sixth Ohio Volunteer Infantry during the Civil War, died suddenly, June 6, at his home in Waco, Neb.

Benjamin F. Brown, M.D. Rush Medical College, Chicago, 1867; a member of the Illinois State and Pulaski County medical societies, died at his home in Pulaski, Ill., January 15, after a short illness, aged 71.

A. Harold Myers, M.D. University of Maryland School of Medicine, Baltimore, 1882; division surgeon of the Baltimore & Ohio Railroad, died at his home in Rochester, Pa., June 10, from neurasthenia, aged 51.

W. R. Richards, M.D. University of Louisville (Ky.) Medical Department, 1888; of Cardwell, Mo., died at St. Joseph's Infirmary, Fort Worth, Texas, from heart disease, after an illness of six years, aged 48.

Charles R. Graham, M.D. Medical Department of the University of Tennessee, Nashville, 1899; formerly of Murfreesboro, Tenn., but of late a resident of Mississippi, died in Chattanooga, Tenn., recently.

John Lawrence Ryan, M.D. College of Physicians and Surgeons, Baltimore, Md., 1892; of Malden, Mass., died from tuberculosis recently in Calumet, Mich., after an illness of two years, aged 38.

Aristotle Eldridge, M.D. University of Nashville (Tenn.) Medical Department, 1858; died at his home in Palmyra, Texas, June 3, from senile debility, after an illness of several weeks, aged 79.

Claudius Van Deusen, M.D. Berkshire Medical College, Pittsfield, Mass.; for more than 50 years a resident of Leeds, N. Y., died in that village February 13, from heart disease, aged 83.

John Joseph McGuigan, M.D. Medical School of Harvard University, Boston, 1890; died at his home in Lynn, Mass., June 3, from hemorrhage of the stomach, after a short illness, aged 43.

Charles Daniel Christman, M.D. College of Physicians and Surgeons, Baltimore, 1886; of Wiconisco, Pa., died in a hospital in Philadelphia, June 8, after an operation for cholelithiasis, aged 50.

Charles C. Ward, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati,1891; died June 2, at his home in Clarksville, Ohio, after a prolonged illness, aged 45.

William A. Klesa, M.D. College of Physicians and Surgeons, Baltimore, 1896; died in Sweden Township, Potter County, Pa., recently, from tuberculosis, after an illness of two years, aged 35.

George A. Knight, M.D. Long Island College Hospital, Brooklyn, N. Y., 1867; county surveyor of Clarion County, Pa., for five years, died at his home in Salem, Pa., June 2, aged 69.

Henry E. Whitsey, M.D. Medical Department of Western Reserve University, Cleveland, Ohio, 1888; died suddenly from heart disease, at his home in Cleveland, June 5, aged 44.

James H. Hepburn, M.D. Jefferson Medical College, Philadelphia, 1886; formerly a resident of Jersey Shore, Pa., died May 26, at Tucson, Ariz., after a long illness, aged 43.

Benjamin H. Nice, M.D. Jefferson Medical College, Philadelphia, 1877; died at his home in Hamburg, Pa., June 4, from paralysis, after an illness of five weeks, aged 51.

John A. Loughridge, M.D. Kentucky School of Medicine, Louisville, 1891; president of the board of health of Eldorado, Ark., died at his home in that place, May 25.

Merrill J. Galloway, M.D. University of Pennsylvania Department of Medicine, Philadelphia, 1894; died at his home in Philadelphia, June 4, aged 35.

Julia A. H. Walker, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1880; died at her home in Harrisburg, Pa., recently, aged 64.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending June 15, 1907:

Shockley, M. A. W., and Duncan, W. H., asst.-surgs., appointed members of an Army retiring board to meet at Fort Wright, Wash.

Corbusier, W. H., deputy surgeon general, ordered to make inspection of the medical department, hospitals and sanitary conditions of posts in Department of the Columbia.

Truby, W. F., asst.-surgeon, leave of absence extended ten days.

Glennan, J. D., surgeon, granted two months' leave of absence to take effect on or about July 25, 1907.

Lyster, W. J. L., asst.-surgeon, assigned to special duty in San Francisco, Cal., until July 5, when he will proceed to Manila, P. I., in compliance with orders heretofore issued.

Sweazy, V. E., asst.-surgeon, leave of absence extended fifteen days.

Bingham, E. G., asst.-surgeon, assigned to duty at the Army General Hospital, Presidio of San Francisco, Cal., and granted leave of absence for thirty days.

Huttou, P. C., asst.-surgeon, leave of absence extended fourteen days.

Collins, C. C., asst.-surgeon, relieved from duty at Fort Walla, Walla, Wash., and ordered to Fort Riley, Kan.

Harris, J. R., asst.-surgeon, relieved from duty at Fort Assinniboine, Mont., and ordered to Fort Worden, Wash., for duty.

Munson, E. L., surgeon, granted thirty days' leave of absence.

Frick, E. B., surgeon, granted thirty days' leave of absence.

Wallace, G. S., contract surgeon, arrived in New York on one month's leave from Henry Barracks, P. R.,

Brooks, J. D., contract surgeon, granted leave of absence for five days.

Worthington, J. A., contract surgeon, ordered from Harrison, Ark., to Fort Oglethorpe, Ga., for duty.

Huber, E. G., contract surgeon, ordered from Martinsburg, Mo., to Fort Snelling, Minn., for duty.

Casaday, G. H., dental surgeon, returned to Army General Hospital, Presidio of San Francisco, Cal., from temporary duty at Presidio of Monterey, Cal.

Mason, G. L., dental surgeon, granted an extension of one month to his leave of absence.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for week ending June 15, 1907:

Page, J. E., surgeon, granted leave for three months when discharged from treatment at Naval Hospital, Mare Island, Cal.

McGuigan, J. H., pharmacist, unexpired portion of sick leave revoked, ordered to Naval Hospital, New York, for treatment and observation.

Dickinson, D., medical director, ordered to additional duty as a member of Naval Retiring Board, Washington, D. C.

Zalesky, W. J., P. A. surgeon, commissioned passed assistant surgeon from April 12, 1907.

Kelley, H. L., asst.-surgeon, appointed assistant surgeon June 6, 1907.

Hibbett, C. T., medical inspector, detached from Naval Rendezvous, St. Louis, Mo., June 15; ordered to Bureau Medicine and Surgery, Navy Department, for temporary duty.

Alfred, A. R., surgeon, detached from course instruction, Naval Medical School, Washington, June 15; ordered to Naval Rendezvous, Pittsburg, Pa.

Pryor, J. C., surgeon, detached from Naval Medical School Hospital, Washington, D. C., June 15; ordered to Naval Hospital, Yokohama, sailing from San Francisco, via steamer *Siberia*, about July 25.

Odell, H. E., surgeon, detached from duty at Naval Hospital, Washington, D. C., June 20; ordered to Naval Hospital, Mare Island, Cal.

Moore, J. M., surgeon, detached from Naval Rendezvous, Minneapolis; ordered to Naval Rendezvous, Chattanooga, Tenn.

Verner, W. W., P. A. surgeon, detached from Naval Rendezvous, Pittsburg, Pa., June 15; ordered to Naval Rendezvous, St. Louis.

Bogan; F. M., P. A. surgeon, detached from instruction at Naval Medical School, Washington, D. C., June 15; ordered to Naval Rendezvous, Minneapolis.

Plummer, R. W., P. A. surgeon, detached from instruction at Naval Medical School, Washington, D. C.; ordered to *Constellation* and to additional duty at Naval Training Station, Newport, R. I.

Jones, A. McK., acting asst.-surgeon, detached from Naval Rendezvous, Chattanooga, Tenn., and ordered to Washington, D. C., July 1, for examination for assistant surgeon, then wait orders.

Pleadwell, F. L., surgeon, detached from duty at Naval Hospital, Yokohama, ordered home to wait orders.

Payne, Jr., J. H., P. A. surgeon, detached from course instruction at Naval Medical School, Washington, D. C., ordered to Naval Rendezvous, Providence, R. I.

Steadman, W. G., acting asst.-surgeon, detached from Naval Rendezvous, Providence, R. I.; ordered to Washington, D. C., July 1 for examination for appointment as assistant surgeon and then to wait orders.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended June 12, 1907.

Currie, D. H., P. A. surgeon, relieved from duty at San Francisco Quarantine Station, and directed to proceed to Honolulu, T. H., for temporary duty.

Bready, J. E., acting asst.-surgeon, granted leave of absence for four days, from June 15, 1907.

Hunter, W. R., acting asst.-surgeon, granted leave of absence for fourteen days, from June 10, 1907.

Masou, W. C., acting asst.-surgeon, granted leave of absence for six days, from June 23, 1907.

Royster, W. L., acting asst.-surgeon, granted leave of absence for seven days, from June 9, 1907, under Paragraph 210, Service Regulations.

Stuart, Albert F., acting asst.-surgeon, granted leave of absence for fifteen days, from July 1, 1907.

Thompson, W. R. F., acting asst.-surgeon, directed to proceed from Coatsacoalcós, Mexico, to Salina Cruz, Mexico, for special temporary duty, upon completion of which to rejoin his station.

Townsend, F., acting asst.-surgeon, granted leave of absence for fourteen days, from June 6, 1907.

Walker, T. D., acting asst.-surgeon, granted leave of absence for ten days, from June 25, 1907.

Ward, J. LaB., acting asst.-surgeon, granted leave of absence for seven days, from June 10, 1907, under Paragraph 210, Service Regulations.

La Grange, J. V., pharmacist, directed to proceed from Savannah, Ga., to Camp Perry, Fla., for special temporary duty, on completion of which to rejoin his station.

Carlton, C. G., pharmacist, granted leave of absence for 30 days, from July 1, 1907.

Van Ness, G. I., pharmacist, granted leave of absence for 21 days, from May 30, 1907.

BOARD CONVENED.

A board of medical officers was convened to meet at Galveston, Texas, June 10, 1907, for the physical examination of an officer in the Revenue-Cutter Service. Detail for the Board: P. A. Surgeon G. M. Corput, chairman; Acting Asst.-Surgeon W. H. Gammon, Recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended June 14, 1907:

SMALLPOX—UNITED STATES.

Illinois: Chicago, June 1-8, 7 cases.
Indiana: Evansville, June 6, 1 case.
Kansas: Kansas City, June 1-8, 6 cases.
Kentucky: Covington, June 1-8, 2 cases; Henderson, May 1-31, 1 case; Louisville, May 31-June 6, 5 cases.
Iowa: Ida County, May 1-31, 3 cases.
Michigan: Saginaw, May 25-June 1, 4 cases.
New York: New York, June 1-8, 5 cases, 1 death.
North Carolina: Twenty-two counties, April 1-30, 213 cases; Charlotte, June 1-8, 1 case.
Ohio: Cincinnati, May 31-June 7, 1 case; Columbus, May 1-31, 18 cases.
Texas: Galveston, May 24-June 1, 4 cases (1 from S. S. *Hanover*).
Washington: Spokane, May 25-June 1, 6 cases.

SMALLPOX—FOREIGN.

China: April 20-27, Hankau 3 cases; Shanghai, 1 case, 14 deaths; Tientsin, present.
France: Paris, May 11-18, 13 cases, 1 death.
Germany: May 11-18, general; 17 cases; Mannheim, 1 death.
Great Britain: Southampton, May 18-25, 1 case.
India: Bombay, May 7-14, 3 deaths.
Italy: General, May 16-23, 19 cases; Torre Annunziata, May 19-20, 2 cases; Turin, May 12-19, 4 cases.
Japan: Nagoya, May 15, epidemic.
Madeira: Funchal, May 12-26, 25 cases, 3 deaths.
Mexico: Aguas Calientes, May 25-June 1, 20 deaths.

Russia: Moscow, April 20-May 4, 17 cases, 4 deaths; Odessa, May 11-18, 4 cases, 1 death.

Spain: Valencia, May 19-26, 4 cases.

Turkey: Bassorah, May 4-11, 5 cases.

YELLOW FEVER.

Brazil: Manaos, May 4-11, 1 death.

Cuba: Habana, June 6, 1 from Santa Clara Province; San Nicolas, June 7, 2 cases.

Guatemala: May 29, Gualan, present; Zacapa, present.

West Indies: Trinidad, Port of Spain, May 11-18, 2 cases, 1 death.

CHOLERA.

India: Bombay, May 11-14, 1 death; Rangoon, April 27-May 4, 9 deaths.

PLAGUE.

Africa: Cape Colony, King Williams Town, April 22-May 4, 3 cases, 2 deaths.

Germany: Groden, June 3, 1 case on S. S. *Wharfedale* from Buenos Aires.

India: Bombay, May 7-14, 188 deaths; Rangoon, April 27-May 4, 58 deaths.

Japan; Osaka, May 15, 5 cases; Yokahama, May 30, present.

Turkey: Djeddah, May 6-11, 13 cases, 12 deaths; Island of Bahrein, May 22, epidemic.

West Indies: Trinidad, June 11, 2 deaths.

Association News

MINUTES OF THE SECTIONS

American Medical Association, Fifty-eighth Annual Session, Atlantic City.

The following are the proceedings of the sections at the Atlantic City session, June 4-7, 1907:

Section on Practice of Medicine.

TUESDAY, JUNE 4—AFTERNOON.

The meeting was called to order at 8 p. m. in the Casino Hall, Steel Pier, by Dr. D. T. Coleman, Atlanta, Ga., chairman.

Dr. Alexander Lambert, New York, nominated Dr. H. M. Michel, Augusta, Ga., secretary *pro tem,* who was elected.

The chairman announced the nominating committee as follows: Drs. W. S. Thayer, Baltimore; Allen A. Jones, Buffalo, and J. A. Witherspoon, Nashville, Tenn.

Dr. John A. Lichty, Pittsburg, read a paper on "The Early and Premonitory Symptoms of Progressive Pernicious Anemia." Discussed by Drs. Herrick, Chicago; Thayer, Baltimore; Goodwin, Mt. Vernon, N. Y.; McCaskey, Ft. Wayne, Ind.; Einhorn, New York; Anders, Philadelphia; Davis, Chicago; Hoover, Cleveland; Smithies, Ann Arbor, and Lichty, Pittsburg.

Dr James Rae Arneill, Denver, read a paper on "Observations on Digestive Condition in Pulmonary Tuberculosis." Discussed by Drs. Hutchinson, New York; Daland, Philadelphia; Lichty, Pittsburg; Witherspoon, Nashville, Tenn., and Arneill, Denver.

Dr. H. F. Harris, Atlanta, Ga., read a paper on "Investigation of the Continued Fevers of Southern Georgia." Discussed by Drs. Witherspoon, Nashville, Tenn.; Wood, Wilmington, N. C.; Lichty, Pittsburg; Lambert, New York City; Fussell, Philadelphia; Harris, Atlanta, Ga.

WEDNESDAY, JUNE 5—MORNING.

This session was a joint meeting with the Sections on Surgery and Anatomy and on Pathology and Physiology. For the proceedings see the minutes of the former, below.

WEDNESDAY, JUNE 5—AFTERNOON.

Dr. Allen A. Jones, Buffalo, read a paper on "The Abdominal Symptoms of Thoracic Disease." Discussed by Drs. Hoover, Cleveland; Stengel, Philadelphia; Lambert, New York City; Thayer, Baltimore; Neilson, Milwaukee, and Jones, Buffalo.

Dr. Arthur R. Elliott, Chicago, read a paper on "Cardiac and Vascular Accompaniments of Diabetes Mellitus." Discussed by Drs. Stark, New York City; Stearns, New York City; Elliott, Chicago.

"The Venous Pulse and Some of Its Applications," by Drs. L. C. Grosh, Toledo, Ohio, and Arthur R. Cushny, London, was read by the former. Discussed by Drs. Dock, Ann Arbor, Mich.; Hirschfelder, Baltimore; Norris, Philadelphia, and Grosh, Toledo.

Dr. C. F. Hoover, Cleveland, read a paper on "The Tone of the Respiratory Center in Tabes Dorsalis." Discussed by Drs. Jones, Buffalo, and Hoover, Cleveland.

Dr. G. E. Pfahler, Philadelphia, read a paper on "The Study of the Gastrointestinal Tract by Means of the Roentgen Rays." Discussed by Drs. Steele, Philadelphia; Grosh, Toledo; Anders, Philadelphia; Daland, Philadelphia; Jones, Buffalo; Johnston, Atlanta; Lichty, Pittsburg; Hutchinson, New York City, and Pfahler, Philadelphia.

THURSDAY, JUNE 6—MORNING.

Morning session was a joint meeting with the Section on Pharmacology and Therapeutics. For the proceedings see the minutes of the latter, below.

THURSDAY, JUNE 6—AFTERNOON.

The nominating committee made the following report: Chairman, Dr. C. F. Hoover, Cleveland; secretary, Dr. Joseph L. Miller, Chicago; delegate, Dr. George Dock, Ann Arbor, Mich.; alternate, Dr. L. C. Grosh, Toledo, and they were elected.

The committee to nominate an orator on medicine named Dr. W. S. Thayer, Baltimore, who was elected.

A paper on "Observations on Plague in India" (illustrated by lantern slides) was read by Dr. Judson Daland, Philadelphia.

A paper on "A Mixed Infection with Tertian and Quartan Malaria Occurring in a Case with Symmetrical Gangrene" was read by Dr. Edward J. Wood, Wilmington, N. C. Discussed by Drs. Dock, Ann Arbor, Mich.; Thayer, Baltimore, and Herrick, Chicago.

A paper on "The Opsonic Theory and Therapeutic Inoculation with Bacterial Vaccines" was read by Dr. G. W. Ross, Toronto. Discussed by Drs. Hollister, Hutchins, Detroit, and Ross, Toronto.

A paper on "A Critical Estimate of the Fermentation-Specific Gravity Method of Quantitating Sugar in Diabetes" was read by Dr. Henry A. Christian, Boston. Discussed by Drs. Stearns, Thayer and Christian.

A paper on "Prepared and Predigested Foods was read by Dr. Graham Lusk, New York City. Discussed by Drs. Meltzer, Kinnear, Thayer, Witherspoon and Hutchinson.

FRIDAY, JUNE 7—MORNING.

Dr. C. H. Bunting, Charlottesville, Va., read a paper on "Experimental Anemia."

A paper on "The Uncinarial Anemia of Porto Rico," by Drs. B. K. Ashford and W. W. King, Washington, D. C., was read by Dr. Ashford.

Dr. R. Cabot, Boston, read a paper on "Differential Diagnosis of the Various Types of Anemias."

Dr. S. J. Meltzer, New York City, read a paper on "Treatment of Anemia."

These four papers were discussed by Drs. Potter, Indianapolis; Atkinson, Baltimore; Eshner, Philadelphia; Hutchinson, New York City; Jones, Buffalo; Black, Los Angeles; Hobson, Parkersburg, Iowa; Smithies, Ann Arbor; Bride, Los Angeles; Bunting, Charlottesville, Va.; Ashford, Washington; King, Washington; Cabot, Boston, and Meltzer, New York City.

Section on Obstetrics and Diseases of Women.

TUESDAY, JUNE 4—AFTERNOON.

The Section was called to order at 2:30 p. m. in the Dance Hall of the Steel Pier, by the chairman, Dr. J. Wesley Bovée, Washington.

The chairman then read his address, "The Status of the Fight Against Cancer of the Uterus."

Dr. E E. Montgomery, Philadelphia, read a paper on "How Can We Lessen the Mortality of Uterine Cancer?" The paper was discussed by Drs. Thomas S. Cullen, Baltimore; G. Betton Massey, Philadelphia; Cleaves; H. J. Boldt, New York City; Strauss, New York City; Craig, Boston; J. H. Carstens, Detroit, and Montgomery.

The chairman announced that owing to the noise on the pier, the following sessions of the Section would be held in the Central Methodist Church.

The following were appointed as the nominating committee: Drs. C. C. Frederick, Buffalo; McMurtry, Louisville, and Craig, Boston.

Dr. Thomas S. Cullen, Baltimore, read a paper entitled "Parasitic Uterine Myomata." This was discussed by Drs. W. S. Stone, New York City; H. J. Boldt, New York City; C. C. Frederick, Buffalo; March, Boston; A. Gordon, Philadelphia; J. H. Carstens, Detroit; McGuire; D. Todd Gilliam, Columbus, Ohio; J. Wesley Bovée, Washington, and Cullen.

Dr. Emery Marvel, Atlantic City, read a paper on "Prevention of Peritoneal Adhesions by Adrenal Salt Solution, with Especial Reference to the Pelvis." This was discussed by Drs. Simpson, Lawrence, Wetherill, Craig, Frederick, Gilliam, Monash, Strauss and Marvel.

WEDNESDAY, JUNE 5—MORNING.

Dr. Francis D. Donoghue, Boston, read a paper on "Successful Treatment of Acute Postoperative Ileus; Incision and Drainage of the Intestine, with Report of Four Cases."

"Postoperative Intestinal Obstruction," by Dr. C. C. Frederick, Buffalo.

"The Prevention and Treatment of Postoperative Intestinal Obstruction," by Dr. Daniel H. Craig, Boston.

The three papers were discussed by Drs. Noble, Montgomery, Tabor Johnson, Stone, Gordon, Goldspohn, Deaver, Fry, Carstens, Bandler, Sears, Werder, Fisher, Frederick and Craig.

Dr. J. H. Carstens, Detroit, read a paper on "Ovary and Ovarian Tumors in the Inguinal Canal. Rare Condition. Report of Two Cases."

Dr. George Ward, Jr., New York City, read a paper on "Prolapse of the Ovary and Its Treatment."

WEDNESDAY, JUNE 5—AFTERNOON.

The papers of Drs. Carstens and Ward, read at the morning session, were discussed by Drs. Gilliam, Dorset, Boldt and Ward.

Dr. H. J. Boldt, New York City, read a paper on "Gonorrhea in Women."

Dr. S. W. Bandler, New York City, read a paper on "Unrecognized Gonorrhea in the Female."

The two papers were discussed by Drs. Peterson, Tabor Johnson, McMurtry, Miller, Garceau, Bacon, Branson, Price, Goelet, Philander, Harris, Craig, Cullen, Chandler, Boldt and Bandler.

Dr. William F. Metcalf, Detroit, read a paper on "Subtotal Abdominal Hysterectomy, with Total Excision of the Gland-bearing Tissue of the Cervix and a Perfected Restoration of the Supporting Ligaments."

Dr. H. O. Marcy, Boston, read a paper on "Plastic Surgery of the Pelvic Structures."

Dr. Walter B. Chase, Brooklyn, read a paper on "Buried Sutures and Ligatures, Their Material and Proper Use."

These three papers were discussed by Drs. Dorset, Goffe, Bonifield, Lawrence, B. F. Baer, Tabor Johnson, Metcalf, Marcy and Chase.

THURSDAY, JUNE 6—MORNING.

Dr. Frederick L. Good, Boston, exhibited a set of improved axis traction rods.

Dr. Charles Lester Leonard, Philadelphia, read a paper on "Some Advances in Ureteral and Renal Diagnosis."

Dr. Edgar Garceau, Boston, read a paper on "The Surgical Treatment of Ureteral Calculus in the Female."

These two papers were discussed by Drs. Hunner, Percy Brown, Bransford Lewis, Noble, Cole, Leonard and Garceau.

Dr. Charles P. Noble, Philadelphia, read a paper on "Cystocele."

Dr. D. Todd Gilliam, Columbus, read a paper on "Simplified Method of Operating for Cystocele."

These two papers were discussed by Drs. Goffe, Reynolds, Stone, Noble and Gilliam.

Dr. I. S. Stone, Washington, read a paper on "Salpingitis Caused by Appendicitis." This was discussed by Drs. Gilliam, Bandler, and Stone.

Dr. Philander A. Harris, Paterson, N. J., read a paper on "The Early Diagnosis of Tubal Pregnancy." This was discussed by Drs. J. Miller, Lawrence, Hunner, Carstens, Baldy and Harris.

Dr. Edward Reynolds, Boston, read a paper on "Constitutional Ill Equipment of the Patient as a Factor in Determining the Performance of the Primary Cesarean Section."

Dr. E. P. Davis, Philadelphia, read a paper on "The Delivery of Debilitated Women, with Especial Reference to the Child."

These two papers were discussed by Drs. George M. Boyd, Daniel Longaker, Philadelphia; Gray, Providence; Baldy, Philadelphia; Wetherill, Denver; Reynolds, Boston, and Davis.

THURSDAY, JUNE 6—AFTERNOON.

Dr. A. H. Goelet, New York City, read a paper on "Examination of the Gynecologic Patient." The paper was discussed by Drs. J. Riddle Goffe and Goelet.

Dr. Laura H. Branson, Iowa City, read a paper on "The Syncytium." This was discussed by Dr. I. S. Stone, Washington, and Dr. Branson.

Dr. Ellice McDonald, New York City, read a paper on "Sarcoma of the Uterus, with Report of Nine Cases." The paper was discussed by Drs. Craig, Carstens, Dorsett, Gilliam, Baldy and McDonald.

Dr. William D. Porter, Cincinnati, read a paper on "A Bimanual Method of Rotating in Occipito-posterior Vertex." The paper was discussed by Drs. Walter P. Manton and Porter.

The report of the nominating committee was adopted and the following were declared elected: Chairman, Dr. Walter B. Dorsett, St. Louis; vice-chairman, Dr. Charles P. Noble, Philadelphia; secretary, Dr. Walter P. Manton, Detroit; delegate, Dr. F. F. Simpson, Pittsburg; alternate, Dr. Thomas J. Watkins, Chicago.

Section on Surgery and Anatomy.

TUESDAY, JUNE 4—AFTERNOON.

The Section convened in the Dance Hall, Steel Pier, and was called to order by the chairman, Dr. Arthur D. Bevan, at 2 p. m.

The chairman then delivered his address, and in consonance with a suggestion made therein, Dr. Charles Powers, Denver, moved that the chairman of the Section be empowered to appoint a committee of five, of which the chairman shall be a member, the committee to have power to appoint subcommittees, the original committee to be known as the Anesthesia Commission of the Section on Surgery and Anatomy of the American Medical Association. The duties of the committee shall be to collect and analyze data relating to anesthesia and report annually to the Section. Further, that the representative of the Section in the House of Delegates be asked to request an appropriation to cover the necessary expenses of the committee. The motion was carried.

"Intestinal Perforation in Typhoid Fever. Its Surgical Treatment, with Report of Case," by Dr. J. E. Allaben, Rockford, Ill. Discussed by Drs. J. B. Murphy, L. J. Hammond,, Fox, Bartlett, Morris, Bachellor and Allaben.

"An Operation for Exstrophy of Bladder," by Dr. J. T. Bottomley, Boston. Discussed by Drs. Young, Hunner, Connell, Frank, Vance and Bottomley.

"How May Our Present Methods in Medical Illustration be Improved?" by Mr. M. Brödel, Baltimore. Discussed by Dr. Mayo.

"Gall-Duct Obstruction Caused by Movable Kidney," by Dr. M. B. Tinker, Ithaca, N. Y. Discussed by Dr. R. T. Morris.

"Bier's Treatment in Chronic and Acute Surgical Infectious Diseases," by Dr. W. Meyer, New York. Discussed by Drs. Grant, Schmieden, Hollister, Smithers and Meyer.

WEDNESDAY, JUNE 5—MORNING.

This was a joint session with the Sections on Practice of Medicine and Pathology and Physiology, devoted to a symposium on exophthalmic goiter.

"Physiology of Exophthalmic Goiter," by Dr. S. P. Beebe, New York.

"Pathology of Exophthalmic Goiter," by Dr. W. G. MacCallum, Baltimore.

"Diagnosis of Exophthalmic Goiter," by Dr. L. F. Barker, Baltimore.

"Medical Treatment of Exophthalmic Goiter," by Dr. R. B. Preble, Chicago.

"Surgical Treatment of Exophthalmic Goiter," by Dr. Albert Kocher, Berne, Switzerland.

These five papers were discussed by Drs. Halsted, Billings and Mayo.

WEDNESDAY, JUNE 5—AFTERNOON.

"Osteoplastic Operations," by Prof. E. Küster, Marburg, Germany. Discussed by Dr. J. B. Murphy.

"Technic of Appendectomy," by Dr. J. A. Wyeth, New York City. Discussed by Drs. Cannaday, Dawbarn, Marvel, v. Zwalenburg and Wyeth.

"Operation of Gastrojejunostomy and the Physiologic Results," by Dr. H. J. Paterson, London, England. Discussed by Drs. Gilbride, Cannon, Maury and Paterson.

"Vaccine Therapy of Surgical Infections Controlled by the Opsonic Index; Reports of Results," by Drs. L. L. McArthur and J. C. Hollister, Chicago.

"Pelvic Articulations, with Reference to the Differentiation Between Lesions of These Articulations and the Many Pelvic Disorders," by Dr. J. E. Goldthwait, Boston.

"Methods of Treating Tuberculous Joint Disease," by Dr. John Ridlon, Chicago.

"Personal Surgical Errors: Foreign Bodies in the Peritoneal Cavity," etc., by Dr. A. MacLaren, St. Paul, Minn.

"Local Anesthesia in General Surgery," by Dr. J. F. Mitchell, Washington, D. C.

THURSDAY, JUNE 6—MORNING.

SYMPOSIUM ON ILEUS.

"Colic," by Prof. K. G. Lennander, Upsala, Sweden.

"Experimental Studies of Intestinal Obstruction," by Mr. R. D. McClure, Baltimore.

"Physiologic Observations on Experimentally Produced Ileus," by Drs. Walter B. Cannon and F. T. Murphy, Boston.

"Relation of the General Practitioner to Strangulated Hernia," by Dr. J. B. Roberts, Philadelphia.

"Postoperative Ileus," by Dr. Frank Martin, Baltimore.

"Dynamic Ileus," by Dr. John C. Munro, Boston.

"Resection for the Relief of Intestinal Obstruction," by Dr. W. J. Mayo, Rochester, Minn.

"New Method of Intestinal Anastomosis," by Dr. E. W. Andrews, Chicago.

These eight papers were discussed by Drs. Meltzer, MacCallum, Maury, Mitchell, Beck, Murphy, Deaver, McGraw, Richardson and Hemmeter.

THURSDAY, JUNE 6—AFTERNOON.

"Diabetes in Surgical Relations," by Dr. A. E. Halstead, Chicago. Discussed by Drs. Stark, Horsley and Ochsner.

The executive committee reported the following nominations for officers of Section: Chairman, Dr. Rudolph Matas, New Orleans; vice-chairman, Dr. J. C. DaCosta, Philadelphia; secretary, Dr. Willard Bartlett, St. Louis; delegate, Dr. Charles N. Dowd, New York.

On motion, the secretary was instructed to cast the unanimous ballot of the Section for the election of these nominees.

On motion, the executive committee was empowered to fill any vacancies that might occur during the year.

Dr. George W. Crile, Cleveland, Ohio, was unanimously elected orator on surgery for the next annual meeting.

"Trigger Finger," by Dr. R. F. Weir, New York City.

"Excision of Rectum, Sigmoid and Part of Descending Colon; with Implantation of the Colon into the Anus," by Dr. E. Archibald, Montreal, Canada.

"Direct Transfusion of Blood," by Dr. George W. Crile, Cleveland, Ohio.

"Paraffin Injection Treatment of Inguinal Hernia," by Dr. M. L. Harris, Chicago. Discussed by Drs. DeGarmo, Roberts, Bevan and Harris.

"Treatment of Pseudoarthrosis and Delayed Callus Formation by Injection of Blood," by Dr. V. Schmieden, Bonn, Germany. Discussed by Dr. Dawbarn.

"Technic of Operation for Cancer of Breast," by Dr. M. F. Porter, Fort Wayne, Ind. Discussed by Drs. Rodman and Porter.

FRIDAY, JUNE 7—MORNING.

"Experimental Pathology and Surgical Treatment of Erysipelas," by Dr. E. LaPlace, Philadelphia. Discussed by Drs. Ochsner and LaPlace.

"Case of Benign Melanosis," by Dr. J. C. Stewart, Minneapolis.

"Anatomy of Palate, Normal and Cleft," by Dr. T. W. Brophy, Chicago.

"Amebic Abscess of Liver," by Dr. J. C. McDill, Manila, P. I. Discussed by Drs. Powers, Cushing and McDill.

"Management of Dislocation at Shoulder Joint Complicated by Fracture of Neck of Humerus," by Dr. H. A. Royster, Raleigh. Discussed by Dr. Kocher.

"Results of Operative Treatment of Deformed Fractures," by Dr. C. Beck, New York. Discussed by Drs. Frank and Beck.

The following telegram was read, addressed to Dr. Mayo: "*Vivat Societas Medica Americana*," from T. Kocher, Berne, Switzerland.

Section on Ophthalmology.

TUESDAY, JUNE 4—AFTERNOON.

The meeting was called to order at 2:30 p. m. by the chairman, Dr. G. C. Savage.

Chairman's address, "The Duality of Man," by Dr. G. C. Savage, Nashville, Tenn.

"Cataract Extraction: 1. Is the Case Operable? 2. Preparation of the Patient. 3. The Anesthetic," by Dr. E. E. Jack, Boston.

"The Incision for the Extraction of Cataract and the Iridectomy," by Dr. John E. Weeks, New York City.

"The Delivery of the Lens for the Extraction of Cataract; Irrigation of the Anterior Chamber, and the First Toilet of the Wound," by Dr. L. Webster Fox, Philadelphia.

"The Immediate After-treatment of Cataract Operations (with bandage)," Dr. William H. Wilder, Chicago.

"The Immediate After-treatment of Cataract Operations (without bandage"), by Dr. J. W. Scales, Pine Bluff, Ark.

"Operations for Secondary Cataract," by Peter A. Callan, New York City.

These six papers were discussed by Drs. Myles Standish, Boston; Casey A. Wood, Chicago; Frank Allport, Chicago; George E. de Schweinitz, Philadelphia; J. A. White, Richmond, Va.; Charles S. Bull, New York City; Borsch, Philadelphia; S. C. Ayres, Cincinnati, Ohio; Eugene Smith, Detroit; Peter A. Callan, New York City; E. C. Ellett, Memphis, Tenn.; Frank Todd, Minneapolis; Byington, Battle Creek, Mich.; S. L. Ledbetter, Birmingham, Ala.; L. A. W. Alleman, Brooklyn; F. B. Tiffany, Kansas City; Herman Knapp, New York City, and Prof. Carl Hess, Würzburg, Germany.

WEDNESDAY, JUNE 5—MORNING.

The report of the committee on "The Use of Prisms in Testing the Eye Muscles" was read and adopted as follows:

> At the session of the Association, held in Boston last year, certain preambles and resolutions were presented by Dr. Lucien Howe, Buffalo, concerning uniform methods for making tests of the ability of the eyes to overcome prisms. These resolutions were referred to a committee of three, with instructions to report on the subject at the next annual session. That committee, therefore, submits the following:
>
> "WHEREAS, Various differences now exist in the methods of making tests of the ability of the eyes to overcome prisms; and
>
> "WHEREAS, These differences have given rise to much confusion of our ideas on the subject; therefore, be it
>
> "*Resolved*, That it is the sense of the Section on Ophthalmology of the American Medical Association that hereafter when any member describes the ability of the eyes to overcome prisms, it is understood, unless otherwise specified, that
>
> "(A) The test-object is such as to secure the most accurate fixation.
>
> "(B) The test is made with the refraction corrected (with distance glasses for the distance tests and reading glasses for the near tests).
>
> "(C) The test is not made under a cycloplegic.
>
> "(D) The test is made with prisms from the trial case.
>
> "(E) If prisms in series or revolving prisms are used, this

fact should be stated and it is then understood, unless otherwise specified, that the examiner begins with prisms which produce diplopia, and gradually decreases their strength to the point where the diplopia can be overcome."

Lucien Howe,
Edward Jackson,
Alexander Duane.

The report of the committee on "Standard Illumination of Visual Test Types" was read and adopted.

"Does the Opacity of Incipient Cataract ever Regain Transparency?" by Dr. Leartus Connor, Detroit. Discussed by Drs. G. O. Ring, Philadelphia; John Chase, Denver, Colo.; Herman Knapp, New York City; F. B. Tiffany, Kansas City, Mo.; W. O. Nance, Chicago; W. H. Snyder, Toledo, Ohio; John E. Weeks, New York City; Edward Jackson, Denver, Colo.; D. S. Lamb, Washington, D. C., and Leartus Connor, Detroit.

"The Loss of Vitreous Humor in the Extraction of Cataract," by Dr. J. M. Ray, Louisville. Discussed by Dr. L. W. Fox, Philadelphia; H. D. Bruns, New Orleans; F. B. Tiffany, Kansas City, Mo.; Samuel Theobald, Baltimore; Hiram Woods, Baltimore; A. R. Baker, Cleveland, Ohio; E. Moraweck, Louisville; C. A. Oliver, Philadelphia; D. W. Greene, Dayton, Ohio; D. S. Lamb, Washington, D. C.; F. Valk, New York City; W. Zentmayer, Philadelphia, and J. M. Ray, Louisville.

"Yeast Cells as a Probable Cause of Ulcerative Keratitis," by Dr. George F. Keiper, Lafayette, Ind. Discussed by Dr. F. B. Tiffany, Kansas City, Mo.

"Ligation of the Common Carotid Artery for Malignant Recurrent Hemorrhage of the Vitreous," by Dr. George S. Derby, Boston. Discussed by Drs. W. R. Wilder, Chicago; J. E. Weeks, New York City; A. Greenwood, Boston; Harry Friedenwald, Baltimore; S. D. Risley, Philadelphia.

"Neuro-Fibroma of the Orbit; Krönlein Operation," by Dr. W. R. Parker, Ann Arbor, Mich. Discussed by Drs. Edward Jackson, Denver; H. Knapp, New York City; Harry Friedenwald, Baltimore; Charles O. Oliver, Philadelphia; E. C. Ellett, Memphis, Tenn.

"Metastatic Conjunctivitis in Gonorrhea," by Dr. James J. Carroll, Baltimore. Discussed by Drs. R. L. Randolph, Baltimore; Hiram Woods, Baltimore; H. Knapp, New York City; W. C. Posey, Philadelphia; S. L. Ledbetter, Birmingham, Ala.; John Green, Jr., St. Louis; H. A. Rothrock, West Chester, Pa.

Wednesday, June 5—Afternoon.

Address: "Modern Views on Physiology and Pathology of Accommodation," by Prof. Carl Hess, Würzburg, Germany.

"Some Considerations in the Treatment of Lachrymal Obstruction," by Dr. Mark D. Stevenson, Akron, Ohio. Discussed by Drs. G. E. de Schweinitz Philadelphia; C. R. Holmes, Cincinnati; William Wilder, Chicago; A. G. Bennett, Buffalo, N. Y.; A. E. Prince, Springfield, Ill.; Frank Todd, Minneapolis; J. L. Borsch, Philadelphia.

"A Method of Performing Tenotomy which Enables the Operator to Limit the Effect as Required," by Dr. Frank C. Todd, Minneapolis. Discussed by Drs. A. E. Davis, New York City; H. V. Würdemann, Milwaukee; W. R. Broughton, New York City; F. Valk, New York City; Ziegler, Philadelphia; A. E. Bulson, Jr., Ft. Wayne, Ind.; G. E. Savage, Nashville, Tenn.

"The Treatment of Strabismus in Young Children," by Dr. A. R. Baker, Cleveland, Ohio. Discussed by Drs. Linn Emerson, Orange, N. J.; W. Reber, Philadelphia; A. L. Derdiger, Chicago; A. E. Davis, New York City; Lucien Howe, Buffalo; Oscar Wilkinson, Washington, D. C.

"Congenital Squint," by Dr. W. C. Posey, Philadelphia. Discussed by Dr. A. Duane, New York City.

"Ocular Rotations in Paresis," by Dr. Francis Valk, New York City. Discussed by Drs. George H. Price, Nashville, Tenn.; A. Duane, New York City; G. E. Savage, Nashville, Tenn., and W. Reber, Philadelphia.

Thursday, June 6—Morning.

"Ocular Neurasthenia," by Dr. Hiram Woods, Baltimore. Discussed by Drs. S. D. Risley, Philadelphia; Henry Bruns, New Orleans; Lucien Howe, Buffalo; Henry Gradle, Chicago; Professor Hess, Würzburg, Germany; S. L. Ledbetter, Birmingham, Ala.; G. E. de Schweinitz, Philadelphia.

"A Protest Against the Employment of Paraffin Injections Near the Eyes," by Dr. A. E. Davis, New York City. Discussed by Drs. W. G. Thompson, New York City; Frank Todd, Minneapolis; F. J. Parker, New York City; Harmon Smith, New York City; J. L. Gorsch, Philadelphia; W. Marple, New York City.

"Further Observations on Retinitis Punctata," by Dr. H. Gradle, Chicago. Discussed by Drs. M. Wiener, St. Louis, and D. S. Lamb, Washington, D. C.

"Myopia Associated with Opacities of the Cornea," by Dr. W. L. Pyle, Philadelphia.

"Indications for the Employment of Adrenalin Chlorid, in Connection with Cocain in Operation on the Eye," by Dr. Samuel Theobald, Baltimore. Discussed by Drs. S. L. Ziegler, Philadelphia; P. Veasey, Philadelphia; J. E. Weeks New York City, and G. H. Price, Nashville, Tenn.

"The Value of Tuberculin T. R. as a Diagnostic and Therapeutic Agent in the Recognition and Treatment of Tuberculosis of the Eye, with Report of Cases," by Dr. C. S. Bull, New York City. Discussed by Drs. Peter A. Callan, New York City; S. L. Ziegler, Philadelphia; Herman Knapp, New York City; William Wilder, Chicago; J. E. Weeks, New York City; A. E. Bulson, Jr., Ft. Wayne, Ind.; G. W. Van Benschoten, Providence, R. I., and Professor Hess, Würzburg, Germany.

Thursday, June 6—Afternoon.

The executive committee reported the following nominations for officers for the ensuing year: Chairman, Dr. William Wilder, Chicago; vice-chairman, Dr. W. C. Posey, Philadelphia; secretary, Dr. A. E. Bulson, Jr., Ft. Wayne, Ind.; delegate, Dr. W. Marple, New York City. These were duly elected.

"Premiums Paid to Experience," by Drs. F. T. Rogers and G. W. Van Benschoten, Providence, R. I. Discussed by Drs. L. H. Taylor, Wilkes-Barre, Pa.; E. E. Holt, Portland, Maine; A. Greenwood, Boston; Robert Randolph, Baltimore; O. Wilkinson, Washington, D. C.; A. E. Bulson, Ft. Wayne, Ind.; A. R. Baker, Cleveland, Ohio; L. A. W. Alleman, Brooklyn; J. L. Borsch, Philadelphia.

"The Preventive Treatment of Transferred Ophthalmitis (so-called Sympathetic Ophthalmia"), by Dr. C. A. Oliver, Philadelphia. Discussed by Drs. C. R. Holmes, Cincinnati, Ohio; W. Zentmayer, Philadelphia; J. A. Donovan, Butte City, Mont.; J. L. Borsch, Philadelphia; A. E. Bulson, Ft. Wayne, Ind.; Robert Randolph, Baltimore.

"The Relation of the Circumlental Space to the Causation of Glaucoma, as Shown by the Würdemann Lamp," by Dr. J. A. Tenney, Boston.

"The Surgical Treatment of Chronic Glaucoma," by Dr. S. D. Risley, Philadelphia.

These two papers were discussed by Drs. H. V. Würdemann, Milwaukee; J. E. Weeks, New York City; H. Bruns, New Orleans; J. L. Borsch, Philadelphia; M. Wiener, St. Louis; Professor Hess, Würzburg, Germany; S. L. Ziegler, Philadelphia; G. O. McReynolds, Dallas, Texas, and Hiram Woods, Baltimore.

"Comparative Potency of Hyoscin and Scopolamin Hydrobromid in Refraction Work," by Dr. W. Reber, Philadelphia. Discussed by Drs. A. E. Bulson, Ft. Wayne, Ind.; S. D. Risley, Philadelphia; C. A. Oliver, Philadelphia; A. Greenwood, Boston, and S. L. Ziegler, Philadelphia.

"The Parabolic Reflector for Illuminating Test Charts," by Dr. Mortimer Frank, Chicago. Discussed by Dr. W. Sweet, Philadelphia.

Friday, June 7—Morning.

"The Treatment of Ulcers of the Cornea," by Dr. H. Bert Ellis, Los Angeles, Cal. Discussed by Drs. E. A. Shumway, Philadelphia; L. H. Taylor, Wilkes-Barre, Pa.; J. A. Tenney, Boston; V. A. Donovan, Butte, Mont.; A. Barkan, San Francisco; W. H. Roberts, Pasadena, Cal.; G. E. Savage, Nashville, Tenn.; Leartus Connor, Detroit; S. L. Ledbetter, Birmingham, Ala., and Professor Hess, Würzburg, Germany.

"The Treatment of Purulent Ophthalmia," by Dr. G. H. Price, Nashville, Tenn. Discussed by Drs. J. E. Weeks, New York City; H. Woods, Baltimore; A. E. Prince, Springfield, Ill.; E. C. Ellett, Memphis, Tenn.; P. R. Wood, Marshalltown, Iowa; L. H. Taylor, Wilkes-Barre, Pa.; Mark Stevenson, Akron, Ohio; Edward Jackson, Denver; Leartus Connor, Detroit; C. H. Williams, Boston; Oscar Wilkinson, Washington, D. C.

"The Treatment of Iritis," by Dr. E. C. Ellett, Memphis, Tenn. Discussed by Drs. Allen Greenwood, Boston; H. W. Ring, New Haven, Conn.; J. F. Byington, Battle Creek, Mich.; A. E. Davis, New York City; J. Shorter, Macon, Ga.; C. H. Williams, Boston; W. R. Parker, Detroit; D. S. Lamb, Washington, D. C.; Edward Jackson, Denver; Leartus Connor, Detroit; H. Woods, Baltimore; G. E. Savage, Nashville, Tenn.; E. C. Ellett, Memphis, Tenn.

"The Treatment of Interstitial Keratitis," by Dr. H. H. Martin, Savannah, Ga. Discussed by Drs. Hiram Woods, Baltimore; W. H. Roberts, Pasadena, Cal.; Herbert Harlan, Baltimore; A. A. Hubbell, Buffalo, N. Y.; E. G. Bernstein, Kalamazoo, Mich., and D. S. Lamb, Washington, D. C.

"The Treatment of Chronic Trachoma," by Dr. A. E. Prince, Springfield, Ill. Discussed by Drs. J. C. Hancock, Brooklyn, N. Y.; Herbert Harlan, Baltimore; Oscar Wilkinson, Washington, D. C.; J. E. Weeks, New York City, and A. E. Prince, Springfield, Ill.

Section on Laryngology and Otology.

Tuesday, June 4—Afternoon.

The meeting was called to order by the chairman, Dr. S. MacCuen Smith. The chairman then read his address.

Dr. D. Braden Kyle read a paper entitled "Chemistry of the Saliva and Nasal Secretions, and Its Relation to Hay Fever."

On motion the regular order of business was suspended to listen to the address of Prof. Gustave Killian, Freiburg. A vote of thanks was tendered Prof. Killian for his practical and interesting paper.

Dr. H. Holbrook Curtis read a paper entitled "Etiology and Treatment of Hay Fever."

The two papers on hay fever were discussed by Drs. J. Solis-Cohen, Philadelphia; G. L. Richards, Fall River, Mass.; Emil Meyer, New York City; M. H. Post, St. Louis; Hanau W. Loeb, St. Louis; G. N. Jack, Buffalo, N. Y.; D. Braden Kyle, Philadelphia; H. Holbrook Curtis, New York City.

Dr. Hanau W. Loeb read a paper on "Anatomy of the Middle Turbinate." Discussed by Drs. Robert Levy, Denver, Colo.; H. P. Mosher, Boston; J. O. Roe, New York City, and H. W. Loeb, St. Louis.

The chairman appointed as executive committee Drs. Otto T. Freer, J. F. Barnhill and Dunbar Roy.

Wednesday, June 5—Morning.

Joseph L. Goodale read a paper entitled "Pathology of the Middle Turbinate." Discussed by Drs. Emil Mayer, New York, and O. T. Freer, Chicago.

Dr. Joseph A. Stucky, Lexington, Ky., read a paper on "Nonoperative Treatment of Middle Turbinate Diseases." Discussed by Dr. Joseph A. White, Richmond.

"Indications for Resection of the Middle Turbinal," by Dr. William A. Casselberry, Chicago. Discussed by Drs. Joseph S. Gibb, Philadelphia, and Carolus M. Cobb, Boston.

Dr. George L. Richards. Mass., read a paper on "Technic of the Operation for Removal of the Middle Turbinate." Discussed by Dr. W. L. Ballenger, Chicago.

These four papers were generally discussed by Drs. O. T. Freer, Chicago; Robert Levy, Denver, Colo.; C. R. Holmes, Cincinnati; R. C. Myles, New York City; H. W. Loeb, St. Louis; C. F. Welty, San Francisco; A. B. Thrasher, Cincinnati, Ohio; Joseph Beck, Chicago; J. L. Goodale, Boston; J. A. Stucky, Lexington, Ky.; S. MacCuen Smith, Philadelphia, and W. E. Casselberry, Chicago.

Wednesday, June 5—Afternoon.

"Treatment of Hypertrophic and Intumescent Rhinitis with the Galvano-Cautery," by Drs. E. F. Ingals and S. A. Friedberg, was read by Dr. Ingals. Discussed by Drs. H. Stolte, Milwaukee; F. J. Quinlan, New York City; C. F. Welty, San Francisco; F. D. Smythe, Memphis, Tenn.; J. F. Barnhill, Indianapolis, Ind.; J. F. Byington, Battle Creek, Mich.; J. Beck, Chicago; C. R. Holmes, Cincinnati; Anderson, Detroit; J. Solis-Cohen, Philadelphia; E. F. Ingals, Chicago.

W. G. B. Harland, Philadelphia, read a paper on "The Larynx in Locomotor Ataxia. Discussed by Drs. J. F. Byington, Michigan; Emil Mayer New York; W. E. Casselberry, Chicago; J. Solis-Cohen, Philadelphia; H. P. Mosher, Boston, and W. G. B. Harland, Philadelphia.

A paper entitled "Intranasal Suture" was read by Sidney Yankauer of New York. Discussed by Drs. J. O. Roe, New York City; M. L. Wilson, New Jersey; Emil Mayer, New York; J. Beck, Chicago; H. Stolte, Milwaukee; Yankauer, and Prof. G. Killian, Germany.

Chevalier Jackson, Pittsburg, read a paper on and demonstrated "The Gastroscope." Discussed by Prof. G. Killian and Dr. Jackson in closing.

Victor C. Pederson, New York, read a paper on a "New Method for all the Ordinary Sequences of Anesthesia," and presented the apparatus.

Cullen F. Welty, San Francisco, and J. F. Barnhill, Indianapolis, demonstrated instruments.

Thursday, June 6—Morning.

A paper was read by Henry O. Reik, Baltimore, on "The Pathology of Middle Ear Suppuration." Discussed by Drs. J. F. Barnhill, Indianapolis, and Frank Allport, Chicago.

The regular order of business was suspended while Professor Küster, Marburg, Germany, read a paper, which was discussed by Dr. A. B. Randall, Philadelphia.

Samuel Theobald, Baltimore, read a paper on "Conservative Treatment of Chronic Suppuration of the Middle Ear." Discussed by Dr. Dunbar Roy, Atlanta, Ga.

James F. McKernon, New York City, read a paper entitled "Phlebitis Following Middle Ear Disease." Discussed by Dr. E. E. Holt, Portland, Maine.

"Ossiculectomy in Chronic Middle Ear Suppuration" was the title of a paper read by F. L. Jack, Boston. Discussed by Dr. A. R. Duell, New York.

G. E. Shambaugh, Chicago, read a paper entitled "Some Important Surgical Relations of the Temporal Bone." Discussed by Drs. B. A. Randall, Philadelphia, and E. DeW. Wales, Indianapolis.

Edward B. Dench, New York City, read a paper on "The Major Operative Treatment of Middle Ear Suppuration and Indications for the Same." Discussed by Drs. Cunningham, Georgia; G. L. Richards, Massachusetts; C. F. Welty, San Francisco; J. A. Stucky, Kentucky; H. O. Reik, Baltimore; Frank Allport, Chicago; W. L. Ballenger, Chicago; A. B. Randall, Philadelphia; Henry Gradle, Chicago; J. F. McKernon, New York City, and E. B. Dench.

Thursday, June 6—Afternoon.

The election of officers for the ensuing year resulted as follows: Chairman, Hanau W. Loeb, St. Louis· vice-chairman, Dunbar Roy, Atlanta, Ga.; secretary, W. Sohier Bryant, New York City; executive committee, Robert C. Myles, New York City; O. T. Freer, Chicago; S. MacCuen Smith, Philadelphia; delegate, O. T. Freer, Chicago; alternate, S. MacCuen Smith, Philadelphia.

G S. Richards, Fall River, Mass., moved that Prof. Gustav Killian, Freiburg, Germany, be made an honorary member of the Section, and that Delegate O. T. Freer take the necessary steps.

The chairman announced that general discussion would be resumed on papers that had been read on acute diseases of the middle ear. These were discussed by A. E. Prince, Illinois; J. A. Stucky, Kentucky; G. L. Richards, Massachusetts; C. H. Welty, California; Wilkinson, Washington, D. C.; J. F. Byington, Michigan; A. B. Randall, Pennsylvania; J. F. Barnhill, Indiana; J. Beck, Illinois; Frank Allport, Illinois; Cunningham, Georgia;; Kirkendall New York; H. O. Reik, Maryland; F. L. Jack, Pennsylvania.

The chairman announced that Prof. G. Killian would give a clinic at Jefferson Medical College Hospital, Philadelphia, Saturday at 9 a. m., to which all were invited.

Dr Cullen F Welty, San Francisco, read a paper entitled "The Indications for Operative Interference in Central Affections Due to Middle Ear Suppuration." Discussed by A. B. Randall, Philadelphia; Cunningham, Georgia; J. A. Stucky, Kentucky, and C. F. Welty.

The chairman announced that Professor Killian had been made an honorary member of the American Medical Association and of the Section on Laryngology and Otology. Professor Killian thanked the Section for the honor done him.

By unanimous vote the retiring officers were given a vote of thanks for their able administration of the duties pertaining to their offices.

Section on Hygiene and Sanitary Science.

Tuesday, June 4—Afternoon.

The Section convened at the Chalfonte and was called to order by the chairman, Dr. Prince A. Morrow, New York City. In the absence of the secretary, Dr. S. T. Armstrong, New York City, was designated secretary.

The chairman read his address, "Hygiene in Relation to Heredity."

Dr J. Clifton Edgar, New York City, read a paper on "Gonococcus Infection as a Cause of Blindness, Vulvo-vaginitis and Arthritis."

After representations by the delegate of the Section, Dr. Denslow Lewis, Chicago, it was moved by the secretary, seconded and unanimously carried, "That Dr. Lewis be requested to invite the attention of the House of Delegates to their failure to act on the resolutions of this Section and request consideration of the resolutions that were introduced last year."

The resolutions referred to were on the healthfulness of continence and the advisability of reporting venereal diseases.

Dr. Joseph Taber Johnson, Washington, D. C., read a paper on "The Influence of Gonorrhea as a Factor of Depopulation."

Dr. Edward L. Keyes, Jr., New York City, read a paper entitled "Syphilis as a Cause of Depopulation and Race Deterioration."

Dr J. Newton Hunsberger, Skippack, Pa., read a paper on "Artificial Childlessness and Race Suicide."

These three papers were discussed by Drs. Prince A. Morrow, New York City; J. H. Stolper, Krebs, Okla.; G. T. Swarts, Providence, R. I.; Liston H. Montgomery, Chicago, Ill.; H. P. Jack, Canisteo, N. Y.; H. D. Holton, Brattleboro, Vt.; S. A. Knopf, New York City; G. Lloyd Magruder, Washington, D. C.; G. Werther Drake, Hollins, Va.; W. F. Snow, Leland Standford, Jr., University, California.

Dr. Richard Cole Newton, Montclair, N. J., read a paper on "Educational Problems." Discussed by Drs. Snow, Leland Stanford, Jr., University, Cal.; Weck, Sunbury, Pa.; Prince A. Morrow, New York City; H. P. Jack, Canisteo, N. Y.; S. A. Knopf, New York City; J. Newton Hunsberger, Skippack, Pa.; G. Werther Drake, Hollins, Va.; Paul Paquin, Asheville, N. C.; Liston H. Montgomery, Chicago, and Richard Cole Newton, Montclair, N. J.

Wednesday, June 5—Morning.

Dr. H. M. Bracken, Minneapolis, read a paper on "Necessity of State Control of Inland Waters." Discussed by Drs. Henry D. Holton, Brattleboro, Vt.; J. H. Stolper, Krebs, Okla.; William C. Gorgas, Ancon, Canal Zone, Panama; C. Hampson Jones, Baltimore, G. F. Swarts, Providence, R. I.; W. C. Chapman, Toledo, O.; William H. Sanders, Montgomery, Ala.; Liston H. Montgomery, Chicago, and W. H. Donaldson, Fairfield, Conn.

In the absence of Mr. X. G. Goodnough, Boston, his paper "Stream Pollution and Its Prevention," was read by Mr. William S. Johnson, Boston, who immediately thereafter read his own paper, "The Quality of Public Water Supplies."

Mr. Geo. C. Whipple, New York City, read a paper on "Modern Methods of Sewage Purification and the Relative Applicability."

Mr. Harry C. Clark, Boston, read a paper entitled "Filtration of Water."

Mr. George T. Moore, Washington, D. C., read a paper on "Sewage Purification by Septic Tanks and Chemical Precipitation."

Dr. Wm. Hallock Park, New York City, read a paper on "Bacteriology of Ice."

Adjournment was taken without discussion owing to lateness of the hour.

Wednesday, June 5—Afternoon.

Dr. George W. Goler, Rochester, N. Y., read a paper on "The Municipal Regulation of the Milk Supply."

Dr. Thomas Darlington, New York City, read a paper on "The Methods of Dealing with the Milk Supply of New York City," illustrated by lantern slides.

Dr. James O. Jordan, Boston, read a paper on "Boston's Campaign for Clean Milk."

Dr G. Lloyd Magruder, Washington, D. C., read a paper on "The Milk Supply of Washington," illustrated by lantern slides.

These four papers were discussed by Drs. C. Hampson Jones, Baltimore; W. F. Snow, Leland Stanford, Jr., University, California; Seneca Egbert, Philadelphia; H. M. Bracken, Minneapolis, and G. Lloyd Magruder, Washington, D. C.

Thursday, June 6—Morning.

The chairman appointed Drs. Swarts, Providence, R. I.; Denslow Lewis, Chicago, and John S. Fulton, Baltimore, a nominating committee, to report at the afternoon session nominations for the section offices.

Dr W. Gilman Thompson, New York City, read a paper entitled "Modern Hospital Construction," (illustrated with lantern slides).

Dr. Albert J. Ochsner, Chicago, read a paper on "Important Practical Points of Economy in Hospital Construction." These two papers were discussed by Drs. W. H. Donaldson, Fairfield, Conn.; Geo. H. M. Rowe, Boston; W. C. Wyman, Washington, D. C.; J. H. Stolper, Krebs, Oklahoma; Seneca Egbert, Philadelphia; W. Gilman Thompson, New York City and Albert J. Ochsner, Chicago.

Dr Livingston Farrand, New York City, read a paper entitled "Educational Propaganda for the Prevention of Tuberculosis."

Dr G. Abraham Jacobi, New York City, read a paper on "Smoke in Relation to Health."

Dr. Edward O. Otis, Boston, read a paper on "Public Provision for Advanced Cases of Tuberculosis."

Discussion on the three papers was deferred until the afternoon session.

Thursday, June 6—Afternoon.

Dr. Swarts presented the report of the nominating committee as follows: For chairman, Dr. William C. Gorgas, Ancon, Canal Zone, Panama; for vice-chairman, Dr. Seneca Egbert, Philadelphia; for secretary, Dr. H. M. Bracken, St. Paul, Minn.; for delegate, Dr. Denslow Lewis, Chicago; for alternate, Dr. N. K. Foster Sacramento, Cal.; for orator on state medicine, Dr. Charles Harrington, Boston. Dr. Swarts asked that the names be voted on individually rather than collectively. This was done with the result that Drs. Gorgas, Egbert and Bracken were unanimously elected.

Dr. Bracken nominated as delegate Dr. N. K. Foster, Sacramento, Cal. Dr. Foster was elected. Dr. W. C. Chapman, Toledo, Ohio, was elected alternate delegate, and Dr. Charles Harrington, Boston, was elected orator on state medicine.

Dr. Bracken tendered his resignation as secretary-elect and moved the election to that office of the secretary-incumbent, Dr. Armstrong, who was unanimously elected.

Dr. C. C. Browning, Monrovia, Cal., read a paper on "Public Provision for Incipient Cases of Tuberculosis. Sanatoria and Dispensaries."

The chairman here withdrew, and Dr. Swarts assumed the post.

Dr. Paul Paquin, Asheville, N. C., read a paper on "The Question of Climate in the Treatment of Pulmonary Tuberculosis."

The papers of both sessions of the day were then discussed by Drs. J. H. Stolper, Krebs, Okla.; C. C. Friedrichs, Buffalo, N. Y.; J. E. Stubbert, Liberty, N. Y.; L. H. Montgomery, Chicago; Gordon Wilson, Baltimore; G. W. Drake, Hollins, Va.; C. H. Irion, New Orleans; G. T. Swarts; Edward O. Otis, Boston; J. C. Foltz, Philadelphia; G. F. Patton, New Orleans; C. C. Browning, Monrovia, Cal.; Paul Paquin, Asheville, N. C.

The hour being late, the paper, "Sanitary Control of Dairy Farms," by Dr. John S. Fulton, Baltimore, was read by title with the unanimous consent of the Section.

Section on Diseases of Children.

Tuesday, June 4—Afternoon.

The meeting was called to order at 2.15 by the chairman, J. Ross Snyder, Birmingham, Ala., who then read his address, entitled "The Status of the Child."

The next paper was by Dr. John Rührah, Baltimore, entitled "Some Needs of Institution Children." Discussed by Drs. E. E. Graham, Philadelphia; R. B. Gilbert, Louisville, Ky.; J. L. Morse, Boston, R. U. Walker, Chicago; Van Ness, Kansas City; Kerley, New York City, and Rührah.

A paper entitled "The Relation of the Physician to Defective

School Children" was read by Dr. W. C. Hollopeter, Philadelphia. Discussed by Drs. Cotton, Chicago; Fairbanks, Boston; Van der Slice, Oak Park, Ill.; Ammanu, Missouri; Ager, Brooklyn; Abt, Chicago; Ryan, Des Moines, Iowa; Kelly, Ohio; Orr, Nebraska; Suyder, Birmingham, Ala., and Hollopeter, Philadelphia.

A paper entitled "A Preliminary Report on the Etiology of Infantile Atrophy" was read by Dr. A. H. Wentworth, Boston. Discussed by Drs. Fairbanks, Gilbert, Cattermole and Wentworth.

A paper on "The Ferments of Milk and Their Relation to Pasteurization" was read by Dr. Roland G. Frecman, New York City. Discussed by Drs. Hamill, Douglass, Cotton, Churchill and Freeman.

Wednesday, June 5—Morning.

The first paper was entitled "The Greatest Menace to Whole Milk in Cities' Supplies," by Dr. Alexander McAllister, Camden. "Certified Milk and the General Milk Supply of Louisville" was the title of a paper read by Dr. Heury Enos Tuley, Louisville, Ky. These two papers were discussed by Drs. Le Boutillier, McGruder, Gilbert, Ager, Friedlander Kilmer, Southworth, Johnson, Murphy, Barkley, Van der Slice, Boorse, Merrick, Lane, Kerley, Mercer, McAllister and Tuley.

The next paper was entitled "The Disadvantages of Low Proteids in Infant Feeding," by Dr. Alfred Hand, Philadelphia. Discussed by Drs. Southworth, Churchill, Gilbert, Mercer, Morse, Douglass, Pisek, Van der Slice and Hand.

A paper entitled "The Importance of the Early Recognition and Treatment of Rachitis" was read by Dr. Thomas S. Southworth, New York City. Discussed by Drs. Fairbanks, Kirk, Morse, Abt, Kerley, Hamill, Goodenow, Roylston, Gray, Gilbert, Cattermole, Sill and Southworth.

Wednesday, June 5—Afternoon.

A paper entitled "The Relation of the Pathologic Conditions of the Nasopharynx to the Dental Arches" was read by Dr. E. A. Bogue, New York City. Discussed by Drs. Stanton, Lowenburg and Bogue.

"Adenoids in Infancy," was the title of a paper by Dr. John Lovett Morse, Boston. Discussed by Drs. Hollopeter, Walker, Kilmer and Morse.

A paper entitled "Prophylaxis in Cerebrospinal Meningitis" was read by Dr. A. Seibert, New York City. Discussed by Drs. Churchill, Hand, English, Fairbanks, Meyer, Solis-Cohen and Seibert.

"Urinary Infections in Children" was the title of a paper by Dr. Isaac A. Abt, Chicago. Discussed by Drs. Cotton, Graham, Morse, Mitchell, Knox, Boorse and Abt.

Thursday, June 6—Morning.

A paper on "The Opsonic Index in Tuberculosis of Children; Its Relation to the Tuberculin Test" was read by Dr. Thomas Morgan Rotch, Boston. Discussed by Drs. Kerley, Churchill, Abt, Ager, Fisher, Fairbanks, Walker, Roland and Rotch.

A paper entitled "Tardy-Mal-nutrition; Its Treatment by Rest and Diet," was read by Dr. Charles Gilmore Kerley, New York City. Discussed by Drs. Rotch, Royster, Stoyle, Van der Slice, Fisher, Le Boutillier, Ammann, Morse, Douglass, McKee and Kerley.

"The Percussion of the Chest in Infants and Children" was the title of a paper by Dr. S. M. Hamill, Philadelphia. Discussed by Drs. Cattermole, Lowengren, McKee, Fairbanks, Hand and Hamill.

A paper on "Symptom-Complex of a Series of Intestinal Cases in Children, with Pathologic Findings," was read by Dr. Thomas D. Parke, Birmingham, Ala. Discussed by Drs. Abt, Gilbert, Morse, Walker, Mercer, Kerley, Wentworth and Parke.

A paper entitled "Five Hundred and Fifty Cases of Whooping Cough Treated by Means of the Abdominal Belt" was read by Dr. Theron Wendell Kilmer, New York City. Discussed by Drs. Douglass, Cattermole, Gilbert, Kerley, Fisher and Kilmer.

Thursday, June 6—Afternoon.

Dr. Fairbanks moved that a committee of three be appointed by the chairman to investigate the present status of public education of children in relation to their physical and psychical development, and instruct this committee to report the result of their investigations at the next session. This motion was carried. The appointments were as follows: Dr. Fairbanks in the east; Dr. Van der Slice in the middle states, and Dr. Cattermole in the west.

The report of nominating committee on officers for next session was then read as follows: Chairman, Dr. E. E. Graham, Philadelphia; secretary, Dr. Samuel Walker, Chicago; delegate, Dr. Thomas Parke, Birmingham, Ala.; Alternate, Dr. G. R. Pisek, New York City. The report of the committee was adopted.

A paper on "Scarlatina and Dukes' Disease" was read by Dr. A. C. Cotton, Chicago. Discussed by Drs. Van der Slice, Ager and Cottou.

A paper on "Malformations of the Rectum and Imperforate Anus" was read by Dr. Samuel W. Kelley, Cleveland, Ohio. Discussed by Drs. Royce and Kelley.

The next paper was by Dr. Louis Fischer, New York City, entitled "Clinical Observations in Acute Infectious Diseases, with Bedside Notes from the Willard Parker Hospital." Discussed by Drs. Douglass, Fairbanks, Royce, Kilmer, Lowengren and Fischer.

A paper entitled "Differential Diagnosis Between Measles and Rotheln was read by Dr. H. McClanahan, Omaha. Discussed by Drs. Mitchell, Earl, Walker and McClanahan.

A paper on "An Interesting Case of Incontinence of Feces" was read by Dr. Maurice Ostheimer, Philadelphia. Discussed by Drs. Fairbanks, Lowengren and Ostheimer.

A paper entitled "The Essential Insufficiency of the Heart in Childhood" was read by Dr. Arthur Willard Fairbanks, Boston. Discussed by Drs. Cattermole and Fairbanks.

A paper on "Diagnosis and Treatment of Convulsions in Children' was read by Dr. Lowenburg, Philadelphia. Discussed by Drs. Graham, Abt, Brinker, McClanahan and Lowcngren.

Section on Nervous and Mental Diseases.

Tuesday, June 4—Afternoon.

The Section was called to order at 2:20 p. m. by the chairman, Dr. Morton Prince, Boston, who delivered the chairman's address.

"A Study of Four Hundred and Thirty-seven Cases of Alcoholic Insanities" was the title of a paper read by Dr. Alfred Gordon, Philadelphia. Discussed by Drs. Smith Ely Jelliffe, New York; F. X. Dercum, Philadelphia, and Gordon.

"Hysteria, Its Nature and Its Position in Nosology," was read by Dr. F. X. Dercum, Philadelphia. Discussed by Drs. L. H. Mettler, Chicago; Smith Ely Jelliffe, New York; Mortou Prince, Boston, and closed by Dr. Dercum.

A paper on "The Influence of the Ductless Glands over Metabolism, with Illustrative Cases," was read by Dr. Leo M. Crafts, Minneapolis. Discussed by Dr. J. Madison Taylor, Philadelphia.

A paper entitled "Acute Unilateral Ascending Paralysis" was read by Dr. Carl D. Camp, Philadelphia.

Wednesday, June 5—Morning.

A paper on "Landry's Paralysis; Recovery; Partial Relapse and Complete Recovery," was read by Dr. John K. Mitchell, Philadelphia. Discussed by Drs. McGregor, Saginaw, Mich.; J. H. McBride, Pasadena, Cal., and A. A. Eshner, Philadelphia.

"Clinical Study of Arteriosclerosis" was the title of a paper by Drs. George L. Walton and W. E. Paul, Boston, read by Dr. Walton. Discussed by A. R. Allen, Philadelphia; W. M. Leszynsky, New York City; Hersman, Pittsburg; John K. Mitchell, Philadelphia, and G. L. Walton, Boston.

A paper on "The Mental State in Aphasia" was read by Dr. C. W. Burr, Philadelphia. Discussed by Dr. L. H. Mettler, Chicago.

"Deep Injections of Alcohol for Trifacial Neuralgia, with Report of Cases," was the title of a paper read by Dr. Hugh T. Patrick, Chicago. Discussed by Drs. Philip Zenner, Cincinnati; John Punton, Kansas City; Guy Hinsdale, Hot Springs, Va., and H. T. Patrick, Chicago.

A paper on "Report of a Case of Intracranial Tumor Resulting from Traumatism" was read by Dr. William M. Leszynsky, New York City.

"A New Clinical Type in which Ascending Transverse Myelitis is Accommpanied by Osseous Ankylosis and Growth of the Vertebræ and Extreme Anterior Curvature" was the title of a paper read by Dr. Graeme M. Hammond, New York City. Discussed by Drs. William G. Spiller and A. A. Eshner, Philadelphia.

"Spinal Localization as Shown by a Case of Acute Hemorrhagic Meningomyelitis and with Secondary Softening and Cavity Formation" was the title of a paper read by Dr. James Hendrie Lloyd, Philadelphia. Discussed by Drs. Sullivan, Massachusetts; W. G. Spiller, Philadelphia, and J. H. Lloyd, Philadelphia.

On motion of Dr. Hersman, Pittsburg, the chairman was directed to appoint a committee of three to draw up suitable resolutions on the death of Dr. William J. Herdman of Ann Arbor, Mich.

Wednesday, June 5—Afternoon.

A paper on "Facial Hemiatrophy" was read by Dr. Theo. Klingman, Ann Arbor, Mich.

"Differential Diagnosis of Tumors of the Cerebello-Pontile Angle" was the title of a paper read by Dr. T. H. Welsenburg, Philadelphia.

A paper on "Hemicraniosis and Cure of Brain Tumor by Operation" was read by Dr. William G. Spiller, Philadelphia.

A paper entitled "Brain Tumor with Jacksonian Spasm and Unilateral Laryngeal Paralysis, the Growth Localized and Removed," by Drs. John L. Atlee, Lancaster, Pa., and Charles K. Mills, Philadelphia, was read by Dr. Atlee. Discussed by Drs. C. K. Mills and W. G. Spiller, Philadelphia.

A paper on "Removal of a Subcortical Cystic Tumor at Second Stage Operation without Anesthesia," by Drs. H. M. Thomas and Harvey W. Cushing, Baltimore, was read by Dr. Thomas.

The foregoing papers on brain tumor were discussed by Drs. F. X. Dercum, Philadelphia; A. E. Sterne, Indianapolis; T. H. Weisenburg, W. G. Spiller, C. K. Mills, H. M. Thomas and H. W. Cushing.

A paper on "Subacute Combined Cord Degeneration, with Report of Twenty Cases," was read by Dr. Julius Grinker, Chicago. Discussed by Dr. H. T. Patrick, Chicago.

Thursday, June 6—Morning.

The chairman appointed the following nominating committee: Drs. J. H. McBride, Pasadena, Cal.; Smith Ely Jelliffe, New York City, and H. M. Thomas, Baltimore.

A paper on "The Significance of Changes in the Optic Nerves in Certain Affections of the Cerebrospinal System" was read by William Campbell Posey, Philadelphia. Discussed by Drs. H. T. Patrick, Chicago; H. M. Thomas, Baltimore; W. G. Spiller, Philadelphia, and W. C. Posey, Philadelphia.

"Some General Reflections on the Subject of the Psychology of Dementia Præcox" was the title of a paper read by Dr. Smith Ely Jelliffe, New York City. Discussed by Drs. White, Washington; L. H. Mettler, Chicago; Morton Prince, Boston, and S. E. Jelliffe, New York City.

A paper on "Injuries of the Spinal Cord" was read by Dr. Alfred Reginald Allen, Philadelphia. Discussed by Drs. W. G. Spiller, Philadelphia; A. E. Sterne, Indianapolis; W. A. Jones, Minneapolis; H. M. Thomas, Baltimore; C. K. Mills, Philadelphia; P. Zenner, Cincinnati; Hersman, Pittsburg; Morton Prince, Boston, and A. R. Allen, Philadelphia.

A paper on "Sensory Dissociation as a Symptom" was read by Dr. L. H. Mettler, Chicago. Discussed by Dr. C. K. Mills, Philadelphia, L. H. Mettler, Chicago.

"Nervousness; Its Significance and Treatment," was the title of a paper read by Dr. John Punton, Kansas City, Mo. Discussed by Drs. Julius Grinker, Chicago; Potter, Rochester, N. Y.; Sullivan, Massachusetts, and J. Punton, Kansas City, Mo.

A paper on "Headache as a Symptom of Local Disorders," by Drs. Frederic Coggeshall and William E. McCoy, Boston, was read by Dr. McCoy. Discussed by Drs. Kelly and H. T. Patrick, Chicago.

"Relationship Between Referred Visceral Pains. The Sympathetic System and Various Methods of Therapy," was the title of a paper read by Dr. S. D. Ludlum, Philadelphia. Discussed by Drs. Snow, Vermont; C. K. Mills, Philadelphia; Morton Prince, Boston, and S. D. Ludlum, Philadelphia.

The nominating committee presented their report, showing the following nominations: Chairman, Dr. T. H. Welsenburg, Philadelphia; secretary, Dr. William Alexander Jones, Minneapolis; delegate, Dr. Mortou Prince, Boston; alternate, Dr. L. Harrison Mettler, Chicago; all of whom were elected.

Dr. William Alexander Jones, Minneapolis, presented the following resolution:

Resolved, That the executive officers of this Section be instructed and authorized to arrange, if possible, for the printing of all papers to be read at the next annual meeting of the Section on Nervous and Mental Diseases of the Association, and that papers shall be sent to the Secretary at a time sufficiently early in his discretion to be printed and circulated among the members of the Section at least one month before the annual meeting; furthermore, be it

Resolved, That the essayist be given five minutes to present an abstract of his paper, and that the member selected to open the discussion be allowed ten minutes, and that other discussions be limited to five-minute periods.

After considerable discussion, Dr. C. K. Mills, Philadelphia, moved to amend the resolution by changing the time allowed the essayist from "five" to "ten" minutes, which amendment was accepted, and the resolution as amended was adopted.

Dr. Julius Griuker, Chicago, moved that the next annual session of the Section be limited to three days, which motion was ruled out of order as contrary to the by-laws of the Association.

On motion of Dr. W. A. Jones, Minneapolis, it was decided to limit the number of papers at the next annual meeting to thirty.

On motion of Dr. C. K. Mills, Philadelphia, it was ordered that the resolution on the death of Dr. William J. Herdman, Ann Arbor, Mich., be accepted and spread on the minutes of the Section, and copies thereof sent to the various medical journals.

By unanimous vote of the Section, the papers of Drs. J. H. W. Rhein, Philadelphia, and T. D. Crothers, Hartford, Conn., were read by title, the authors having been present, but having been prevented from reading them.

Section on Stomatology.

TUESDAY, JUNE 4—AFTERNOON.

This Section convened at 2 p. m., and was called to order by the chairman, Dr. M. I. Schamberg, New York City, who then read the chairman's address.

Drs. H. C. Register, Philadelphia, and James McManus, Hartford, Conn., read their contributions to the symposium on "The Necessity for a Medical Education for Dentists, from the Standpoint of the Lay Public."

These three papers were discussed by Drs. Truman, Philadelphia; A. M. Steeves, Boston; E. S. Talbot, Chicago; E. A. Bogue, New York City; T. W. Brophy, Chicago, and M. I. Schamberg, New York.

Dr. Grady read a paper on "The Dentist in the United States Navy." Discussed by Drs. J. McManus, Hartford, Conn; E. A. Bogue, New York City; V. A. Latham, Chicago; F. L. Fossume, New York City; T. W. Brophy, Chicago; M. I. Schamberg, New York City, and E. S. Talbot, Chicago.

Dr. Truman W. Brophy, Chicago, moved that it is the sense of this Section that the United States Government should appoint dental surgeons to serve the officers and enlisted men of the Navy and Marine Corps. The motion was carried.

WEDNESDAY, JUNE 5—MORNING.

The following were elected delegates to the International Congress of Stomatology: Drs. M. L. Rhein, New York City; C. O. Kimball, New York City; E. C. Bogue, New York City; G. V. I. Brown, Milwaukee, and E. S. Talbot, Chicago. These selections were confirmed by the House of Delegates.

The chairman appointed Drs. V. A. Latham, Chicago; S. G. Jackson, Vineland, N. J., and G. V. I. Brown, Milwaukee, as a committee on the nomination of officers for the coming year.

A paper contributed to the symposium on the "Necessity for a Medical Education for Dentists, as Viewed from the Standpoint of the Physician," was read by Dr. V. A. Latham, Chicago.

Dr. F. L. Fossume, New York City, read a paper on "The Common Ground of Dentistry and Medicine."

These two papers were discussed by Drs. F. A. Faught, Philadelphia; H. C. Register, Philadelphia; G. V. I. Brown, Milwaukee; J. E. Powers, Providence, R. I.; J. McManus, Hartford, Conn.; T. W. Brophy, Chicago; V. A. Latham, Chicago, and F. L. Fossume, New York City.

The chairman announced the temporary appointment of S. B. Luckie, of Chester, Pa., to take the place of G. F. Eames, of Boston and James E. Power of Providence, R. I., to take the place of H. P. Carlton, of San Francisco, on the Executive Committee, in order that the papers read may be approved for publication.

At this point a recess was taken until 2:15 p. m.

WEDNESDAY, JUNE 5—AFTERNOON.

The committee on the nomination of officers for the coming year reported as follows: Chairman, Dr. E. A. Bogue, New York City; vice-chairman, Dr. James E. Power, Providence, R. I.; secretary, Dr. E. S. Talbot, Chicago; delegate, Dr. M. L. Rhein, New York City, and as alternate, Dr. James McManus, Hartford, Conn. These were elected.

A paper on "False Statements Concerning Causes of Pathologic Conditions," was read by Dr. S. B. Luckie, Chester, Pa. Discussed by Drs. F. A. Faught, Philadelphia; V. A. Latham, Chicago; J. Truman, Philadelphia; M. I. Schamberg, New York City; H. C. Register, Philadelphia; G. V. I. Brown, Milwaukee; F. L. Fossume, New York City, and S. B. Luckie, Chester, Pa.

A paper on "The Relation of Upper Respiratory Obstruction to Oral Deformity; Simultaneous Treatment by Expansion of the Dental Arch," was read by Dr. Francis A. Faught, of Philadelphia. Discussed by Drs. G. H. Makuen, Philadelphia; G. V. I. Brown, Milwaukee; J. A. Gorman, Philadelphia, C. A. Hawley, Columbus, Ohio; E. A. Bogue, New York City, and F. A. Faught, Philadelphia.

"Acid Autointoxication the Principal Cause of Erosion and Abrasion," was the title of a paper read by Dr. Eugene S. Talbot, Chicago. Discussed by Drs. J. Truman, Philadelphia; G. V. I. Brown, Milwaukee; F. A. Faught, Philadelphia; V. A. Latham, Chicago, and E. S. Talbot, Chicago.

THURSDAY, JUNE 6—MORNING.

A paper on "Pregnancy: a Factor in the Etiology of Dental Diseases" was read by Dr. James E. Power, Providence, R. I. Discussed by Drs. V. A. Latham, Chicago; S. G. Jackson, Vineland, N. J.; M. I. Schamberg, New York City; A. M. Steeves, Boston; W. M. Dailey, New York City; E. S. Talbot, Chicago; S. B. Luckie, Chester, Pa., and J. E. Power, Providence, R. I.

THURSDAY, JUNE 6—AFTERNOON.

A paper on "A Case of Epidermoid Carcinoma of the Inferior Maxilla" was read by Dr. W. H. Potter, Boston. Discussed by Drs. V. A. Latham, Chicago; E. A. Bogue, New York City; J. E. Power, Providence, R. I.; M. I. Schamberg, New York City and W. H. Potter, Boston.

"Some Results from Orthodontia of the Deciduous Teeth," was the title of a paper read by Dr. E. A. Bogue, New York City. The paper was illustrated with lantern slides.

A paper was read by Dr. W. Sohier Bryant, New York City, on "The Mutual Developmental Dependence of the Upper Air Tract, the Jaws, the Teeth, the Face and Their Economic Importance to the Human Race."

These two papers were discussed by Drs. W. H. Potter, Boston; W. M. Dailey, New York City; C. A. Hawley, Columbus, Ohio; E. A Bogue, New York City, and W. S. Bryant, New York City.

A paper on "Radiography in Oral Surgery, with Demonstrations of a Focus Finder and Ray Localizer," was read by Dr. G. E. Pfahler, Philadelphia. The paper was illustrated with lantern slides. Discussed by Drs. G. V. I. Brown, Milwaukee and G. E. Pfahler, Philadelphia.

A paper on "Speech Results of Cleft Palate Operations," was read by Dr. G. V. I. Brown, Milwaukee. Discussed by Drs. Robert T. Ollver, U. S. A., West Point, N. Y., M. I. Schamberg, New York City; E. A. Bogue, New York City; V. A. Latham, Chicago, and G. V. I. Brown, Milwaukee.

Section on Cutaneous Medicine and Surgery.

TUESDAY, JUNE 4—AFTERNOON.

The meeting was called to order by the chairman, Dr. R. H. Campbell, Chicago, who then delivered the chairman's address. "Venous Angioma of Skin Showing Beginning Malignancy."

A paper on "Deformities of the Vulva from Early and Late Indurating Edema" was read by Dr. R. W. Taylor, New York City. Discussed by Drs. H. C. Baum, Syracuse, N. Y.; J. Zeisler, Chicago; W. A. Pusey, Chicago; W. S. Gottheil, New York City, and R. W. Taylor, New York City.

A paper entitled "Blastomycosis in an Infant" was read by Dr. J. B. Kessler, Iowa City, Iowa. Discussed by Drs. W. A. Pusey, Chicago; H. C. Baum, Syracuse, N. Y.; W. T. Corlett, Cleveland; J. A. Fordyce, New York City; J. F. Schamberg, Philadelphia; M. B. Hartzell, Philadelphia, and J. B. Kessler, Iowa City, Iowa.

A paper on "Significance and Treatment of Itching" was read by Dr. L. Duncan Bulkley, New York City. Discussed by Drs. W. T. Corlett, Cleveland; G. T. Jacksou, New York City, and L. D. Bulkley, New York City.

"Some Seborrhoides of the Face" was the title of a paper by Drs. M. F. Engman and W. H. Mook, St. Louis, read by Dr. Engman. Discussed by Drs. J. Zeisler, Chicago; J. F. Schamberg, Philadelphia, and W. H. Mook, St. Louis.

A paper entitled "The Salicylates in the Treatment of Lichen Planus; Some Unusual Forms of This Affection," was read by Dr. M. B. Hartzell, Philadelphia. Discussed by Drs. W. S. Gottheil. New York City; J. Zeisler, Chicago; J. B. Kessler, Iowa City. Iowa; G. T. Jackson, New York City; R. W. Taylor, New York City; L. D. Bulkley, New York City; W. T. Corlett, Cleveland, and M. B. Hartzell, Philadelphia.

A paper was read on "Liquid Air in Dermatology; Its Indications and Limitation," by Dr. H. H. Whltehouse, New York City Discussed by Drs. H. W. Stelwagon, Philadelphia; W. A. Pusey, Chicago; G. T. Jackson, New York City; L. D. Bulkley, New York City; J. D. Gold, Bridgeport, Conn.; L. S. Shonlnger, New York City; W. S. Gottheil, New York City, and H. H. Whitehouse, New York City.

WEDNESDAY, JUNE 5—AFTERNOON.

The chairman appointed a nominating committee of three members for the election of officers for the ensuing year.

Dr. John A. Fordyce of New York City, Secretary-General of the Sixth International Dermatological Congress, announced that the Sixth International Dermatological Congress will meet in New York City Sept. 9-14, 1907. A committee of the American Dermatological Association and of this Section of the American Medical Association extended an invitation to the International Dermatological Congress at the Berlin meeting to meet in this country in 1907, which invitation was accepted. An organization committee had been appointed, subjects selected for discussion, and prominent men from abroad secured to participate. In addition to this, they have the promise of over 60 papers, so that from a scientific standpoint, the congress promises to be a success.

The membership of the congress already numbers about 150, including about 40 members from abroad. Over $9,000 has already been collected, while more than $12,000 has been pledged to meet the expenses of the congress, the entertainment of the visiting members, etc.

Dr. George T. Jackson, the treasurer, or Dr. Fordyce will receive applications for membership and furnish further information and printed matter.

A paper on "Ten Years' Experience with the Injection Treatment of Syphilis" was read by Dr. W. S. Gottheil, New York City. Discussed by Drs. R. W. Taylor, New York City; A. Ravogli, Cincinnati; J. Zeisler, Chicago; G. MacGowan, Los Angeles, Cal.; H. Klotz, New York City; L. E. Schmidt, Chicago; M. B. Hartzell, Philadelphia; J. F. Schamberg, Philadelphia; J. A. Fordyce, New York City; W. H. Davis, Denver; W. T. Corlett, Cleveland; L. D. Bulkley, New York City; W. S. Gottheil, New York City.

A paper on "The Vessel Changes and Other Histologic Features of Cutaneous Syphilis" was read by Dr. J. A. Fordyce, New York City. Discussed by Drs. J. F. Schamberg, Philadelphia; W. A. Pusey, Chicago; A. Ravogli, Cincinnati; W. H. Mook, St. Louis; W. S. Gottheil, New York City; M. B. Hartzell, Philadelphia; R. W. Taylor, New York City; C. A. Kinch, New York City, and J. A. Fordyce, New York City.

"The Differential Diagnosis of Syphilis" (illustrated by lantern slides) was the title of a paper read by Dr. W. T. Corlett, Cleveland.

A paper entitled "Lupus Erythematosus; Some Clinical and Pathologic Considerations" (demonstrated from lantern slides) was read by Dr. M. L. Heidingsfeld, Cincinnati.

A paper on "The Present Status of Phototherapy" was read by Dr. Jay F. Schamberg, Philadelphia. Discussed by Drs. Wm. S. Gottheil, New York City; L. D. Bulkley, New York City; W. T. Corlett, Cleveland; J. F. Wallis, Norristown, Pa.; M. L. Heidingsfeld, Cincinnati; J. H. Mudgett, Philadelphia, and J. F. Schamberg, Philadelphia.

Dr. L. D. Bulkley, New York City, moved that the House of Delegates be requested to direct the proper authorities to send a complete program of this Section, from three to five days before the next annual meeting, to each member of the Section who has registered this year. The motion was carried.

Dr. Bulkley said that a great deal of dissatisfaction had been expressed with the present name of the Section, which was changed some years ago from that of the Section on Dermatology to that of the Section on Cutaneous Medicine and Surgery. The word "surgery" in the title misled many into the belief that the surgery was general rather than cutaneous. He therefore moved that a committee be appointed, consisting of the incoming officers of the Section and the members of the executive committee, for the purpose of corresponding with the members of this Section in order to obtain an expression of opinion as to what name they consider most advisable, and that this committee report at the next meeting of the Section. The motion was carried.

The chairman named the following nominating committee: Drs. William Baum, Chicago; John A. Fordyce, New York City, and W. T. Corlett, Cleveland.

The chairman announced that volumes of the transactions of the various sections of the last meeting of the American Medical Association were ready for distribution, and that members could receive the same by making proper application. If desired, the volumes subscribed for will be sent yearly until the order is canceled.

Thursday, June 6—Afternoon.

Dr. William L. Baum, Chicago, the chairman of the nominating committee, reported as follows: Chairman, Dr. M. B. Hartzell, Philadelphia; vice-chairman, Dr. Granville MacGowan, Los Angeles; secretary, Dr. M. L. Heidingsfeld, Cincinnati; delegate, Dr. R. R. Campbell, Chicago; alternate, Dr. J. B. Kessler, Iowa City, Iowa. These officers were elected as nominated.

A paper on "Observations on Pemphigus" was read by Dr. Joseph Zeisler, Chicago. Discussed by Drs. W. T. Corlett, Cleveland; J. A. Fordyce, New York City; J. F. Schamberg, Philadelphia; J. B. Kessler, Iowa City, Iowa; L. D. Bulkley. New York City; A. Ravogli, Cincinnati, and J. Zeisler, Chicago.

A patient was exhibited by Dr. J. V. Shoemaker, Philadelphia, and the case discussed by Drs. J. Zeisler, Chicago; R. A. McDonnell, New Haven, Conn.; H. T. F. Wallhauser, Newark, N. J.; A. Ravogli, Cincinnati; J. F. Schamberg, Philadelphia; J. B. Kessler, Iowa City, Iowa; G. MacGowan, Los Angeles; R. W. Taylor, New York City, and J. V. Shoemaker, Philadelphia.

A paper entitled "Opsonic Therapy as Applied to Skin Diseases" was read by Dr. H. R. Varney, Detroit. Discussed by Drs. J. F. Schamberg, Philadelphia; R. A. McDonnell, New Haven, Conn.; M. L. Heidingsfeld, Cincinnati; J. Zeisler, Chicago; W. H. Mook, St. Louis; M. B. Hartzell, Philadelphia, and H. R. Varney, Detroit.

A paper on "Onychomycosis" was read by Dr. A. Ravogli, Cincinnati. Discussed by Drs. J. B. Kessler, Iowa City, Iowa; G. MacGowan, Los Angeles; M. L. Heidingsfeld, Cincinnati, and A. Ravogli, Cincinnati.

"The Therapeutics of Tuberculous Lesions of the Skin" was the title of a paper read by Dr. Granville MacGowan, Los Angeles.

A paper on "Roentgen Ray Technic in Dermatology" was read by Dr. M. K. Kassabian, Philadelphia.

A paper entitled "Treatment of Acne and Chronic Eczema" was read by Dr. Russell H. Boggs, Pittsburg.

These three papers were discussed by Drs. M. B. Hartzell, Philadelphia; G. E. Pfahler, Philadelphia; C. Leonard, Philadelphia; J. F. Schamberg, Philadelphia; R. H. Montgomery, Youngstown; G. MacGowan, Los Angeles; M. K. Kassabian, Philadelphia, and R. H. Boggs, Pittsburg.

"The Cytology of Gonorrheal Discharges" was the title of a paper read by Dr. Robert W. Taylor, New York City. This paper was not on the program, and a motion was passed by the Section allowing it to be read.

A paper on "Report of a Series of Cases of Small Pustular Scrofulide (Dühring)," by Dr. J. Frank Wallis, Norristown, Pa., was, because of lack of time, read by title.

Dr. H. R. Varney, Detroit, announced that at the morning session of the House of Delegates he had presented the motion passed by the Section yesterday in regard to sending the members of the Section a sectional program a few days prior to the next meeting. The motion had been referred to the Committee on Section Work, and they had reported adversely on it, claiming that if this privilege were extended to one section, other sections would also claim it, and that this would entail considerable expense. It was suggested instead that the full papers be prepared and printed in time to place copies in the hands of the members beforehand.

Dr. Hartzell, the incoming chairman, thanked the members of the Section for the honor they had conferred on him.

A vote of thanks was extended to the retiring chairman, Dr. Campbell, and to the secretary, Dr. Heidingsfeld, for their zealous and efficient work on behalf of the Section.

Section on Pharmacology and Therapeutics.

Tuesday, June 4—Afternoon.

This Section met in Ocean Hall, at the Marlborough-Blenheim, and the chairman, Dr. H. C. Wood, Jr., Philadelphia, called the meeting to order at 2:30 p. m. The secretary read a communication from the American Pharmaceutical Association.

Dr. H. C. Wood, Jr., delivered the chairman's address, entitled "The Place of Pharmacology in Medicine."

Dr. Joseph P. Remington, Philadelphia, presented the address of chairman of delegation from American Pharmaceutical Association.

Secretary Dr. C. S. N. Hallberg, Chicago, presented his report.

Dr. O. T. Osborne, New Haven, Conn., read the report of the Committee on the United States Pharmacopeia.

Dr. Robert A. Hatcher, New York City, read a paper entitled "The United States Pharmacopeia."

The papers were discussed as a whole by Profs. J. P. Remington, Philadelphia; H. Kraemer, Philadelphia; Mr. M. I. Wilbert, Philadelphia; Drs. W. J. Robinson, New York City; W. B. Hill, Milwaukee, Wis.; O. T. Osborne, New Haven, Conn.; H. R. Slack, Atlanta, Ga.; G. F. Butler, Chicago; H. G. Piffard, New York City; J. J. Taylor, Philadelphia; C. M. Thrush, Philadelphia; C. S. N. Hallberg, Chicago; F. M. Read, Richmond, Va.; W. C. Abbott, Chicago, and R. A. Hatcher, New York City.

A motion was made by Dr. Hallberg that the Section should elect an alternate delegate. This was carried.

Wednesday, June 5—Morning.

Dr. George Dock, Ann Arbor, Mich., read a paper entitled "Medicinal Treatment of Cholelithiasis." Discussed by Drs. S. Solis-Cohen, Philadelphia; E. W. Goodenough, Waterbury, Conn.; W. W. Tompkins, Charleston, W. Va.; H. H. Roberts, Lexington, Ky.; J. C. Johnson, Atlanta, Ga.; L. Amster, Atlanta, Ga.; W. J. Robinson, New York City; J. Tyson, Philadelphia; J. F. Hultgen, Chicago; T. C. Kennedy, Shelbyville, Ind.; H. E. Lewis, New York City, and G. Dock, Ann Arbor, Mich.

Dr. James Tyson, Philadelphia, read a paper entitled "The Treatment of Diabetes Mellitus." Discussed by Drs. W. J. Robinson, New York City; L. Amster, Atlanta, Ga.; G. M. Linthicum, Baltimore; G. D. Kahlo, French Lick Springs, Ind.; W. W. Tompkins, Charleston, W. Va.; J. D. Davis, Louisiana, Mo.; J. F. Hultgen, Chicago, Ill.; R. F. Ridpath, Germantown, Pa.; W. D. Robinson, Philadelphia; A. Marcy, Jr., Riverton, N. J.; H. E. Lewis, New York City; O. M. Hoyt, Philadelphia; C. S. N. Hallberg, Chicago, and Tyson, Philadelphia.

Dr. W. W. Tompkins, Charleston, W. Va., made a motion that a committee of three be appointed to nominate twelve members for the proposed Committee on Revision of the U. S. Pharmacopeia. This motion was carried.

Wednesday, June 5—Afternoon.

Dr. W. W. Tompkins, Charleston, W. Va., presented the report of the committee to nominate twelve members of the American Medical Association for the proposed Committee on the Revision of the U. S. Pharmacopeia; Dr. E. E. Hyde, Chicago; Dr. A. L. Benedict; Buffalo, N. Y.; Dr. Robert A. Fletcher, New York.; Dr. H. E. Lewis, New York; Dr. S. Solis-Cohen, Philadelphia; Dr. George Dock, Ann Arbor, Mich.; Dr. F. Forchheimer, Cincinnati; Dr. Reid Hunt, Washington, D. C.; Dr. P. M. Jones, San Francisco; Dr. O. T. Osborne, New Haven, Conn.; Dr. W. J. Robinson, New York City; Dr. W. S. Thayer, Baltimore.

Dr. W. E. Robertson, Philadelphia, read a paper entitled "A Study of the Effect of Drugs on the Coagulation of the Blood." Drs. G. Morton Illman and Harry A. Duncan, Philadelphia, assisting in the preparation of this paper. Discussed by Drs. C. B. Lowe, Philadelphia; S. Solis-Cohen, Philadelphia; O. M. Hoyt, Philadelphia; Harry A. Duncan, Philadelphia, and W. E. Robertson.

Dr. W. J. Robinson, New York City, read a paper entitled "A Study of the Bromin Compounds with Especial Reference to Strontium Bromid." Discussed by Drs. W. Stevens, New York City; J. J. Taylor, Philadelphia; W. E. Robertson, Philadelphia; W. W. Tompkins, Charleston, W. Va.; C. B., Lowe, Philadelphia, and W. J. Robinson.

Dr. George F. Butler, Chicago, read a paper entitled "Pathophysiology and Therapeutics." Discussed by Drs. R. A. Hatcher, New York City; W. E. Robertson, Philadelphia; C. S. N. Hallberg, Chicago; H. C. Wood, Jr., Philadelphia; C. B. Lowe, Philadelphia, and G. F. Butler.

By request Dr. Robert A. Hatcher, New York City, read a paper prepared by Dr. William Whitridge Williams, Cleveland, Ohio, entitled "The Effects of Hydrastis and Its Alkaloids on Blood Pressure." Discussed by Drs. H. Beates, Philadelphia; G. F. Butler, Chicago, and R. A. Hatcher, New York City.

Dr. Robert A. Hatcher, New York City, made a motion that the chairman appoint some one to call the attention of the larger sections to the exhibit of the preparations of the U. S. Pharmacopeia, National Formulary and related proprietaries.

Thursday, June 6—Morning.

A joint meeting was held with the Section on Medicine, Casino Hall, Steel Pier. The chairman, Dr. T. D. Coleman, Augusta, Ga., called the meeting to order at 9:15 a. m. The meeting was devoted to the consideration of a symposium on "Acute Articular Rheumatism."

Dr. Rufus I. Cole, Baltimore, read a paper entitled "The Etiology of Acute Articular Rheumatism.

Dr. Philip King Brown, San Francisco, read a paper entitled "Symptomatology and Diagnosis of Acute Articular Rheumatism."

Dr. Alexander Lambert, New York City, read a paper entitled "The Cardiac Complicatious of Acute Articular Rheumatism."

Dr. N. S. Davis, Chicago, read a paper entitled "Specific Treatment of Acute Articular Rheumatism or Treatment with Salicylates."

Dr. Solomon Solis-Cohen, Philadelphia, read a paper entitled "The Prophylaxis and General Management of Acute Rheumatic Fever."

These five papers were discussed by Drs. J. M. Anders, Philadelphia; A. Stengel, Philadelphia; W. Hutchinson, New York City; L. Burckhardt, Indianapolis, Ind.; J. A. Lichty, Pittsburg, Pa.; J. N. Upshur, Richmond, Va.; Nielson, Milwaukee; Gichner, Baltimore; Witherspoon, Philadelphia; G. Dock, Ann Arbor, Mich.; N. Bridge, Los Angeles, Cal.; Thayer, Baltimore; A. Jones, Buffalo, N. Y.; Richardson, Camden, N. J.; W. W. Tompkins, Charleston, W. Va.; Cole, Baltimore; Brown, San Francisco; Lambert, New York City, and S. Solis-Cohen, Philadelphia.

Thursday, June 6—Afternoon.

Dr. Osborne on behalf of the nominating committee for officers for the ensuing year reported as follows: Chairman, Dr. M. F. Fussell, Philadelphia; vice-chairman, Dr. W. W. Tompkins, Charleston, W. Va.; secretary, Dr. C. S. N. Hallberg, Chicago; delegate, Dr. S. Solis-Cohen, Philadelphia; alternate delegate, Dr. Oliver T. Osborne, New Haven, Conn. The secretary was instructed to cast a ballot for the whole and the nominees were declared elected.

Dr. C. B. Lowe, Germantown, Pa., moved that the Section adjourn for 30 minutes to listen to the reading of Dr. Wiley's paper, entitled "The Connection of M.D. with Proprietary Remedies." This motion was carried and Prof. Puckner, Chicago, read the paper.

In regular session again, Mr. Martin I. Wilbert, Philadelphia, read a paper entitled "Materia Medica and Pharmacy in Hospital Practice." Discussed by Drs. W. J. Robinson, New York City; J. D. Robinson, Philadelphia; G. F. Butler, Chicago; R. A. Hatcher, New York City; C. B. Lowe, Germantown, Pa.; O. T. Osborne, New Haven, Conn.; H. R. Slack, Atlanta, Ga.

Dr. M. Clayton Thrush, Philadelphia, read a paper entitled "A Plea for a More Thorough Course in Practical Pharmacy and Prescription Dispensing in Our Medical Schools." Discussed by Dr. G. F. Butler, Chicago; Dr. C. S. Chamberlain, Cincinnati, Ohio.; Mr. W. C. Westcot, Atlantic City, N. J.; Professor Puckner, Chicago; Dr. H. C. Wood, Jr., Philadelphia; Dr. H. E. Lewis, New York City; Dr. C. S. N. Hallberg, Chicago; Mr. Henry Kraemer, Philadelphia;

Dr. W. J. Robinson, New York City; Mr. M. G. Motter, Philadelphia; Mr. M. I. Wilbert, and Dr. M. Clayton Thrush.

Dr. Robert A. Hatcher, New York City, presented the report of the committee appointed to consider the recommendations made in the secretary's report, as follows:

Resolved, That the articles of the U. S. Pharmacopeia, the National Formulary and physician's prescriptions should be exempt from the requirements of naming on the label or package the amount of the substances named in the section; alcohol, acetanilid, cocain, morphin, etc.

RELATIONS OF PHARMACISTS TO PHYSICIANS.

Whereas, The reformation of the materia medica and campaign for the more general acceptance of the U. S. Pharmacopeia and the National Formulary makes essential closer relations between pharmacists and physicians; and,

Whereas, The work of the physician may be made more safe, sure and pleasant through a higher order of pharmaceutical knowledge, experience and skill; and,

Whereas, The American Pharmaceutical Association is cooperating in this work, several of its members serving on the Council of Pharmacy and Chemistry in order to insure to physicians the fullest integrity and best pharmaceutical skill, asks the support of the medical profession in the efforts of its local branches to re-establish the professional practice of Pharmacy; be it.

Resolved, That the following subjects are approved as suitable for discussion by the local branches of the American Pharmaceutical Association, as having a direct and practical bearing on this question: 1. "The Status of the Prescription." 2. "The Attitude to 'Patent Medicines.'" 3. "Prescribing by Druggists." 4. "Dispensing by Doctors."

R. A. Hatcher,
H. R. Slack,
O. T. Osborne.

The report was adopted.

Dr. H. R. Slack, Atlanta, Ga., made a motion, which was carried, that the chairman appoint delegates from the Section on Pharmacology and Therapeutics to attend the next meeting of the American Pharmaceutical Association in September next in New York City. The chairman to announce delegates later.

It was moved and carried that a vote of thanks be tendered to the Philadelphia branch of the American Pharmaceutical Association for the exhibit at the present meeting.

Section on Pathology and Physiology.

Tuesday, June 4—Afternoon.

This section met in the Sun Parlor of the Hotel Dennis, and at 2 p. m. was called to order by the chairman. Dr. Walter L. Bierring, Iowa City, Iowa.

The chairman read his address "The Need of Medical Cooperation in Laboratory Work."

Dr. M. J. Rosenau, Washington, D. C., read his paper on "An Explanation of the Seasonal Prevalence of Typhoid Fever." Discussed by Drs. D. H. Bergey, Philadelphia; A. L. Benedict, Buffalo; D. L. Edsall, Philadelphia, and M. J. Rosenau. This was followed by the paper on "The Estimation of the Dried Weight of the Total Bacteria in the Feces, and Its Clinical Significance," by Dr. J. Dutton Steele, Philadelphia. Discussed by Dr. Gage.

A paper on "Further Observations Concerning Metabolism in Acute Lukemia and Purpura Hemorrhagica" was read by David L. Edsall. Discussed by Prof. J. George Adami, Montreal; Drs. S. J. Meltzer, New York City; D. W. Bergey, Philadelphia; M. J. Rosenau, Washington, D. C., and D. L. Edsall.

The paper of Dr. Torald Sollmann, Cleveland, Ohio, on "Recent Work on the Mechanism of Urine Formation" was read by the secretary, Dr. Walter B. Cannon, Boston.

The chairman appointed on the nominating committee Drs. F. B. Wynn, Indianapolis, Hirschfelder, Baltimore, and H. A. Christian, Boston.

Wednesday, June 5—Morning.

The Section met in joint session with the Sections on Practice of Medicine and Surgery and Anatomy, in the Music Hall, Steel Pier, and the symposium on Exophthalmic Goiter was read and discussed. For the proceedings, see the minutes of the Section on Surgery and Anatomy, above.

Wednesday, June 5—Afternoon.

Dr. Joseph McFarland, Philadelphia, read a paper on "Specific Nature of Opsonins" and demonstrated the "Nephelometer" in making opsonic estimations.

A paper on "Value of Opsonic Index as a Guide to Treatment and Diagnosis was read by Dr. William H. Park, New York City.

The two papers on opsonins were then discussed by Dr. D. H. Bergey, Philadelphia; Prof. J. G. Adami, Montreal; Drs. Frank Smithies, Ann Arbor; M. P. Ravenel, Philadelphia; Potter, New York City; E. M. Houghton, Detroit, and W. H. Park.

The paper on "The Occurrence of Typhoid Bacilli in the Stools of Typhoid Patients, with a Discussion of the Pathogenesis of Typhoid Fever," by Drs. J. H. Pratt, F. W. Peabody and A. D. Long, Boston, was read by Dr. J. H. Pratt. Discussed by Drs. W. H Park, New York City; A. L. Benedict, Buffalo; H. G. Beck, Baltimore and J. H. Pratt.

The two papers of Dr. H. M. Adler, Boston, on "The Determination of the Alkalinity of the Blood" and "A New Indicator for Free Mineral Acids" were read by the secretary.

The paper of Drs. Lafayette B. Mendel and Ernest W. Brown, New Haven, Conn., on "The Rate of Elimination of Uric Acid in Man," was read, and discussed by Drs. D. W. Edsall, Philadelphia, and Fenton B. Turck, Chicago.

"Experimental and Clinical Observation on Chronic Valvular Disease in the Dog," was the title of a paper read by Dr. Harvey W. Cushing, Baltimore. Discussed by Dr. H. A. Christian, Boston; Prof. J. G. Adami, Montreal; Drs. J. McI. Phillips, Columbus, Ohio, and H. W. Cushing.

Thursday, June 6—Morning.

A paper on "The Experimental Production of Epitheliation Proliferation" was read by Dr. Guthrie McConnell, Baltimore.

A paper with the same title was read by Dr. H. F. Hemholtz, Baltimore.

"Experimental Transplantation of Tumors in Dogs" was the title of a paper read by Dr. S. P. Beebe, New York City.

A paper on "The Treatment of Experimental Tumors in Dogs with Bacterial Toxins," was read by Dr. S. P. Beebe and Martha Tracy, New York. Discussed by Prof. J. G. Adami, Montreal; Drs. D. H. Bergey, Philadelphia; William B. Coley, New York City; Guthrie McConnell, Baltimore; S. P. Beebe, and Martha Tracy.

A paper entitled "Further Studies of Adenomyoma of the Uterus" was read by Dr. Thomas S. Cullen, Baltimore. Discussed by Drs. Black, Los Angeles, and T. S. Cullen.

A paper on "Diffuse Carcinoma of the Stomach, Esophagus and Duodenum," was read by Dr. Henry A. Christian, Boston. Discussed by Drs. A. D. Hirschfelder, Baltimore, and H. A. Christian.

A paper on "Further Observations on Peptic Ulcer" was read by Dr. Fenton B. Turck, Chicago. Discussed by Dr. M. J. Rosenau, Washington, D. C.

A paper on "Coagulation Necrosis," was read by Dr. D. H Bergey, Philadelphia. Discussed by Dr. Claude A. Smith, Atlanta, Ga.

"An Epidemic Pneumococcic Catarrhal Disease," (a) Clinical Study, by Dr. H. G. Beck, Baltimore; (b), Bacteriologic Study, by Dr. William Royal Stokes, Baltimore.

A paper on "Further Study on the Causative Factor in the Production of Dermatitis of Ground Itch (Uncinariasis)" was read by Dr. Claude A. Smith, Atlanta, Ga. Discussed by Prof. J. G. Adami, Montreal and Dr. Smith.

Dr. A. D. Hirschfelder, Baltimore, chairman of the nominating committee, reported the following nominations for officers of the Section for the next year: Chairman, Dr. Walter B. Cannon, Boston, Secretary, Dr. M. J. Rosenau, Washington, D. C.; delegate, Dr. W. M. L. Coplin, Philadelphia. These were elected.

Friday, June 7—Morning.

A paper on "The movements of the Esophagus After Bilateral Vagotomy" was read by Dr. W. B. Cannon, Boston. Discussed by Drs. S. J. Meltzer, New York City; John C. Hemmeter, Baltimore, and W. B. Cannon.

A paper entitled "An Experimental Study Concerning a Probable Internal Secretion of the Salivary Glands" was read by Dr. John C. Hemmeter, Baltimore. Discussed by Winfield S. Hall, Chicago; S. P. Beebe, New York; W. B. Cannon, Boston, and J. C. Hemmeter.

A paper on "Experiments with the Proteolytic Ferments," by Drs. Joseph Sailer and C. B. Farr, Philadelphia, was read. Discussed by Drs. J. C. Hemmeter, Baltimore; W. S. Hall, Chicago and Joseph Sailer.

A paper on "Simultaneous Sphygmomanometric Pressures as Modified by Postures," by Drs. Winfield Scott Hall and A. H. Sanford, Chicago, was read. Discussed by Drs. J. C. Hemmeter, Joseph Sailer and W. S. Hall.

W S. Hall, Chicago, member of the House of Delegates, reported the action taken by that body on by-laws concerning the Section on Physiology and Pathology, and concerning associate members and invited guests.

Chairman Bierring thanked the society for courtesies shown him.

Registration at Atlantic City.

The list of members of the American Medical Association who registered at Atlantic City will be published July 6. Because of the index in the issue of next week it is impossible to find room for the names June 29.

Dr. Charles J. Kipp a Member of the Judicial Council.

Through an oversight the names of only four members of the Judicial Council appeared in the Official Minutes in last week's issue. Dr. Charles J. Kipp, Newark, N. J., is the fifth member of that council.

Society Proceedings

COMING MEETINGS.

Medical Society of New Jersey, Long Branch, June 25-27.
Oregon State Medical Association, Seaside, July 12-13.
Minnesota State Medical Association, Duluth, August 13.
Wisconsin State Medical Society, Superior, August 20-22.
Ohio State Medical Association. Cedar Point, August 28.

INDIANA STATE MEDICAL ASSOCIATION.

Fifty-eighth Annual Meeting, held in Indianapolis, May 22-24, 1907,

The President, Dr. George J. Cook, Indianapolis, in the Chair.

Officers Elected.

The following officers were elected to serve during the ensuing year: President, Dr. D. C. Peyton, Jeffersonville; vice-presidents, Drs. W. H. Stemm, North Vernon; A. F. Knoefel, Linton and George R. Green, Muncie; secretary, Dr. F. C. Heath, Indianapolis; treasurer, Dr. A. E. Bulson, Jr., Fort Wayne.

Delegates to the American Medical Association, Drs. W. N. Wishard, Indianapolis; L. L. Whiteside, Franklin, and J. T. Dickes, Portland. Councilors, Drs. W. J. Leach, New Albany; J. Weinstein, Terre Haute; D. W. Stevenson, Richmond; G. Rowland, Covington, and A. E. Bulson, Jr., Fort Wayne.

The next meeting will be at French Lick, May 23-25, 1908.

Dr. George J. Cook, Indianapolis, in his address as president, discussed briefly the progress of medical matters in the state and nation during the year.

Opsonins and Vaccine Therapy.

Dr. Rhamey and Weaver, Fort Wayne, and Drs. Reed and Thurston, Indianapolis, discussed the theoretical and practical sides of these questions, and presented reports of cases in which gratifying results were obtained from vaccine therapy.

Dr. Webb, Colorado Springs, believes that the opsonic theory is a very valuable one in spite of the fact that the estimation of the opsonic index is sometimes liable to lead the observer into error.

Urinary Casts.

Dr. Robert Hessler, Logansport, describes very fully the differences, both chemical and physical, of casts as they are found in the various stages and forms of kidney disease.

Tuberculosis.

The first evening session was devoted to the discussion of the subject of tuberculosis, the lay public having been invited to be present at the meeting.

Dr. Jonas Stewart, Anderson, discussed "The History of Tuberculosis;" Dr. Amos Carter, Plainfield, "The Etiology and Treatment of Tuberculosis;" Dr. F. A. Tucker, Noblesville, "The Home Treatment," and Dr. J. C. Blossom, Mount Summit, "The Out-Door Treatment of Tuberculosis." The subject was very fully discussed by Drs. McCaskey, Wynn, Potter and Hurty.

Narcotics and Stimulants.

Dr. J. R. Mauk, Cambridge City, discussed these agents fully and condemned very strongly the use of tobacco in any form.

Hyperemia as a Remedy.

Dr. Louis Burckhardt, Indianapolis, reported a number of cases, in which induced hyperemia had been used successfully in the treatment. He made use of the constriction bandage, dry heat, and the suction apparatus.

Infant Feeding.

Dr. E. N. Conrad, Anderson, advocated the proper dilution of cow's milk as the best method of artificial feeding of infants.

Dr. G. B. Jackson, Indianapolis advocated the calorimetric principles of infant feeding, and exhibited charts and tables showing the proper percentages and food values.

Typhoid.

Dr. Montgomery, South Bend, took a very optimistic view of the value of the antitoxic treatment of typhoid fever, and of the sterilization of the alimentary tract in the disease.

Antitoxin in Diphtheria.

Drs. J. A. Little, Logansport, and T. V. Keene, Indianapolis, emphasized the importance of administering large doses of antitoxin in diphtheria, and cited a number of case reports which sustained their contention.

Eyestrain.

Dr. W. J. Leach, New Albany, presented a very full discussion of the question of eyestrain as a cause of various neuroses and functional disorders, and urged that the profession ought to keep in mind the fact that many obscure conditions may be dispelled by advising the patient to wear glasses.

The discussion on this paper was very lively and those who took part in it were agreed that by drawing attention to the effects of eyestrain on the human economy, most valuable work is being done because the profession is being stirred up on a subject that has been ignored for a long time.

Spastic Diplegia.

Drs. F. F. Hutchins and H. R. Allen, Indianapolis, discussed the pathology and treatment of this condition.

Blastomycosis.

Dr. A. W. Brayton, Indianapolis, reported six cases of blastomycosis.

Gallstones and Cholecystitis.

Papers were read on these topics by Drs. H. O. Pantzer, Indianapolis, and T. C. Kennedy, Shelbyville. The trend of the discussion on these papers was decidedly against relying on ineffective medication, when surgical intervention was indicated, because no medicine has yet been found that will dissolve gallstones.

Secretary's Report.

The secretary reported a gain in membership of 100, the membership of the association now being 2,297.

Insurance Examination Fees.

A resolution was passed in the House of Delegates insisting on a $5.00 fee for insurance examinations in all cases where an analysis of the urine must be made.

Other Papers Read.

The following papers were also read:

"Influenza," by Drs. Dorsey and Earp, Indianapolis; "Estivo-Autumnal Fever," by Dr. G. D. Marshall, Young America; "Heart-block," by Drs. J. A. McDonald and A. C. Kimberlin, Indianapolis; "What Do We Mean by Catarrh?" by Dr. G. A. Whitledge, Anderson; "Etiology and Treatment of Coughing," by Dr. G. W. Spohn, Elkhart; "The Cataract Operation," by Dr. F. C. Heath, Indianapolis; "The Use and Abuse of Obstetric Forceps," by Dr. G. T. McCoy, Columbus; "Puerperal Infection," by Dr. C. C. Crum, Jeffersonville; "Puerperal Eclampsia," by Dr. A. Hamilton, Fort Wayne; "Tubercular Peritonitis," by Dr. C. L. Wright, Huntington; "Operative Treatment of Hypertrophied Prostate," by Dr. F. R. Charlton, Indianapolis; "Intracranial Lesions of Otitic Origin," by Dr. J. J. Kyle, Indianapolis; "Extrauterine Pregnancy," by Dr. L. G. Bowers, Richmond; "Necrosis of Tibia," by Dr G. E. Fulton, Bluffton; "Rudimentary Organs," by Dr. A. G. Pohlman, Bloomington; "Value of Bismuth Skiagrams in Study of Gastroptosis and Enteroptosis," by Drs. A. B. Graham and A. M. Cole, Indianapolis; "Hypertrophic Stenosis of Pylorus in Infants," by Dr. O. N. Torian, Indianapolis; "Rheumatism," by Dr. F. J. Walter, Kramer; "The Physician of To-day," by Dr. N. A. Kremer, Madison; "A Year's Experience at French Lick," by Dr. G. D. Kahlo, French Lick.

ARKANSAS MEDICAL SOCIETY.

Thirty-second Annual Meeting, held at Little Rock, May 14-17, 1907.

The President, Dr. C. Travis Drennen, in the Chair.

Officers Elected.

The following officers were elected: President, Dr. C. C. Stephenson, Little Rock; vice-presidents, Drs. M. Fink, Helena, J. S. Butler, Sheridan, and C. D. Stevens, Magnolia; secretary, Dr. Morgan Smith, Little Rock; treasurer, Dr. J. W. Scales, Pine Bluff (re-elected); delegates to American Medical Association, Dr. E. K. Williams, Arkadelphia, one year; Dr. Adam Guthrie, Prescott, two years; alternates, Dr. William Crutcher, Pine Bluff, one year; Dr. C. E. Hurley, Bentonville, two years; second alternates, Dr. H. A. Longino, Magnolia, one year; Dr. J. W. Meek, Camden, two years. Councilors—First district, Dr. J. E. Hughes, Walnut Ridge, two years; second district, Dr. J. M. Jelks, Searcy, one year; third district, Dr. W. H. Deaderick, Marianna, two years; fourth district, Dr. B. D. Luck, Pine Bluff, one year; fifth district, Dr. J. T. Henry, Eagle Mills, two years; sixth district, Dr. R. H. T. Mann, Texarkana, one year; seventh district, Dr. J. C. Wallace, Arkadelphia, two years; eighth district, Dr. J. S. Westerfield, Conway, one year; ninth district, Dr. Sam G. Daniels, Marshall, two years; tenth district, Dr. C. E. Hurley, Bentonville, one year.

The 1908 meeting will be held in Little Rock.

President's Address.

Dr. C. Travis Drennen urged the enrollment in the society of every reputable physician in the state. He believes that objectionable practitioners should be taken care of by the Board of Health, as in California, thus giving the board increased power. He deplored the fact that the legislature neglected to appropriate anything for the Board of Health as an emergency fund in case of epidemics, and called attention to the need of proper medical legislation to restrict the sale of quack remedies. He referred especially to the inadequate facilities for allowing the public to enjoy the privileges of the hot water supply at Hot Springs, which, though the property of the government and of the whole people, is controlled by individuals and a spirit of commercialism prevails. The superintendent, in addition to his other duties, has charge of the bath houses. He is not a doctor and the appointment is a political one. The result is the invalid class do not receive half the consideration at the hands of the government that Mr. Roosevelt's horses do! He had appointed Dr. G. C. Greenway, Dr. Howard P. Collings and Dr. T. E. Holland, all of Hot Springs, together with the incoming president, a committee to confer with the President of the United States, the President of the American Medical Association, and the Chairman of the Committee on Legislation of the American Medical Association, with a view to amelioration of conditions, and the appointment of a commission to investigate and make suitable recommendations to the Secretary of the Interior to correct the flagrant abuses existing and inaugurate such reforms as may seem expedient. He commended the work of the state journal.

State Medicine and Public Hygiene.

Dr. W. P. Illing, Little Rock, called attention to the expansion of industries, the increase in population and activities, necessitating the adoption of prophylactic measures, and the education of the laity in hygienic matters. Pure air, pure water, pure food, sanitation and sewerage must be secured. The Board of Health should display activity; schools should adopt modified curriculum for pupils of defective vision or feeble in vitality; hours should be arranged to admit of frequent recesses; eyes of all school children should be examined for trachoma before admission; school rooms should be ventilated properly and ample light arranged for; tuberculosis should be guarded against by all proper means and precautions taken in advance of contagious diseases current or probable. He favored the establishment of an inebriate asylum and also referred to the crowded condition of the State Hospital for Nervous Diseases, and made a plea for accurate records of vital statistics. He urged that doctors become active factors in politics, and commended the policy outlined and advocated by Dr. Charles A. L. Reed, Cincinnati, Chairman of the Committee on Legislation, American Medical Association. He urged that the councilors formulate some plan for educating the young in matters of sexual hygiene, and referred to the action taken by the Ottawa County (Ill.) Medical Society. Sexual hygiene and physiologic functions should be gently touched on in all schools for young women. He referred to the good work resulting from the sentiment set in motion by the recent lectures of Dr. J. N. McCormack throughout the state, and advocated the formation of a vigilance committee, such as that invoked by the Kentucky State Board of Health, in its recent circular to the profession in that state, to rid Arkansas of her incubus of quacks and abortionists.

Organized Medicine; Its Value to the Public and the Profession.

Dr. John A. Wyeth, New York City, described the inspiration, progress and high ideals of medical organization, advocated a higher standard of qualifications and preliminary education for candidates for medical honors, and urged that some means be devised to stimulate the ambition and arouse the energies of medical men to a higher state of intellectual activity and scientific inquiry. He alluded to the great importance and necessity of harmony and conservatism, and called attention to the great and far-reaching results achieved by the reconciliation of warring factions in the Empire state, culminating in the welding of the 10,000 practitioners of the state into one harmonious body, of whom 65 per cent. were, on Dec. 24, 1906, accredited as members of the reorganized society. He cited as a result of the wise policy set in motion at St. Paul in 1901, when the American Medical Association membership was 9,840, that in January, 1907, the enrollment was 26,550. In 1901 The Journal of the American Medical Association printed 18,840 copies; the circulation is now 50,000, having as a conservative estimate 60,000 readers within our borders.

In a spirit of liberality, which is always progressive, medical organization welcomes to its ranks any lawful practitioner, who is of good reputation and who does not attempt to practice any special system of medicine, and who receives the endorsement of the local county society. In Iowa, prior to reorganization, there were at no time over 500 members; there now are 1,842, and every county in the state is organized. When the Minnesota State Medical Society was organized in 1903 they had 400 members; they now have 1,162, with a local society in every county.

Every county in Alabama has a local society, and in three counties where there are sixty or more physicians, every practitioner is a member; and in the state, where there are 1,500 registered legal practitioners, 1,067 belong to the state organization.

Arkansas, with its 75 counties, has eleven unorganized counties, and a state organization of 1,000 members. Of the 3,700 doctors within its borders 500 are ineligible, leaving 2,200 not enrolled, who are classed as regular practitioners. This proportion, the speaker declared, was too large, and he believed that within the near future a large number of those remaining outside would be induced to join hands with their brethren and work together for the common good. He enumerated something like 30,000 irregular practitioners in the United States at this time, so deficient morally and professionally that they are a menace to the communities infested by them. There are medical colleges not up to our standard of requirements, and there is much for medical organization to do in educating the laity regarding sanitation, sewerage and conforming to health laws, feeding and housing our population in dense centers, control of epidemics, and in facing the vital problems which confront us.

The value of medical organization is the influence it exerts on the body politic, and through this medium the proper legislation needed to better conditions should be secured; and we can only do this by intelligent cooperation and by the sacrifice of much of our material interests to the public good. Organized medicine should take more note of politics. Representative men should be sent to state and national legislatures. We would do well in our efforts for the good of mankind to emulate the noble example of that great physician, great scientist, great philosopher, and withal the great politician, the immortal Virchow.

Council on Pharmacy and Chemistry.

Dr. C. S. N. Hallberg, Chicago, member of the Council on Pharmacy and Chemistry of the American Medical Association, discussed the much neglected U. S. Pharmacopeia and National Formulary, explained the mission of the Council on Pharmacy and Chemistry, the scope of its work and the satisfactory results achieved in the analysis of proprietaries, and enlarged on the laxity of manufacturers in making changes in formulæ without announcing same, and showed what the council has done to safeguard the public from the sale of nostrums and fraudulent preparations.

Placenta Prævia Centralis.

Dr. W. H. Miller, Little Rock, discussed the palliation of after-effect on the mother. To lessen hemorrhage, he advocated ligating cord and tamponing the cervix and vagina for twelve hours. Uterine contraction is stimulated by large doses of quinin and ergot, if the os is not sufficiently dilated within twenty-four to thirty-six hours after ligating the cord. He cited two cases treated in this manner where the loss of blood was very slight. While the treatment might be applied to other forms, the author wished to be understood in this instance and referring strictly to placenta prævia centralis.

DISCUSSION.

Dr. M. S. Dibrell, Van Buren, agreed with Dr. Miller that the uterus should be emptied as soon as diagnosis is made.

Dr. Young, Springdale, made a plea for life of babe, and suggested Cesarean section whenever feasible; but Dr. Dibrell called his attention to the difficulty attending this in rural districts, where the nearest practitioner might be miles away and the only assistant an old negro "mammy," with the only facilities such as are afforded by the ordinary log cabin.

Dr. Canfield, Siloam Springs, advocated saving the baby and taking care of the mother. He cited statistics to show that this had been possible in about 50 per cent. of cases, as reported by an eminent German physician.

Address in Surgery.

Dr. W. A. Snodgrass deplored the tendency to specialize and believed best results would be attained by thorough cooperation between surgeon and pathologist, and that the practitioner should endeavor to secure as extended knowledge of all branches as possible in order to attain best results.

Fracture of Spine.

Dr. C. J. March, Fordyce, made a further report on a case reported in 1905. Three years and four months after accident the patient is walking, assisted by a cane, drives a team and does light farm work. There is still slight paralysis of the extensor muscles of the left thigh, but he is steadily gaining control of them. Sexual vigor is restored.

Papers Read.

Many interesting papers were read at the meeting, among these the following:

"Cystic Tumor," by Dr. W. T. Rowland, Arkadelphia; "Anesthesia," by Dr. C. P. Meriweather, Little Rock; "Gall Bladder Diseases," by Dr. J. P. Runyon, Little Rock; "Empyema," by Dr. E. K. Williams, West Arkadelphia; "Amputation of Leg Under Local Anesthesia," by Dr. R. C. Dorr, Batesville; "Direct Bronchoscopy and Esophagoscopy," by Dr. R. H. T. Mann, Texarkana; "Adhesions Following Abdominal Operations," by Dr. O. Gray; Little Rock; "Umbilical Hernia," by Dr. T. F. Kittrell, Texarkana; "Bi-muriate of Quinin in Urea as a Local Anesthetic," by Dr. H. Thibault, Scott; "Surgery of the Rectum," by Dr. A. E. Fox, Helena; "Inguinal Hernia," by Dr. M. E. Willis, Newport; "Treatment of Gonorrheal Infection of Prostate by Use of Acetylene Gas," by Dr. A. U. Williams, Hot Springs; "Infant Feeding by Dr. C. K. Caruthers, "Amebiasis," by Dr. F. A. Jelks, Memphis; "Medical Legislation," by Dr. C. R. Shinault, Little Rock; "Problem of Nutrition in Gastric Atony," Dr. F. B. Turck, Chicago.

The meeting closed with a banquet tendered the society by the Little Rock Board of Trade, at which Mr. R. E. Wait presided.

AMERICAN ACADEMY OF MEDICINE.

Fifty-Second Annual Meeting, held at Atlantic City, June 1 and 3, 1907.

(*Continued from page 2069.*)

Social Education of the Child.

Dr. A. L. Benedict, Buffalo, N. Y., believes that every boy and girl, not physically, mentally or morally defective, should attend the public school. He does not advise higher education unless the individual is liable to need it, and points out the economic disadvantages of too high education for too great a proportion of the population. The necessity was pointed out of recognizing to some degree what are called class distinctions. The following were some items mentioned as important in the social education of the child: To avoid jealousies; to try to change oneself rather than the world; not to make principles out of prejudices; to greet and entertain all acquaintances as if it were a pleasure, or else to avoid them altogether; to eliminate from one's acquaintance those who are low, selfish, demoralizing or unreasonably troublesome; to repay every debt, social as well as financial; to realize that being square is an important item in social success.

Superiority of the Playground to the Schoolroom.

Dr. Woods Hutchinson, New York, announced that the parts played by the natural growth tendencies of the child and education have been much like those of the infant foods and the milk in which they are administered: The milk does the work, the food gets the credit. So it is with the playground and the schoolroom. The superiority of the playground over the schoolroom in the physical development of the child he thought needed little proof. The effect of the playground on the mental development of the child, it was thought, would not be so readily conceded; but remembering that his engine of thought, his brain, has at five years of age reached four-fifths, and at seven years of age reached seven-eighths, of its total bulk before formal education has been applied at all, it was readily seen how little the latter was absolutely necessary. Children kept out of school for half the day, make better progress in their studies, to say nothing of the improved physical and mental condition. That the child would never learn the classics in the school of play was regarded as one of its chief advantages, for these the author said represent a relic of barbarism, of caste education, of culture separating its possessor from the rest of his kind, the aim of which was selfish in self culture and personal exaltation. The aim of modern scientific education was said to be not culture, but service, effectiveness for helpfulness to others.

The playground was claimed to be equally effective on the moral side by checking and controlling the child's impulses and interests through contact with those of his fellows. The best morality in the world to-day, it is said, is to be acquired on the playground. This would not include the Christian graces, which again, was considered an advantage of the method. Charity, faith, hope, forbearance, humility, long suffering, Dr. Hutchinson regards as the virtues of the slave, or of the woman of antiquity who has neither the power nor the courage to seek to remedy present conditions. To-day is needed the morality of the men, yes, of the master. Charity in men, he claims is not a virtue, but a vice, demoralizing to the man who gives it; degrading to him who accepts. Justice and fearlessness rather than charity were said to be demanded by the new code.

DISCUSSION.

Dr. Winfield S. Hall, Chicago, said that he had commenced his education in the little red school house, that he was a friend of this same school house, but not a friend of the kind of education taught in such a school thirty or forty years ago. Many of the principles so forcibly expressed by Dr. Hutchinson he thought were already recognized by educators to-day. He recalled the case of a girl of fourteen brought up on the plains who had shown remarkable development after being in school one year. This increased ability to study was also shown in the boys from farms able to attend school only three months of the year. He believes, however, that even in the playground children should have something on which to rivet their attention as an aid to their development.

Dr. J. W. Grosvenor, Buffalo, agreed to some extent with Dr. Hutchinson, but was entirely opposed to his thought that the child should move along from birth according to his own sweet will. With reference to the difference in mental and moral characteristics of the child he believes in heredity, and for this reason education should be largely individual. Mental training should be carried on to a certain extent by parent and teacher. While the playground is an estimable place for physical development, even the play should be superintended by an experienced person. The study of the classics he regarded of advantage in the training of the mind, especially of the memory. He agreed heartily in Dr. Hutchinson's idea that education should be progressive, and that too much time had been devoted to studies in the school room.

Dr. S. A. Knopf, New York, thought a child should not enter school until seven or eight years of age, and that the first few years should be made up of half or three-quarters play, believing that much could be done out of doors for the physical, moral and mental development of the child rather than within four walls. Some lessons in singing and recitations might with advantage be given out of doors. Referring to the training of German soldiers he said they were allowed to sing while marching, thus being developed and stimulated. The question of securing playgrounds in large cities offers a difficult problem, and he thought physicians should work for the establishing of roof gardens to school houses.

Dr. Ernest B. Hoag, Pasadena, spoke of the admirable results in education obtained at the theosophists' colony at Point Loma, California. The children are not in school more than two hours a day. They are divided into groups, each group having a teacher. Their play is so superintended as to be instructive. Hygiene is taught by making it a part of their life.

Dr. Emma B. Culbertson, Boston, agreed with Dr. Hutchinson in protesting against the fadism of the modern schools feeling they were going to great extremes. She thought the great trouble before the public schools lay in the overindulgent method of the kindergarten. To her mind, a kindergarten child was a child spoiled to study. She felt strongly that the study of Latin is a necessary foundation for the study of all other languages and a necessity for an accurate application of language to the expression of ideas.

Dr. M. G. Motter, Washington, D. C., thought the study of the classics an absolute necessity in the preliminary training of physicians. In the present day system of public school education he feels there is too much instruction and not enough education.

Dr. Leartus Connor, Detroit, spoke in defense of the study of Latin and Greek.

Dr. Edward Jackson, Denver, said that the great supremacy of the playground over the school room lay in the great value of spontaneous action on the part of the child. Illustrative of this he contrasted spontaneous muscular movement to movement in obedience to external influence. There might be, however, schools and teachers capable of giving all the advantage of that spontaneous effort by which the child is benefited in the playground.

Dr. Thomas D. Davis, Pittsburg, took exception to Dr. Jackson's idea that children should be educated according to their natural bent, believing that if they were trained in the line of least resistance they would be narrow minded.

Dr. Donly C. Hawley, Burlington, Vt., thought it true that to-day children are educated too much—not too well. He believes it better for the child to enter school later, probably at ten years, and thinks the time will come when half day sessions will only be held. Those not taking up a professional life, he believes, should not remain in school so many years as is the present custom. He does not think all children should study the classics, but agrees with Dr. Culbertson that such study is of advantage in bringing the scholar in touch with the best thoughts of the best minds. Mathematics should be especially learned by the boy or girl who does not like it because such a child has not a logical mind and will thus be developed in this trend of thought. He believes the playground to be an important part of the child's education in bringing him in touch with Nature and with his kind, but he does not believe in the extreme degree of the principle as presented by the author, feeling rather that it is a most valuable accessory to the school.

The Soldier as a Total Abstainer from Alcoholic Beverages.

Dr. J. W. Grosvenor, Buffalo, outlined the soldier's work, dwelling on what the soldier ought to be and on his needs. He should be a high type of man physically, mentally and morally. Patriotism should stand out in all his military career. Reference was made to the soldier's clothing, to his recreation and amusement, and to his pay which should be adequate to furnish him largely with the comforts and conveniences which should be his in civil life, together with a pension for disability or old age. To the question of the need of the soldier for alcoholic beverages it was stated that science and experience give an emphatic negative. All scientists who have studied the qualities of alcohol and its effects on the human system declare in unequivocal terms that it has no utility in the development of the health of the human organism. Professors Kraepelin and Kurz have shown that one ounce of alcohol diminishes the acuteness of all the special senses; sight, hearing, touch, taste and smell and also retards the mental processes of reason, judgment or sense of propriety and memory. The experiments of Lord Roberts prove the same effect. Equally convincing are the arguments shown against the therapeutic value of alcohol to the soldier. N. S. Davis Sr., is quoted as saying that "step by step the progress of science has nullified every theory on which the physician administered alcohol." The writer is confident that not until total abstinence from alcoholic beverages has become the controlling rule in all departments of the army will there exist that freedom from drunkenness, desertion, crime, vicious habits, sickness, and inefficiency which should characterize the defenders of a republic whose rulers are its citizens, and who have a right to demand from the soldiers the highest efficiency and patriotic devotion.

Dr. James Evelyn Pilcher, Carlisle, Pa., agreed with the author, asserting that there is absolutely no question, other things being equal, that the soldier who is a total abstainer is infinitely more efficient than is the soldier who is in the habit of taking alcoholic stimulants. He paid a tribute to the American soldiers, the great majority of whom he said are above criticism in their general conduct. Among officers the number of total abstainers is very large.

Dr. Winfield S. Hall, Chicago, remarked that the statement concerning the small number of army officers who drink heavily is in harmony with the decrease in drinking among the other professions. In times past it had not been an uncommon thing for the family physician to be a heavy drinker and still maintain his position in the profession. The education of the public and of the profession at the present day, however, will not tolerate this.

Dr. John Chase, Denver, referred to the great difficulty encountered by the man desiring to enlist in the National Guard of Colorado if he were a user of alcohol. The utmost care was taken to exclude such men and the result was shown in the great enduring power of the guards, the men having been, at times, on duty 72 hours without sleep. It has been found that the men do better by drinking tea than alcohol.

Dr. Leartus Connor, Detroit, believed that most men drank when they desired to forget some unpleasant experience or condition and that the conditions of life of the United States soldier tended to make him seek this forgetfulness. If the Army were made a desirable place in which a man could serve his country he did not believe drinking would be indulged in largely.

Dr. James A. Spalding, Portland, Maine, spoke of the effect of the Sturgis law in compelling the sheriff to enforce the prohibition law, the result of which was to bring about the pocket peddling of liquor. On one occasion an officer had found thirty per cent. of his men in the hospital from the cocain habit. They had gone over the town and not being able to get a little beer and because they did not want to drink bad rum they had used cocain. He questioned whether in taking away alcohol good would be done if cocain were substituted.

Dr. Woods Hutchinson, New York, was in accord with much of the paper but thought one point to be challenged was the statement that all medical men and scientists were in accord on the uselessness of alcohol in health and disease, believing that the facts in the case do not support the statement. A point raised by Dr. Hutchinson was: why do men drink? The normal man, he claimed, does not take alcohol as a food but as a means of enjoyment. So long as conditions are unfavorable, so long as men are subjected to injustice, are placed under conditions of hardship, so long, Dr. Hutchinson believes, they will continue to resort to alcohol. This he thought was the aspect which Dr. Grosvenor omitted.

(*To be continued.*)

AMERICAN ASSOCIATION OF MEDICAL EXAMINERS.

Eighth Annual Meeting, held in Atlantic City, June 3-4, 1907.

This meeting is considered the most important one held by this association for a number of years. The attendance was especially gratifying, and included medical directors of many prominent companies, who showed the interest that is being taken in this subject by life insurance companies in general. The discussion was spirited and entered into by a majority of the members.

Among the important papers read were the following "Statistics Relating to the Twelve Most Fatal Diseases in Regard to Life Insurance," by Frederick L. Hoffman, Esq., statistician, Newark, N. J.; "Diseases of the Female Pelvic Organs in Relation to Life Insurance," by Dr. F. C. Hammond, Philadelphia; "The Relation of Diseases of the Ear to Life Expectancy," by Dr. John F. Barnhill, Indianapolis, and "The External Appearance of the Eye in Relation to Life Expectancy," by Dr. Richard Kalish, New York.

The second session of the association was devoted to a symposium on "Diseases of the Chest Organs in Relation to Life Insurance," and valuable papers by Drs. Clarence L. Wheaton, Chicago; S. A. Knopf, New York; T. Millman, Toronto, and T. D. Crothers, Hartford, were read and discussed. The association was addressed on "The Duty and Action of Physicians when Examining Accident Cases," by Dr. Kingman B. Page and George H. Bruce, Esq., of New York.

The Examination Fee—Five Dollars.

The question as to the amount of fees that should be allowed by life insurance companies for the proper examination of an applicant was considered and it was the unanimous opinion of all examiners present that life insurance companies should pay a minimum fee of $5 for each examination. This subject has been discussed at previous meetings of the association and the same action has always been taken.

National Board of Health Favored.

A resolution was adopted in favor of a department of health to be established by the federal government, with a physician as secretary, and ranking in authority with the other members of the President's Cabinet.

The next annual meeting will be held at Chicago, at the time of the American Medical Association session.

Officers Elected.

The following officers were elected for the ensuing year: President, C. H. Harbaugh, Philadelphia; vice-presidents, Liston H. Montgomery, Chicago; Frank E. Allard, Boston; B. J. O'Connor, Louisville, Ky.; E. O. Kinne, Syracuse, N. Y., and T. Millman, Toronto, Can.; secretary-treasurer, John Guy Monihan, New York.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at Washington, D. C., May 7-9, 1907

(Concluded from page 2070.)

SYMPOSIUM ON END RESULTS OF OPERATIONS FOR CANCER OF BREAST.

DR. J. COLLINS WARREN, Boston, said that out of 416 cases of primary operation for cancer of the breast at the Massachusetts General Hospital from 1894 to 1902 inclusive, 376 were traced to a conclusive end result at an average period of eight years after operation. Sixty-four patients were alive and well, and seven died without recurrence over three years after the operation. There were 320 attempts at radical cure, 67 of which, or 20 per cent., were successful. During this same period palliative operations were performed on 56 patients, 15 per cent., and 52 cases were discharged untreated. Cases in which the tumor was ulcerated, or was adherent to the skin or to the chest wall, and cases in which the axillary glands were palpably enlarged, gave notably less promising results than when these conditions did not exist. No case with palpably enlarged cancerous glands above the clavicle, and no case of cancer of both breasts was cured. Medullary carcinoma was more grave than scirrhus, and adenocarcinoma and colloid were relatively of a far less malignant type. The duration of the disease, other than in the individual case, exerted little influence on prognosis. Extensive operations with wide removal of skin gave the greatest freedom from local recurrence. Removal of the pectoralis minor appeared to be of slight significance. Incomplete operations in early cases yielded better results than extensive operations on cases which were well advanced. Recurrence in the scar occurred in less than one-half of the cases. Internal metastasis was most frequent in the lungs and mediastinum, in the axillary and supraclavicular glands, the liver and the spine. Seventeen out of 88 cases, or 19 per cent., of those passing the three-year limit without evidence of recurrence, showed recurrence later, and four patients developed recurrence six years or more after the operation.

DR. FREDERIC S. DENNIS, New York, reported on 50 patients whose subsequent histories are known. He divides the entire number into three groups, the first group comprising cases all of which have remained cured beyond the three-year limit, and a few even 25 years. The second group remained cured beyond the three-year limit, the patients dying many years after the operation from causes independent of carcinoma. The third group comprises cases which remained cured beyond the three-year limit, the patients dying many years after from metastases in the internal organs.

In the first group he reports 39 cases permanently cured and nearly all of these patients have been seen or heard from very recently. In the second group there were four cases. These patients died from acute diseases, though they lived many years after the operation. The third group, of which there were seven, terminated many years after the operation from metastasis of the internal organs.

The results of these investigations demonstrate some important clinical facts: 1. That cancer of the breast is sometimes permanently cured, or at least 25 years have elapsed with no evidence of a return. 2. That cases may go as long as 18 years and yet finally have a return in some other organ. 3. That in the cases in which no return has been observed the operation was performed almost without exception within six months from the incipiency of the disease, thus showing the great importance of early operation. 4. That the more radical the operation within reasonable limits, the better the prognosis. 5. That in some cases in which the outlook was most unfavorable as manifested by extensive ulceration, hemorrhage, widespread axillary involvement, the end results have been entirely satisfactory.

The author laid particular stress on the following points: That early radical operation is most important; that in some cases with extensive ulceration and hemorrhage and widespread axillary involvement, the end results have been satisfactory. In several cases the patients are well four and eight years following operations done under these most unfavorable conditions.

DR. WILLY MEYER, New York, said that all of his 86 cases, with the exception of one, were females; the youngest was 28, the oldest 72 years of age. His figures showed that 28, or 35 per cent., of the 80 patients traced, are alive and well to-day, nine having been operated on within the last three years. Four others died from six to eight years after operation. Two died of recurrence; the other two of diseases not connected with the original trouble. Five lived from three to five years after operation. Three, though living, show signs of recurrence. Forty to 50 per cent. died within three years after operation. Eight of the patients died of metastases in the absence of either local or regional recurrence.

Regarding the wisdom of invariably cleaning out the supraclavicular space at the time of operation, he states that his own experience has pointed rather against such a procedure. It was not done in any case where the patient remained well from five to twelve and a half years after operation. Concerning the preservation of the subscapular nerves, he stated that he always tries to do so; still he has in three instances seen a recurrence take place around the second subscapular nerve. In spite of this observation he would not consider the removal of these nerves warranted, in view of the resulting disability with regard to the proper use of the arm. Every one of his patients has the perfect use of the arm. Only one patient has a somewhat pronounced edema of the arm. The postoperative neuralgia or neuritis of the brachial plexus has proved to be transitory in every instance.

DR. LEWIS S. PILCHER, Brooklyn, dealt particularly with 18 cases in which the evident extension of the disease at the time the patients first presented themselves was great enough to arouse suspicion of possible infection of the lymph nodes above the clavicle. In four cases glandular masses in the neck were distinctly palpable; of the 14 in which the examining finger could not appreciate the presence of diseased nodes in the neck, section revealed infected nodes present in 11; and in only three cases appreciable disease was not recognizable on section. These three patients all have remained well from the time of operation, a period of five, one and a half and one year, respectively. Of the four cases in which the supraclavicular glands were palpable before operation, one patient died three months after operation, evidently from internal metastasis. The second patient had two recurrences and died five years after the primary operation. The third patient died two years after operation, it is thought, from a carcinomatous element in the pulmonary condition, she having been said to have died from pneumonia. The fourth is now, two years after operation, perfectly well, without any evidence of recurrence. In each of the foregoing cases the supraclavicular spaces were cleared out and the typical operation was performed on the thorax and axilla. Of the 11 remaining patients, one died from myocarditis seven weeks after operation; three developed speedily both regional and distant metastases, all dying within a year; a fourth was reoperated on for a recurrent nodule in the lateral thoracic region a year after the primary operation; she died three years after the primary operation from carcinoma of the liver. A fifth patient remained well for five years, but has now developed both supraclavicular and thoracic recurrences. Four patients remain free from recurrence after periods of three, three and two years and one year, respectively.

Dr. Albert Vander Veer, Albany, N. Y., cited some interesting cases of return of the disease very late after the first operation, one occurring 12 years after the first surgical intervention. The shortest period of recurrence was three months. He said that careful study of statistics impresses one with the fact that where operation is done before involvement of the axillary region a better percentage of recoveries follows. Dr. Vander Veer reported two cases of metastasis of the long bone, one three years after amputation of the right breast, the patient dying, about four weeks later, from all the evidence of carcinoma of the pleura, possibly of the lung, on the left side. Many patients presented with well-defined carcinoma of the breast, also uterine fibroids. In operations for both conditions patients have usually done well, but there is a greater degree of anxiety for the surgeon. Where only the breast was removed patients seemed to live comfortably for many years, with no apparent disturbance from the uterine fibroid. Patients do best who have passed the menopause.

Dr. A. J. Ochsner, Chicago, reported on 164 cases. Of these 101 have been traced to the present time. Fifty-seven of the patients are still living, all but two without recurrence. Thirty-nine have lived more than three years; 25 more than five years; 5 more than ten years; 5 died from shock; 20 died within one year; 6 within two years; 6 within three years; one within four years; 2 within five years, and one each, six, seven, eleven and fourteen years after the primary operation. Five patients died free from recurrence. Two of these lived for three years, and one each for seven, nine and ten years. During the past six years all patients have received postoperative Roentgen ray treatment while in the hospital, and 22 continued this treatment after returning to their homes. Several patients were apparently benefited by this treatment.

Dr. August F. Jonas, Omaha, reported on 260 cases, 211 of which were carcinomatous. In all the cases a radical operation was done—complete removal of the entire breast and axillary contents in the very early cases, and in the later ones removal, in addition, of both pectoral muscles and the fat from the supraclavicular triangle. In a number of instances portions of one or several ribs were removed wherever there was the slightest indication of the neoplasm having approached a rib.

The author's operative experience comprises 211 primary operations for cancer of the breast, 30 operations for local recurrences in his own cases, and 14 in patients operated on primarily by other operators. Out of this number there were six deaths.

Of 177 patients that were traced, 38 had a recurrence in one year; 34 in two years. One hundred and five were free from every evidence of disease after three years.

Dr. Nathan Jacobson, Syracuse, N. Y., reported on 71 cases which he was able to follow. Thirty-five of these patients are still alive, having outlived the three-year period. Three died of intercurrent disease not cancerous. The remainder died of cancerous metastases. Reference is also made to late recurrences, in one case thirteen, and in another sixteen years after primary operation.

Dr. Joseph Ransohoff, Cincinnati, showed that 20 per cent. of patients passing the triennium of safety still had recurrence in the scar or died of metastases. After five years recurrence is less common. In one case the disease returned in the scar twenty-one years after the first operation. A second operation at this time was followed by return of the disease within a year, and death of the patient from pulmonary carcinoma a year later. The author collected, including his own, 37 cases developing seven years or more after the first operation. Of these 26 were clearly local and 11 were doubtful. He did not include cancers of the other breast or of internal organs, like the stomach or uterus, as recurrences. Of clean local recurrences 10 occurred after seven and eight years, 2 after nine, ten, eleven, twelve and fifteen years, and one each at varying intervals from fifteen to twenty-five years.

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-Seventh Annual Session, held at Rockford, May 21-23, 1907.

(Continued from page 1980.)

Hyperthyroidism.

Dr. Arthur R. Elliott, Chicago, considered the forms of thyroid toxemia that are less intense and clinically less distinct than Graves' disease and due to transient disturbance of the thyroid functions. He cited illustrative cases, after which he discussed the etiology, frequency and clinical value of the condition.

Treatment of Polyneuritis.

Dr. Julius Grinker, Chicago, said that the early diagnosis of this disease must be based on, first, a proper recognition of disturbances of motion, sensation or co-ordination; second, the state of nutrition of muscles and nerves as evidenced by atrophy, flaccidity and changed response to electric stimulation; third, the state of the reflexes. Early treatment should aim to remove the cause or causes; to relieve symptoms; to prevent deformities; to maintain the muscles in a high state of nutrition until normal nerve conduction shall have been re-established.

Hysteria and Neurasthenia.

Dr. L. Harrison Mettler, Chicago, said that these are distinct clinical entities. They are often observed together in the same patient. When so associated, each is fairly distinguishable from the other. Hysteria is primarily a psychosis, a disorder of personality, while neurasthenia is primarily a neurosis, a neurotic inadequacy. Hysteria is a psycho-physiologic functional defect; neurasthenia is a neuro-histologic anatomic defect. The cardinal characteristic of hysteria is psychic changeability, while that of neurasthenia is an elemental failure or weakness. For hysteria the treatment should be psycho-therapeutic; for neurasthenia, physical reconstruction.

Septic Tank System.

Dr. E. F. Baker, Jacksonville, said that although the practical working of the septic tank has been known for several years, and is in practical operation in a large number of cities; its value is not yet fully realized. He believes it is the coming method of sewage disposal under the conditions found to exist in many of the populous sections of this and other states.

Operation for Cystocele.

Dr. Archibald R. Small, Chicago, pointed out the inadequacy of the older methods to produce permanent results. The main principle of the operation recommended is to split the anterior vaginal wall from near the meatus to the cervix; widely separate the bladder from the vagina; remove the redundant vaginal wall, and join the cut edges of the vagina by interrupted sutures. In cases of prolapsus of the uterus, he spoke of the necessity of suspending the uterus either by the Kelly method or by means of the round ligaments, in order to give permanent results.

Malaria as a Surgical Complication.

Dr. Thomas M. Aderhold, Zeigler, said that patients who harbor the parasite of malaria in their blood, but who show no acute symptoms of malaria, can be operated on without delay and later treated for malaria when the symptoms appear. No temperature either before or after operation can be called malarial unless the parasite is found in the blood. If the temperature rises after an operation and no parasites can be found in the blood, it should be considered as due to sepsis.

Puerperal Infection.

Dr. Robert T. Gillmore, Chicago, cited the history of a normal case of labor, which was complicated with a severe puerperal infection which manifested itself on the eleventh day.

He gave a report of the blood count and described the convalescent period. There was no evidence of autoinfection in this case. He traced the time of invasion of the streptococci in this particular case to the seventh, eighth or ninth day after delivery. It seemed probable that the douches given on the initiative of the nurse about this time were the direct cause of the infection. For the benefit of his future patients, the author reads what he has printed on the back of his obstetrical lists, which he gives to his pregnant clientele.

Rapid Osteoclasis Versus Osteotomy.

Dr. **Frank B. Lucas**, Peoria, took an account of the lack of technic given by orthopedic authors on the use of the Grattan osteoclast. Cuneiform osteotomy is particularly decried as producing shortening in the tibia, whereas osteoclasis produces lengthening, thereby increasing stature. Manual correction of bow-legs in the early period, followed by repeated casts, is given as the best method of correction in infants just beginning to walk. The fracture, usually a four-fifths or green-stick, can be completed manually, if necessary, and the in-or-out twisted tibial deformity corrected by hand, the cast being applied and the leg held in over-correction until the plaster is firm. About four weeks in plaster is sufficient. In correction of knock-knee there is usually only an osteokampsis or bending of the femur at its lower third, and legs are put up in over-correction so they resemble bow-legs while in plaster.

Paralytic Deformities of the Legs.

Dr. **E. W. Ryerson**, Chicago, discussed two varieties of paralytic deformities of the leg, namely, the cerebral or spastic paralysis and anterior poliomyelitis. He said medical treatment is of little value. Operative treatment is of several kinds, such as tenotomy, nerve grafting and tendon transplantation.

President's Address.

Dr. **J. F. Percy**, Galesburg, in his presidential address, said, among other things, that the medicine of the future will find the physician recognizing his need for dependence on his colleagues. Medicine of the future will understand and correct the loss that is sustained in our day by failure to recognize that back of every physician are ambition, hope, aspirations, good fellowship, and the sincere desire to be well thought of by his fellows. The days of radicalism in medicine are gone, never to return. The day of schools in medicine is also gone, never to return.

At present the laboratories and hospitals are furnishing valuable knowledge for the prevention and cure of disease faster than it can be given to or made practical use of by the physician in his every-day work. "Clothed with character, robed in the mantle of ceaseless toil for the sick, underpaid, often unappreciated, frequently legislated against, carrying the rod of science with an altruism that knows no limits, the physician of to-day, of yesterday and of to-morrow is only among his peers when in the company of the earth's most exalted."

Acute Mastoiditis.

Dr. **L. R. Ryan**, Galesburg, pointed out the frequency of acute otitis media purulenta in our climate, affecting all ages and classes. The most dangerous complication is mastoid abscess. He described the methods of prevention, and said that if abscess occurs an operation is almost imperative. Wilde's operation should be performed early. He cited a series of cases, the patients ranging in age from 2 to 70 years.

Plastic Surgery of the Urethra.

Dr. **G. Frank Lydston**, Chicago, demonstrated his method of reconstructing the penile urethra and closing urethral fistulæ by flaps taken from the scrotum and penis, making a double-layered floor. He reported a number of cases operated on successfully by this method.

Scopolamin and Morphin Preliminary to General Anesthesia.

Dr. **Clifford U. Collins**, Peoria, said the advantages derived from this method are (1) the tranquil drowsy state of mind which it produces in the patient before the general anesthetic is administered. The patient feels an irresistible tendency to close his eyes and sleep. Second, by the preliminary use of scopolamin and morphin the tranquil condition of sleep is produced in any patient, regardless of age, with the same desirable results. Third, a great deal less of the general anesthetic is required. Fourth, scopolamin produces a dryness of the throat which is very desirable when ether is administered, because it prevents the flow of mucus usually produced by the ether. Fifth, the patient usually sleeps for three or four hours after the operation. The smarting, burning pain of the incision has usually ceased before the patient awakes. Sixth, the postoperative vomiting is markedly lessened. The only disadvantage is the varying effect of the single dose on the patients.

Varicose Veins and Ulcers of the Leg.

Dr. **W. S. Royce**, Chicago, described the ambulatory treatment which he says gives great relief, and sometimes effects a permanent cure, requiring no loss of time on the part of the patient. He illustrated his method of treatment on models and gave a short comparison of it with other treatment.

Gall-Bladder Surgery.

Dr. **J. E. Allaben**, Rockford, described three unusual cases. The first was one of exophthalmic goiter, with large stone in the gall bladder, with adhesions about the gall bladder and pylorus causing symptoms which simulated benign pyloric stenosis. A cholecystotomy was done, with death on the third day from pulmonary edema. Case 2 was one of cholelithiasis, in which a cholecystotomy was performed, with death on the third day. Although a postmortem was made, the cause of death was obscure, but it was probably due to autointoxication. Case 3 was one of cholecystitis which complicated pregnancy. The gall-bladder symptoms simulated gallstone colic. The woman was delivered of a healthy full-term child. Four months later return of symptoms necessitated a cholecystotomy. She was relieved for one year, when the symptoms returned. Examination revealed a displacement of the right kidney of second degree; the kidney was held in place by a Dunning kidney pad and abdominal supporter. The woman had relief for one year, when her symptoms returned. Cholecystectomy, with Dr. E. W. Andrews' operation, colohepatopexy (colon substitution), was performed. Death occurred on the third day from hemorrhage of the liver.

Otitic Brain Abscesses.

Dr. **Frederick K. Sidley**, Peoria, reported three cases, and said that surgical interference in brain complications due to ear disease was unsatisfactory in a large percentage of cases. Brain abscesses have an unknown beginning and many develop from diseases of the tympanic cavity that are regarded as simple and not serious. All discharging ears should be considered serious, and the first step in the treatment of any brain complication from ear disease is the prompt diagnosis and treatment of the first discharge.

Practical Venereal Prophylaxis.

Dr. **Denslow Lewis**, Chicago, said that professional opinion now endorses publicity and advocates instruction of the laity. He described the methods that are favored by state and national societies. He considered the prostitute as a purveyor of infection and said there should be recommendations for more consistent appreciation of her position in society. He advocated judicious care and quarantine as a factor in venereal prophylaxis.

Indications for Cesarean Section.

Dr. **E. C. Franing**, Galesburg, presented the following conclusions: 1. Practice pelvimetry on all primiparæ. 2. Do pelvimetry on all multiparæ who have given a history of difficult labors. 3. In all cases of flat rachitic pelvis, with true conjugate of 8.5 cm., or less, prepare for and do Cesarean section. 4. All cases with true conjugate between 8 and 8.5 cm. must be looked on as probable Cesarean sections. Allow patient to go to term and into labor. Prepare patient thoroughly as for surgical operations, and make vaginal examination for correct position, etc. Make no more examination until patient has been in actual labor four hours, when, unless the head has made a decided attempt to enter the pelvis, do a Cesarean section. 5. All cases with a true conjugate between 8.5 cm. and 9.5 cm. should be considered as possible Cesarean sections. 6. The fetal mortality is so high in prematurely induced labors that it is totally unwarranted as compared with Cesarean section. 7. The interest of the child will force us to honor Cesarean section more often in the treatment of placenta prævia than at present. 8. Never do abdominal Cesarean section on an eclamptic unless she has a considerably contracted or obstructed pelvis, or to save a live child from a dying woman.

(To be continued.)

Section Discussions

SYMPOSIUM ON CATARACT.

DISCUSSION ON THE PAPERS OF DRS. JACK, WEEKS, FOX, WILDER, SCALES AND CALLAN.*

DR. CHARLES STEDMAN BULL, New York City, said that the necessity for a secondary operation on a more or less opaque capsular membrane, after an extraction of cataract, occurs in from 50 to 75 per cent. of the cases. Such an operation should never be performed until the eye has entirely recovered from the effects of the first operation, and this period may vary from six weeks to as many months. If all channels of communication between anterior and posterior chambers are blocked, a large, free opening must be made through the obstruction, in order to stop traction on the iris and ciliary body, before the eye can become quiescent. He also declared that the great danger to be feared is traumatism to the parts which may light up a new inflammatory attack, completely close the pupillary space, and end in loss of the eye from iridocyclitis and phthisis bulbi. He agreed with Dr. Callan that there is great danger in an overhasty operation, before the eye has recovered from the primary operation, and also in a mistaken choice as to the method of operating. To attempt an opening in any form of secondary cataract by tearing through it, is bad surgery and should be abandoned entirely; for no matter how done, it causes traction on the iris and ciliary processes which may set up iridocyclitis or even glaucoma, ending in phthisis bulbi, or possibly a permanently painful, irritable eye, which demands enucleation in order to prevent the possibility of sympathetic ophthalmitis. These membranous obstructions, of whatever nature, should be cut with the knife. If the membrane be very thin and diaphanous, like a cobweb, Dr. Bull prefers to use a very slender Graefe cataract knife, the cutting edge having a convex curvature. The knife is entered near the limbus on the outer or upper side, and the membrane should be divided transversely near the upper margin of the coloboma. The handle of the knife is then elevated and the blade passed vertically down to the lower margin of the pupil, the edge turned backward and the membrane divided vertically upward so far as the transverse incision. Dr. Bull does not use the knife-needle. If there are thicker, tougher bands crossing the membrane in any direction, he avoids cutting these bands with the knife, as too much traction is involved, but passes the knife through the thinner portions of the membrane. When the membrane is of the dense variety, or is crossed by dense bands of tissue, he does not use the knife, but the forceps-scissors. He makes an opening in the cornea near the upper limbus with a narrow keratome, bent on the flat, and passes the keratome transversely through the membrane. He inserts the forceps-scissors closed through the cornea and membrane, opens them and passes one blade behind the membrane and one in front and cuts down to the lower margin of the pupil. The bands being divided, the membrane splits. If it does not, he makes another vertical incision nearer the temporal side, which will almost always insure a V-shaped opening. If there is a very dense membrane, including incarcerated iris as well as capsule and exudation, the whole iris tissue must be divided laterally on either side to the full extent of the original coloboma, so as to free the periphery of the iris and the ciliary processes from all traction. The vertical incisions by the forceps-scissors must be carried entirely through the lower sphincter margin of the iris. It should not be forgotten that while the primary object of operating on secondary cataracts is to make an opening, through which the patients may see, it is all important that this should be done with the minimum of violence. All traction on the iris must be avoided.

DR. MYLES STANDISH, Boston, expressed his agreement with Dr. Jack's opinions. It must be borne in mind, he said, that the cataract patient has probably waited for months, and perhaps for years, with the knowledge of the inevitable operation oppressing him. As his sight has failed he has looked forward to the operation with mingled hope and fear, with the result that he often comes to the operating table under a high nervous tension, if not actual apprehension. This is often true when the patient's outward demeanor is quiet and philosophical. When, under these circumstances, operation is done under local anesthesia, he is not only conscious, but acutely sensitive mentally to everything which is happening. All the details of preparation should be finished before the patient enters the room, instruments should be laid out, tables arranged, and all the little bustle incident to the preparation for an operation over. The assistant, nurse and onlookers, if there be any, should be still on the entrance of the patient and quietly take their places. No conversation with regard to the patient should be permitted after he enters the room, for in his acutely sensitive condition the most commonplace remark may be seized on, twisted into something entirely different, and a theory as to some new and appalling danger formulated in a few seconds. Onlookers should be warned beforehand that comments, whispered sentences or exclamations are not welcome and may be disastrous. The first instillation of the local anesthetic should be made by the operator himself, as it gives the patient confidence, and should be gently placed in the lower conjunctival cul-de-sac, not dropped on the cornea. It is not well to begin the operation by startling the patient. After the collyrium is instilled the eyes should be kept closed to preserve the corneal epithelium if cocain is used, and to prevent the patient from watching those about the table and misinterpreting chance expressions on their faces. When the operation is begun all persons should be so placed as to be without the patient's field of vision, so that sudden motions may not attract his attention during the operation. For the same reason all instruments should be handed to the operator in such a manner as to be unobserved. It is well for the operator never to ask suddenly for an instrument, as it immediately suggests that something has gone wrong. It is also well to arrange beforehand that sudden and disturbing noises should not be permitted to happen in the operating or adjoining rooms. Dr. Standish declared that the importance of these details is often unconsidered, but he thinks that all will agree that a proper control of the patient is essential for a successful cataract operation, and that anything which aids in that effort is not to be lightly disregarded.

DR. CASEY A. WOOD, Chicago, said that when one considers the extent and locality of the incision employed by expert operators, as well as the various forms of operations in vogue to-day, the conclusion seems inevitable that the personal equation must enter largely into the procedure known as cataract extraction. It seems logical, however, that some operative principles must underlie a safe and effective bulbar incision, and these, Dr. Wood feels sure, are comprised under the title of Dr. Week's paper, "Desirable Features." Dr. Wood, however, does not endorse entirely Dr. Weeks' satisfaction with adrenalin, or any of the suprarenal extracts, as a hemostatic unless the circumcorneal incision is carefully restricted to the limbus and the conjunctival flap is more than 1 mm. wide and 2 or 3 mm. long. Such a flap is not always easy to make. Should it be much larger, free hemorrhage is likely to occur into the anterior chamber in spite of the adrenalin. This obscuration of the field of operation, added to that produced by the presence of the flap itself, is a serious drawback. While it is true that blood effused into the anterior chamber eventually becomes absorbed, yet the importance of an immediate and perfect view of the iris, the lens and the margin of the corneal wound is so great that it can hardly be overestimated. Moreover, the formation of clots and their incomplete absorption, as well as their adhesions to débris in the anterior chamber and, in some cases, their persistence as organized material in the area of the pupil, may seriously interfere with the visual result. For this reason, the attempt to utilize the conjunctival flap should always be associated with irrigation of the anterior chamber. By this means, Dr. Wood declared, one may not only effectually free the field of operation of clots, but may also insure that precise coaptation of the wound margins so needful for a perfect recovery.

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* The first three papers will be found in THE JOURNAL last week, the last three in THE JOURNAL this week.

On many occasions Dr. Wood has used with satisfaction a modification of the so-called shoulder incision. If the wound lie at the limbus, involving rather the sclera than the cornea, it will be found that when quite four-fifths of the incision has been completed the edge of the narrow Graefe knife, used for the purpose, will be overhung along its whole length by the translucent margin of the sclerotic. In this case, it is possible that the cut may involve the conjunctiva at some part of the incision. The knife should then be turned at right angles to its previous plane and made to cut its way outward. If this is correctly done, the "shoulder" will be made more in scleral tissue than is pictured in Dr. Weeks' illustration and may include a short conjunctival flap. The advantage of such an incision is that iris prolapse is avoided and the flap will be furnished support without cutting off its blood supply. Dr. Wood also directed attention to the fact that blood clots, lenticular débris, capsular tissue or any other foreign body, allowed to remain between the lips of the wound, entirely nullifies the specific object of the shoulder incision. Dr. Wood doubts that the ability to use either hand with equal facility is readily acquired by the average surgeon, and as a good visual result is the object sought it would seem as if the operator, unable to use his left hand as well as his right, ought to stand or sit in front of his patient in the extraction of a left-sided cataract rather than take any risk in the performance of this important operation. Dr. Wood said that Dr. Weeks does not tell us what value if any, he attaches to the use of the blunt-pointed knife for completing the incision after puncture and counter-puncture have been made. Dr. Melville Black exhibited to the Section a few years ago such an instrument modified from one previously described. Dr. Wood believes that the argument in favor of preliminary iridectomy might be more strongly put than Dr. Weeks has seen fit to state it. If it is considered desirable to give the patient the benefit of the doubt when he possesses one eye only, it surely argues that there is some virtue inherent in the rather frequent performance of the preliminary procedure. It is certainly easier to make a small, neat and well-placed exsection of the iris segment before extraction of the lens than after it and probably there is less danger of iritis when a preliminary operation has been done.

Dr. Wood concluded his discussion by asking: Does an ordinary iridectomy reduce the proportion of evil results in cataract extraction? Does it hasten the maturity of an unripe cataract?

Dr. Frank Allport, Chicago, believes that the combined operation is the best, at least for the average surgeon, and that the very best operation of all is the one affording the opportunity of making a preliminary iridectomy. There can scarcely be any question as to the superiority of this procedure over all other procedures, at least so far as safety is concerned, and this, after all, should be the most important issue. When the iridectomy is done some weeks before the lens is removed, it adds many degrees to the safety of the operation. The visual results are excellent. So far as the cosmetic results are concerned, a well-performed combined operation does not deform an individual. The upper lid, as a rule, conceals the coloboma. Dr. Allport does not believe it wise for an inexperienced operator to take the risk of endeavoring to perform a simple extraction for the purpose of a hoped-for beautiful cosmetic result. He said that the simple extraction should never be performed in an operating room. The chances for iritic prolapses are too great. If a simple extraction is performed at all, it is better done with the patient in the bed in which he expects to lie, or at least in the bedroom, in a good operating chair. Dr. Allport does not see the necessity of removing the speculum so early in the procedure. He removes it after he has made the iridectomy and lacerated the capsule.

Considering the question of cystitomes, Dr. Allport does not believe it is so much the cystitome as the man behind the cystitome. He likes the bent von Graefe instrument. It has always given him satisfaction. He regards the cystitome much better for lacerating the capsule than any kind of forceps that can be used. It is much easier to use and consequently is much safer. He does not think that a little lens material left in the posterior chamber is apt to do any harm. A slight iritis may follow, but unless a great deal of lens substance is left, which is unnecessary, the iritis is almost invariably of a slight character and easily controlled. As between the two dilemmas of allowing a little lens substance to remain or running the risk of producing escape of vitreous he would certainly choose the former. Dr. Allport does not like to use the curette within the anterior chamber for the purpose of extracting the lens matter. The anterior chamber should be entered by instruments as little as possible. He almost invariably washes out the anterior chamber with normal salt solution. He has devised an anterior chamber syringe to be used for this purpose. He considers the extraction of the cataract within the capsule a totally unnecessary operation, in that its results are, on the whole, not so good as those of the other orthodox procedures, and certainly the risk to the patient must be greater.

Dr. Allport views the couching method with more or less preconceived aversion. He has operated a number of times for dislocated cataractous lens by the discission process and has never had occasion to regret it. Of course, the scarification must be performed very delicately for fear of still further dislocating the lens. It only require a very small opening into the lens capsule to afford access to the aqueous humor, and if only a small incision is made but little swelling occurs and eventually a large amount of absorption of lens substance takes place. Reneedling will do away with all the lens matter. He has often been surprised by the amount of lens substance which absorbs in elderly people after a cataract operation in which, for one reason or another, a large amount of lens substance has been allowed to remain in the field of operation.

Dr. Allport mentioned four elements which he believes have been conducive to his good results during the past few years. One is the free use of argyrol in a 25 per cent. solution. He has frequently felt that he has saved eyes that would otherwise have been lost by totally filling the anterior chamber of the eye with an argyrol solution before the covering is applied. He has never seen any irritation which could be attributed to this procedure, and the argyrol absorbs and leaves no stain. Another feature has been the invariable use of rubber gloves for the operation and first few dressings.

Lastly, is the gentle instillation of cocain into the anterior chamber as soon as the incision has been made.

Dr. George E. de Schweinitz, Philadelphia, declared that the preparation of the patient as for a general anesthetic insisted on by Dr. Wilder is of great importance, as limiting the possibility of infection and as influencing the problem of autointoxication. It is Dr. de Schweinitz's experience that carbolic acid is the best of the various cauterizing agents advocated in cases of beginning neurosis of the flap.

Recurrent hemorrhages that occasionally occur in the most correctly performed operations are caused by leakage of vessels already diseased and represent the type of oozing hemorrhage. In these circumstances Dr. de Schweinitz said that the best remedy is that which modern investigation has shown to be capable of aiding the coagulability of the blood, the various calcium salts, of which the chlorid is perhaps the best, were it not for its disturbing influence on digestion. Dr. Hare has come to the conclusion, and Dr. de Schweinitz has followed his leading, that lactate will do just as well. It can be given in fairly large doses, from 10 to 30 grains, and can easily be given by hypodermic.

In regard to the formation of opacities in the vitreous after cataract extraction, a remedy which has seemed to Dr. de Schweinitz to be good in place of the iodids is a good syrup of hydriodic acid. Some preparations now on the market furnish a therapeutic result as good as that obtained by the iodids and with the happy result of rarely disturbing digestion. Administration should be begun in small doses, 30 minims, and increased to as much as a dram three times a day.

Dr. J. A. White, Richmond, Va., said that if Dr. Scales' contention as to its advisability can be practically demonstrated he might be willing to do away with the bandage in a limited number of cases, but, even admitting that it is the most suitable method for certain selected cases, Dr. White fails to see the rationale of leaving an eye unprotected that has had such an accident during the operation as the rupture of the hyaloid membrane, with loss of vitreous.

If Dr. Scales treats penetrating wounds of the eyeball from other traumatisms than cataract extraction by the same open method, Dr. White would consider his handling of such cases rather radical and revolutionary and opposite to accepted views. It has not seemed to Dr. White that the bandage interferes with natural drainage of the eye or brings about retention of secretion. A properly applied bandage will absorb whatever secretions may accumulate in the conjunctival sac, provided the lids do not become agglutinated together and provided that there is no tendency to spasmodic contraction of the lids. Dr. White does not remember having seen any secretion in the conjunctival sac when he opened the eye after cataract extraction in the absence of any infection. If after the operation the conjunctival sac is filled with sterilized vaseline, there is no possibility of the lids sticking together and there is no retention of secretion. Dr. White does not see why the slight difference in the axes of the eye should make it impossible to apply a bandage without disturbing the relations of the iris and capsule or that his method of applying the bandage to the operated eye would disturb these relations so much as the movement of the lids. He applies a wet pledget of bichlorid cotton to the unoperated eye, filling the orbit with gauze and strapping it down tight enough to make the unoperated eye practically immovable. A thin pledget of wet bichlorid cotton is also put over the operated eye and the orbit filled loosely with gauze kept in place by adhesive strips, so that there is practically little or no pressure on that eye. In his experience this has not produced discomfort or caused restlessness or uneasiness. Some patients have complained of the eye being a little uncomfortable for a short while after the operation, but readjustment of the bandage always gives comfort. If the bandage should increase the involuntary mobility of the eye, what should be said of an eye without any protection but a wire gauze and kept more or less in constant motion because the other eye is uncovered and being used. That in old people the bandage sometimes produces entropion is a fact with which all are familiar, but it is very rare and does not occur in more than 1 per cent. of the cases. That the bandage is a factor in producing conjunctivitis, iritis and cyclitis, Dr. White said, is hard to demonstrate. Iritis in a mild subacute form is a common result after cataract extractions and usually appears about the third day, sometimes not until the fourth day. Instead of being due to the irregularity of the bandage, it is due, Dr. White thinks, to irritation of the iris by the passage of the lens through the pupil in simple extractions, or by traumatism when an iridectomy is done, or by the irritation set up by retained particles of cortex, or by a rheumatic or gouty diathesis. He agreed with Dr. Scales in advising the use of atropin, but does not think it wise to use it so soon after the operation in simple extractions, because he has seen it, when used so early, bring about prolapse of the iris; this, more especially, in cases in which the wound is linear and is not accompanied by conjunctival flap. Dr. White has found the conjunctival flap an annoyance when it sets up bleeding, as it sometimes does. It may be true that it diminishes danger of infection, as it heals more rapidly than the corneal section, but if virulent pathogenic organisms, such as pneumococci and streptococci, are present, infection takes place before the conjunctival wound heals. All ophthalmologists, as a result of experience, adopt certain methods. Dr. White prefers the method that he has followed in the extraction of about seven hundred cases, with a very small percentage of failure. Immediately after the operation, when the toilet is completed, he fills the conjunctival sac with a 25 per cent. solution of argyrol, which he leaves in contact with the eye two or three minutes. He then cleanses the sac and fills it with sterilized vaselin and applies the bandage. Instead of handcuffing the patient, he puts a Ring's mask over the bandage so that the patient can not hurt the eye with the hands, and enjoins perfect quiet and rest for twenty-four hours, and if the patient is not too restless for forty-eight hours. At the end of that time he allows them to sit up. As soon as the wound firmly closes he releases the unoperated eye, but keeps the operated eye protected for seven or eight days, as he has seen infection of the eye as late as the seventh day, in cases of slow healing, probably from the patient's hands

Prof. Carl Hess, Würzburg, Germany, stated that he has done the operation with iridectomy for some years; he tried the simple extraction for a few years and abandoned it because the amount of prolapse of the iris was so great and because he thinks that it is too dangerous. Nevertheless, the advantage of the round pupil is so great that other ways should be tried to secure it without this danger of prolapse of the iris. He believes that this only happens because the iris is a complete membrane and the vitreous and liquid from the ciliary body pushes the iris forward. This can be overcome if a little buttonhole is made in the iris. In this way the advantage of the round pupil is obtained without danger of prolapse. In the simple extraction, there have been in Germany about 20 per cent. of prolapses and with this method not more than 0.5 per cent. The incisions should be made in the sclerotic. The danger of infection is less in this way. Professor Hess never operates in the cornea. He used the bandage for many years and then tried the open treatment. He has done about a thousand operations with the open method, and the results were at least as good, or better, than with the bandage. He knows of no reason why the bandage method should be better; the bandage does not prevent the movements of the eye. To accomplish this the only way is to prevent the eye from seeing except under certain conditions, and to do this he has used a small capsule just above the eye with a small hole, so that to see the patient must look through this hole. This is not an ideal method, of course. He always uses atropin before operating, and if the operation is without accident, as a rule, he finds the eye, after four or five days, with dilated pupil, so that there is no necessity for using more atropin, but if the pupil is small after the second day and with a little irritation then atropin should be used—but never if the pupil remains dilated. He is of the opinion that the patient should be kept absolutely quiet after the operation and not moved; the patient should be put to bed without the slightest movement of his body. This is important in preventing prolapse of the iris. He thinks that it is a mistake to say that if the eye is left open the condition of the tears will be the same. Experiments have shown that if instillations of bacilli are made into the conjunctival sac and the eye bandaged, the bacilli can be found after twenty-four hours and later, but if not bandaged, and free movement of the lids be allowed, the bacilli disappear after twenty-five minutes, and may then be found in the nasal passages. That seems to him a strong argument in favor of the open treatment. He has had five hundred extractions without any loss by infection, and thinks that this method should be used more frequently.

Dr. J. L. Borsch, Jr., Philadelphia, referred to Dr. Fox's statement, that his experience leads him to believe that if one would operate alternately on a series of cases far better results would be obtained in at least 75 per cent. in which iridectomy is performed than in those in which the simple method is carried out. Dr. Borsch does not believe that we can say with any degree of certainty, *a priori*, that we are going to do the simple operation or the combined one in any given case, as each case must be a law unto itself. Personally, he does not like to do an iridectomy in a cataract operation, as he believes that the better operation is the simple one and always endeavors to perform it. In the ophthalmologic clinic at Biarritz, Laignier and he have adopted a technic which, they believe, renders the case more favorable to the successful result of the simple operation. Their patients in the French clinic consist mostly of Spaniards and Frenchmen from the nearby provinces, but they are as docile as the average patient in this country. The technic is as follows: The patient goes through the usual preparation, such as training them to move the eyes in any given direction, bodily cleansing and an examination of the secretions. The condition of the lachrymal apparatus, conjunctivæ, etc., is noted. If all is well, the evening before operation the lids and lashes are thoroughly cleansed and a solution of 1 to 100 cyanid of mercury is applied with a bit of absorbent cotton. About fifteen minutes before operating the lids and conjunctivæ are flushed with a borosalicylate solution, then a solution of 2 per cent. cocain is instilled in the conjunctival sac. This is repeated every three minutes until three instillations have been made, care being taken to compress the tear sac so that none of the solution can enter. When ready to operate, they inject one or two drops of sterile solution of salicylate of pilocarpin with a sterilized Moria aseptic glass syringe. The patient is made to look in the direction of his hands, which are placed in a position that will best enable the operator to make the incision. This incision is always made in that part of the cornea between the limbus and arcus senilis (when there is one). If there is marked myopic corneal astigmatism at axis 150 or 165 degrees, for example, they do not hesitate to make the incision parallel with the axis of the astigmatism, for they find that by so doing they often cure the astigmatism. If the astigmia is hypermetropic, the incision is made at a right angle to the axis. As soon as the anterior chamber is open the speculum is removed. If the iris shows no tendency to prolapse, the capsule is ruptured with the cystitome. The patient is then allowed to rest a moment or two and then gentle pressure is made on the eye through the closed lid, while the upper lid is controlled with the other hand. The patient, of course, is still made to fix his gaze in the direction of his hands, which are kept in the desired position until the lens is delivered. The irritation of the iris caused by the passage of the lens and the action of the pilocarpin which begins about this time causes the pupil to contract and the iris shows no tendency to prolapse. The patient is asked to close the eyes, and after a moment of rest any remaining cortical matter is expelled by gentle massage. The edges of the wound are placed in apposition and a few drops of the pilocarpin solution are instilled. The dressing, consisting of an oval wad of salicylated absorbent cotton between two layers of sterile gauze, is then applied and maintained in place by means of collodion or adhesive strips. They operate in the early morning and inspect the eye in the evening. For two or three days the patients are kept on one of the fermented milk diets.

Dr. S. C. Ayers, Cincinnati, before making an extraction, instills a drop of atropin. The first day the pupil is well dilated. The toilet after the extraction is simple. After the extraction the lids are closed and three or four thicknesses of gauze are wet with bichlorid of mercury or sterile water, placed over the eye and pressed into the irregularities about the orbit so that it acts as a soft, pliable splint. Over this adhesive strips are applied. Dr. Ayers has not used a bandage for twenty years. When he finds the wound completely closed at the end of from twenty-four or forty-eight hours, he takes the bandage off and leaves it off. There is no reason why a wound that is perfectly healed should be bandaged, and the patient is much more comfortable without it. The eye has a chance to cleanse itself by winking and the secretions are carried down into the natural channels. He has been so well satisfied with this open treatment that he uses the method in all cases in which the wound is closed, and usually at the end of forty-eight hours. He allows the patient to sit up early, which is a great source of comfort, because these patients complain more of their backs than of their eyes.

Dr. Eugene Smith, Detroit, said that in preparation of the patient he likes to use a fresh solution of argyrol, 10 per cent., before the operation. This, together with washing of the eyelids, seems to act well in cases free from irritation and chronic troubles. He prefers cocain as an anesthetic, because it dilates the pupil; it gives a guide to the rigidity of the pupil. He objects to the use of adrenalin because he has seen its use followed by postoperative hemorrhages. In Knapp's Archives, in 1894, Dr. Smith published an article on the use of morphin in all extractions, calling attention to its myotic effect and to the relief of the discomfort which follows operations for several hours. He also called attention to its prevention of spasmodic contraction and of cough. He uses it in all simple and in many combined extractions. He agreed with nearly all that Dr. Callan said, except as to the use of forceps. Many of Dr. Smith's patients have come to him years after operation, and to his surprise he has not had 5 per cent. of adhesions after extraction of the anterior capsule with properly constructed forceps. He thinks that this is due to the removal of the large number of the cellular secreting elements contained in the anterior capsule. He has followed this method exclusively for the last seventeen years.

Dr. Peter A. Callan, New York, remarked that there is a great deal of difference between the so-called Graefe knives. The knife that is small with a tapering point is lost in the limbus and one can not follow the counter-puncture. A long, narrow, flexible point should be rejected. Furthermore, a knife with too thick a back should be rejected. The knife should not have a flexible point, should not be too long, and the back should not be too thick. Too small a knife, however, cuts with more or less irregularity. He thinks that the best knife made is the Critchett model. With this prolapse of the iris is avoided.

For the last ten years he has not used a bandage, but he has not had the courage to adopt the open method. He covers the unoperated eye with cotton, applies cotton loosely to the operated eye and puts on a mask. For some years he has abandoned the simple extraction. He makes the buttonhole in many cases instead. He thinks that the simple extraction is a very easy one compared to the combined, but life is too short to have the worry of it.

Dr. E. C. Ellett, Memphis, Tenn., showed two additions to the armamentarium of the cataract surgeon. One is a special bed without either head piece or foot piece; it is sufficiently high, and the cross-pieces are so placed that one can sit at the patient's head with his knees under the bed and be perfectly comfortable. The patient is not moved from the bed after the operation. He has found this bed feasible, as nearly all of his work is done in one institution. The operation is, of course, performed in the patient's room and not in an operating room. The second article is an anterior chamber irrigator consisting of a glass reservoir and a gold tip, the two fitting together by a friction joint and easily sterilized. This instrument is easily handled and answers its purpose well. Irrigation, in his opinion, should be reserved for cases in which cortical fragments are left in the anterior chamber. It adds something to the operation, is a possible additional source of infection, and unless the solution is perfectly bland and of the proper temperature is apt to provoke a spasm resulting in loss of vitreous. It should be used, therefore, not as a routine measure, but exceptionally and sparingly. The results of the cataract operation, from the patient's point of view, apparently leaves much to be desired. The best results are often not satisfactory to the patient, who seems to be annoyed by his absolute dependence on heavy glasses, through which he often sees satisfactorily only when looking exactly through the center. The higher the patient is in the social scale the more dissatisfied does he seem to be. These remarks are prompted by the vigorous complaint of a recent patient who sees 20/20th and Jaeger I, and is more complaining than any one in whom I have had absolute failure. From this point of view this often seems to be one of the least satisfactory operations.

Dr. Frank C. Todd, Minneapolis, said that when patients for some reason are unable to look down this is usually not due to lack of power of the muscles, but because the patient from anxiety or fear becomes "rattled" and seems unable to do at the proper time the very thing most required. It is Dr. Todd's practice to stand at the head of the patient in operating on either eye. In one of his cases, in operating on the first eye, he had considerable difficulty, as the patient would not turn the eye downward, and he anticipated the same trouble in operating on the other eye at a later date. He then thought that perhaps my patient could better control his eye if the operator's voice came from the opposite direction, and so before operating, as a test, he stood at the patient's head and asked him to look down; again he failed to obey the command. Dr. Todd then went around and stood by the patient's side, the voice coming from the direction toward which he desired to have the eye turned, and found that it promptly obeyed the command. The patient's natural tendency is to look in the direction from which the voice comes. Dr. Todd has found it wise to open the capsule after extraction in only 14.5 per cent. of cases in which this incision has been practiced. After applying an ordinary bandage in the accustomed manner, Dr. Todd carries around the head, outside of and only touching the bandage, a strip of one inch wide adhesive plaster, placing it near the lower border under the ears and higher up as it encircles the head above the ears.

Dr. J. F. Byington, Battle Creek, Mich., said that in anesthetizing the eye he instills the cocain first, because if the adrenalin be instilled first it blanches the tissues and interferes with the action of the cocain on the deeper parts. He mentioned one case in which he did the so-called "shoulder operation" in a patient 72 years of age.

Dr. S. L. Ledbetter, Birmingham, Ala., stated that on one occasion he had an unfortunate experience that spoiled a successful operation. Up to the third day the patient had a healthy normal pupil, but on that occasion some of his friends came in who thought it their duty to entertain him, and as the result of hearty laughter on his part he felt an acute sharp pain, and when Dr. Ledebtter opened the eye at the next visit he found prolapse of the iris. He has been very careful about patient's visitors since that time.

Dr. L. A. W Alleman, Brooklyn, testified to the value of the open treatment in cataract extractions. He stated also that the so-called Ring mask was described in ophthalmologic literature preceding its presentation by Dr. Ring.

Dr. F. B. Tiffany, Kansas City, Mo., thinks that it is necessary that the patient undergo thorough preparation before operation. It is his custom usually to dilate the pupil, to instill argyrol, to see that the patient has a movement of the bowels, and a bath the night before operation; if a man, he has him shaved. He said that a position back of the patient is preferable in operating. He makes the incision in the limbus, preferably in the cornea rather than in the sclera. He uses a simple dressing of sterile gauze and does not put a bandage around the head, but fastens the gauze with adhesive strips, without any metallic protector. He rarely does preliminary iridectomy.

Dr. Herman Knapp, New York, said that if it is not possible for the present generation to be ambidextrous, this accomplishment can at least be taught to the younger people. It is only necessary that when they begin they should not omit to use the left hand, and they can acquire the same dexterity with it, perhaps a little more, than with the right one. Dr. Knapp uses his left hand with rather more security, for instance, in an iridectomy. He does the simple extraction and also the combined. He does the simple extraction only when the eyes and the patient are healthy, so that he can expect to get healing without any disturbance. It is more difficult to get the lens out if the pupil is not dilated artificially.

Dr. John E. Weeks, New York, said that it is his custom to have the conjunctival sac examined before undertaking the operation, and if the pneumococcus or other pathogenic germ is present he postpones the operation. He holds that the wound closes more quickly with the conjunctival flap. He uses adrenalin after the cocain is instilled, perhaps twice, and then he gets a flap that does not bleed to any extent, and the site of the operation is not obscured. The short flap advocated by Dr. Wood has just the disadvantages he speaks of, and they are sufficient to exclude it with Dr. Weeks. He said that preliminary iridectomy is advisable in some cases, but his results with it have not been any more satisfactory than in the cases in which he does iridectomy at the time of extraction.

Dr. L. Webster Fox, Philadelphia, said that every operator has his own experience and his own way of working; we meet with many accidents and we try to prevent these when we can. In the treatment of these cases of hemorrhage that occur in some forms of senile degeneration of the small arteries Dr. Fox has given gallic acid in these cases (5 grains three times a day). It is an old English remedy and he finds it a good one. He said that he has now in process of evolving a method of transferring the pressure from the cornea to the lens itself; an instrument to tilt the lens forward, hook into it and then scoop it out. There are cases in which the eyeball almost collapses and yet the patient does well; others do not; sometimes the loss of a small amount of vitreous does great harm. He is not yet sure that we can adopt the open method.

Dr. W. H. Wilder, Chicago, mentioned particularly the closure of the eyes after operation. To be on the safe side he thinks that we must put on some kind of dressing to keep the eyes closed until the wound is healed. He feels very much safer if he can put on a dressing that he knows will prevent the patient getting his fingers up to the eye and causing infection. By putting it on as a moist dressing it is so easy for the patient that he will not make any undue pressure on the eye. Dr. Wilder prefers it to the ordinary strip because it does not make quite enough pressure on the lids to keep them closed. He can not see the rationale of the open method. It seems to him to a certain extent to be tempting Providence, and a number of patients will certainly neglect the warning given them; at the same time the open method offers additional chance for infection. When the wound has healed he takes the bandage off and treats the eye as an open case. Too much emphasis can not be placed on the necessity for the preliminary treatment of the patient and afterward to make sure that there is no autointoxication through the intestines. That is one source of delay in healing in many cases.

Dr. J. W. Scales, Pine Bluff, Ark., recalled the fact that he stated in his paper that there are six reasons for not employing the bandage, but did not give the last one. It is this: The patient can be assured that he will go through the period of convalescence on flowery beds of ease compared with those who have the bandage applied. Another point he emphasized is that every first idea that has ultimately benefited the profession has had to overcome prejudice. He urged physicians to lay aside their prejudices; the ideas they have been taught from infancy, so to speak, and to forget the fact that preceptors and text-books all teach the use of the bandage. If one reason can be given why the bandage should be employed, two reasons can be found why it should not. There are many cases in which Dr. Scales employs the bandage and in which he thinks it necessary; but in every case in which the lips of the wound are in contact the physician can rest assured that the patient will go through convalescence without having the eye red enough for a casual observer to tell that it has been operated on.

ANATOMY OF THE MIDDLE TURBINATE.

(Continued from page 2105.)

DISCUSSION

ON THE PAPER OF DR. LOEB.

Dr. Robert Levy, Denver, said that the thing that impresses him in Dr. Loeb's work is its importance from a clinical point of view. In view of the facts that there are so many anomalous conditions in the nasal structure and that we see so few cases of middle turbinate affection in which the relations of the surrounding parts are always the same, work of this kind must result in a better understanding of the pathologic conditions. The section of a few heads, no matter how much may be done with the individual head, is but the beginning of results that will be of value. Not two or three heads, but possibly fifty or a hundred may be necessary to get satisfactory results, and any one who has the nerve to undertake the proposition is to be congratulated.

Dr. H. P. Mosher, Boston, called attention to the fact that the common statement that there are no ethmoidal cells at birth is not true, as this section of a baby's head at birth shows. It is customary to find one cell at the summit of the third meatus and one at the summit of the fourth meatus, when the fourth meatus is present. Since there are posterior ethmoidal cells present at birth, but no anterior cells, it explains why in the adult the posterior cells are so much larger than the anterior cells. The frontal sinus is not present at birth, but the fossa or pouch from which the sinus and the other frontal cells are to spring is present and rises a little above the cribriform plate. The sinuses, therefore, get their start earlier than one is accustomed to think they do. At birth the antrum and some of the posterior ethmoidal cells are present and the frontal sinus is just ready to start. Dr. Mosher believes that the sphenoid may start earlier than the time usually named, because at autopsy he recently found in a boy of 10 a frontal sinus a quarter of an inch in height, and a sphenoid as large as in the adult: that is, it measured from before backward nearly an inch. Lothrop did a distinct service when he pointed out that in about 10 per cent. of heads there was an ethmoid cell in the body of the middle turbinate. In Dr. Mosher's experience these middle turbinate cells open equally often into the middle meatus and into the third meatus. The facts that cells are so commonly developed in the middle turbinate and are often large should cause the old description of such turbinate as a cystic turbinate to be done away with, or, if it is retained, it should be clearly understood that the condition is so frequent that it should not be considered pathologic. The anatomy of the middle turbinate is so bound up with the anatomy of the middle meatus that they should always be considered together. In applied anatomy the middle turbinate would be of little importance were it not for the fact that it forms the inner wall of the middle meatus and so guards the most important drainage area of the nose. When enlarged the middle turbinate acts as a stopper for the anatomic flasks or sinuses which open under it. It is hard to make beginners see the full significance of this fact. Students seem to have the idea inborn that the olfactory fissure to the inside of the middle turbinate, between the turbinate and the septum, is the situation of the most important anatomic structures. In trying to correct this idea he was accustomed to say "surgically nothing of importance happens to the inside of the middle turbinate, everything happens on the outside." In clinical teaching he thinks it continually necessary to emphasize the fact that the middle turbinate is but an appendage of the ethmoidal labyrinth, therefore the removal of the middle turbinate does not open up the labyrinth; in order to acomplish this, much more has to be done. He thinks it is not, as a rule, realized how low the body of the middle turbinate lies. The low position of the body of the middle turbinate is forced on us in a striking manner when we operate on the ethmoidal labyrinth by the interior route; the route through the ascending process of the superior maxilla, the lachrymal bone and the anterior half of the os planum. The body of the middle turbinate lies below the line of the roof of the antrum. Therefore, in this operative procedure one works above the greater part of the middle turbinate, so that it is easy, unless specially guarded against, to leave most of the middle turbinate in place. Dr. Loeb had spoken, he said, of the parallelism between the line of the middle turbinate and the axes of the sinuses. It would not be surprising if this is a common occurrence, since the basal lamellæ of the ethmoidal labyrinth are parallel and arranged most symmetrically, and the sinuses are themselves ethmoidal cells. In a rather superficial examination of some thirty half-heads he found this parallelism common, but not constant.

Dr. John O. Roe, Rochester, N. Y., said that the ethmoid cells are only a continuation of the cells extending from the sinus to the sphenoid, the ethmoids being much more numerous than any of the other cells, of course, and for that reason it is called the ethmoid labyrinth. The middle turbinate, as Dr. Loeb stated, contains, in a normal condition, in a large number of cases, independent cells, and usually the opening into these cells is above; the floor of the cell is usually up behind the groove of the ethmoid. Consequently in empyema of these cells the drainage is bad. He found many cases of these large middle turbinates. It is the easiest thing in the world to detect these cells; by simply taking a knife and puncturing the most prominent parts of this bulbous ethmoid in the majority of cases the knife will go through into a cavity of considerable dimensions. There being a large cell, and the thing to do is to open it up along the base of the cell, thus giving it free drainage. He thought that in all cases where this bulbous condition of the ethmoid exists these cells should be sought.

Dr. Hanau W. Loeb, St. Louis, said that in regard to the development of the ethmoid cells in the middle turbinate Dr. Mosher can speak with authority, and he doubtless agrees with Lothrop, who showed that these cells, in nearly half the cases, had the openings in the meatus, and that is likely the reason why so much trouble results. In all these cases the opening was in the upper portion and drainage was not easy. Dr. Loeb said that he was glad to hear confirmed the observation made of the parallelism between the middle turbinate and the occlusion of the cells. This work of reconstruction is undertaken in order to arrive at an accurate observation and measurement of these different cells, to show their exact relation to the turbinate and adjacent structures. Nothing, he thought, can be said in an authoritative way until a large number of heads have been measured, but he had taken occasion to speak of this as a matter of practical importance, hoping to stimulate other members of the Section in the work.

PATHOLOGY OF THE MIDDLE TURBINATE.

(Continued from page 2107.)

DISCUSSION

ON THE PAPER OF DR. GOODALE.

Dr. Emil Mayer, New York City, said that Dr. Goodale's view of polypoid inflammation differs from the views held by many pathologists, that a polyp is a secondary edematous infiltrate caused by necrosis of the bone. The practical deductions from this are of great importance, for if the latter view be correct bone disease must be looked for, especially in the accessory sinuses, in every case of polypus. The distinguishing difference between bone cyst and enlarged turbinal ethmoid cells is not, he thought, brought out so clearly as the condition warrants.

Dr. Otto T. Freer, Chicago, said that Dr. Goodale's paper brings to notice the tendency to dropsical swelling characteristic of hyperplectic and hyperemic conditions of the middle turbinate body. This ready occurrence of edema is an evidence of a naturally difficult return venous circulation from this turbinate, which explains the watery nature of chronic inflammatory hyperplasias of its coverings, as shown in the production of polypi and polypoid hypertrophics. Glassy, watery swellings of the mucous membrane of the middle turbinal, resembling an acute production of small mucous polypi, may, in his experience, also occur during acute intranasal inflammations and disappear with them. Dr. Casselberry's term of ethmorhinitis atrophicans seems to him a most appropriate one. In speaking of the methods of opening the maxillary antrum, Dr. Casselberry mentions entering the antrum by way of the inferior meatus as a substitute for what he terms the wide opening through the canine fossa, thus insuring perfect ventilation of the antrum. This condition, in his experience, does more than anything else to bring about recovery from empyema.

Dr. Freer has not found that a resection of the middle turbinate must necessarily accompany the broad opening of the antrum through the nasal wall. Instead of this it has been his, perhaps exceptional, experience commonly to encounter suppuration of the antrum unaccompanied by ethmoidal disease, and it seems to him that resection of the middle turbinal should only be done in those cases of maxillary sinuitis where there is distinct evidence of suppurative ethmoiditis. He believes, with Dr. Richards, that scissors are unsuitable in most cases for the resection of the middle turbinal because of the space they require for the opening of their blades. Where the nasal fossa is normally wide he has no difficulty in rapidly cutting away the bone with the Hartmann-Gruenwald punch as far as is necessary. Where the rarifying osteitis mentioned by Dr. Goodale exists, it is especially easy to extirpate the softened, broad polypoid turbinated body to its limits. There is a class of cases, however, in which the middle turbinal is hidden completely, or all but its anterior border, by a deflection of the septum which wedges it into the most narrow quarters. In these cases unless room is made by a submucous resection, he has found in Moure's spokeshave a help out of the dilemma.

Dr. Packard, he said, refers to a case of gangrenous inflammation following the use of iron perchlorid in the nose, with resulting death from meningitis. The bad practice of attempting to stop epistaxis with solutions of iron chlorid or sulphate is common, and Dr. Freer has seen necrosis of the entire epithelial lining of the nasal interior produced by employing these agents for nose bleed.

In respect to the avoidance of septic inflammation after operations within the nose, it is his experience that the keen-cutting procedures are well borne, while manipulations that fracture, bruise, tear or stretch unduly the intranasal structures are the ones that lead to violent inflammation and the consequent danger of septic complications. The gouty or lithemic diathesis, Dr. Freer said, has been referred to as a definite and proven cause of hyperesthetic rhinitis or vasomotor coryza, the term lithemic rhinitis even being used. In his experience hyperesthetic coryza has not been associated with the acknowledged phenomena of gout and the typical joint inflammations, and he does not think the combination common, as it certainly would be if the uric acid diathesis were an active factor in producing so frequent a disease. The only way to prove the existence of a lithemic rhinitis, he thought, would be by means of blood tests showing the accumulation of uric acid in the blood just preceding and at the beginning of an attack of rhinitis, which is typical of the well-known attacks of gouty joint disease. The presence or absence of uric acid in the urine proves nothing. For those who wish to read a review of the subject he referred to Dr. Lewellys Barker's "Truth and Poetry About Uric Acid," which appeared in editorial form in The Journal in 1905, and is issued by the American Medical Association as a bound book.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Intestinal Antiseptics.

Since it has been shown by investigation that intestinal putrefaction occurs under ordinary conditions of health to only a very small degree, but is present in certain diseases to a very marked extent, it is rational to conclude that it may be responsible for some of the toxic symptoms exhibited in these diseases and that it is a proper object of therapeutics to attempt to control it. It is not necessary to enumerate the conditions which have been attributed with greater or less reason to the formation of poisonous or noxious substances in the intestine, but it may be shown how conditions in the intestines can be changed to obviate the continuance of putrefaction. Putrefaction may be due to the action of germs normally inhabiting the intestine, or to foreign germs, some of which may possess specific pathogenic properties. Putrefaction always results from the decomposition of albuminous food material or the abnormal products of disease (mucus, pus or blood), which have found their way into the intestinal canal. Under exceptional circumstances, such as acute or chronic failure of the digestive process in the stomach, retention of food in the stomach, or the introduction of a great mass of imperfectly masticated food already in the process of putrefaction, this process may begin or be continued in the stomach, but usually it does not begin until the lower part of the ileum is reached.

Under normal conditions, Nature does not secure complete absence of germs from the intestinal canal, but maintains a sort of frontier guard of intestinal bacilli which hinder the growth of foreign germs accidentally introduced and themselves subsist on the carbohydrates, forming comparatively harmless acid products which are further of use in preventing the action of putrefactive germs. It is not necessary, therefore, to seek for drugs which will suppress all bacterial action in the intestine, but simply to find some agent which will assist in restoring the normal balance of microbic activity in the intestinal canal.

The first remedial measure for intestinal putrefaction is one which is often resorted to by the *vis medicatrix naturæ* and consists in the removal of the putrefying mass with most of the offending germs by diarrhea or active catharsis. In imitating Nature in this matter the best cathartic to choose is calomel, which is partly converted into corrosive sublimate, which also exerts an inhibiting influence on the growth of the organisms remaining in the intestine after most of its contents have been evacuated. The time-honored custom of following the calomel by a saline has a justification in the further washing of the intestine. It was formerly supposed that the water to dilute saline laxatives, when administered by the mouth, was derived from the blood through the intestinal wall, but recent investigations on the stomach according to the method of Pawlow show that when solutions of salts are introduced into the stomach they must be diluted to about the molecular concentration of the blood before they can enter the duodenum. If this is true it would appear to be best to administer the water with the saline when a rapid operation can be expected. Common salt given in this way forms a rapidly acting and effective cathartic.

A small teaspoonful of table salt is dissolved in a glass of cold water and a few drops of lemon juice added. This is swallowed and followed immediately by another glass of cold water. The patient should not remain in bed after the draught, which usually acts thoroughly as a cathartic in a short time.

The cleansing of the intestinal canal should be followed by limitation and regulation of the diet. To prevent putrefaction the food should be sterile that it may not introduce any foreign germs; liquid or very finely divided in order that it may not afford opportunity for the growth and proliferation of germs before it can be dissolved and prepared for absorption by the digestive fluids; and it should contain no proteids or very little proteid constituents so that there may be as little food for the putrefactive organisms as possible. In acute cases lemonade and sterilized buttermilk will come as near fulfilling these conditions as any diet that can be given. If conditions are less urgent a milk diet has been found to be of great service in suppressing intestinal putrefaction. Next to this come bread and milk, bread and butter, and puddings or other preparations containing starch in such form that it may serve to guard the proteids from decomposition.

The general principle of dietetics for intestinal putrefaction should always be kept in mind, viz.: The proteids should be small in quantity, easily digestible and absorbable, and should be associated with sufficient carbohydrates to bear the brunt of the microbic attack and to protect the proteids from putrefactive decomposition.

It is folly to give medicinal antiseptics before the putrefying mass has been removed and the intestinal contents reduced to their smallest volume compatible with health. When this has been done the intestinal antiseptics find their proper place and it is an important question what remedies best fulfill the conditions of effectiveness, safety and convenience of administration. We may give these remedies with two objects: (a) To restrain or to prevent the putrefaction of the food during its stay in the intestine; (b) to exert an antiseptic action on the wall of the intestine itself. For the first object we have only to mix with the food an antiseptic in sufficient proportion to inhibit putrefactive action which often occurs with minute quantities of the medicinal agent. Salicylic acid will check fermentation in the proportion of 1 part in 2,000, and formalin and mercuric chlorid in much smaller proportion. These amounts, while apparently minute, become considerable when we remember the amount of chemical material necessary to protect the entire food from fermentation. Thus at 1 in 2,000, 0.5 gm. (7½ grains) would be required for a liter (quart) of milk. This requires doses which may be of little consequence when taken for a few doses only, but which must be taken into account as to their constitutional effect if they are to be taken for a considerable length of time. It is evident that while using intestinal antiseptics with the food the attempt should be made to keep the fermentable or putrefiable portion of the food as small in bulk as possible. It will be of little service to attempt to increase the specific gravity of liquid food above that of the blood, because the stomach will dilute it until it reaches that figure before it is allowed to pass into the intestine.

Intestinal antiseptics should possess the following properties. 1. They should be non-poisonous in the doses in which they are efficient as antiseptics. 2. They should be capable of mixing more or less thoroughly with the intestinal contents. 3. They should not be readily absorbed. 4. They should be soluble enough to yield their antiseptic constituents, but not so soluble as to be readily separated from the mass of the intestinal contents.

A number of agents have shown themselves effective in these respects and have been recommended for this purpose. Clinical experience has shown that they are useful in certain diseased conditions, but it must be admitted that our knowledge does not afford the data for a precise comparison and determination of their relative value.

Bismuth compounds, while generally insoluble, are not so insoluble that they do not enter the circulation when given by the mouth; the bulk of an ordinary or large dose is excreted with the feces in the form of bismuth sulphid or as a suboxid. They are so heavy as to separate somewhat readily from the food and coat the mucous membrane, but of late they have been given mixed with food for experimental and diagnostic purposes, and the results of these experiments indicate that we may expect the mixture of these compounds with food to continue throughout the greater part of the intestinal canal. These salts have been shown to possess antiseptic properties and clinicians seem to agree that the salicylate presents no manifest advantages over the other salts of the metal. The great advantage of the bismuth compounds is that they may be given in large doses without harm, and in case of diarrhea are serviceable by their astringent properties as well as by producing antisepsis.

Bismuth compounds are best given in powder form and after meals, so that the powder may mix with the food. If we wish especially to affect the mucous membrane the medicine may be given before the meal. The purity of the bismuth should be assured, as impure samples are likely to contain sufficient arsenic to act as a poison if given in large doses.

Yeo, "Manual of Medical Treatment," 229, recommends the ollowing as suitable for children:

℞.	Bismuthi subnitratis	ʒss	2	
	Cretæ preparatæ	gr. xviii	1	2
	Sodii bicarbonatis	gr. xii		8
	Pulveris tragacanthæ comp.	gr. xx	1	3

Misce et divide in pulveres sex. Sig.: A powder in a desertspoonful of thin arrowroot every three or four hours. Half his dose may be given to infants and very young children, nd twice the dose of older ones.

Thompson recommends:

℞.	Bismuthi subgallatis	gr. xx	1	3
	Misturæ cretæ	℥ss	15	

M. Give a similar dose once in two hours.

Phenyl salicylate (salol) is second in popularity as an intestinal antiseptic to the bismuth salts. It is decomposed somewhat slowly in the intestines, and its constituents may be absorbed in such quantity as to produce symptoms of poisoning. The injurious action of both its constituents, salicylic acid and phenol (carbolic acid) on the kidneys should always be borne in mind in its administration. One objection holds against salol, viz., that a considerable part of the dose must be absorbed from the upper part of the intestine so that it can not be expected to act as efficiently in the lower intestine as in the upper. Nevertheless, for the treatment of acute diarrhea, in which putrefaction of the intestinal contents may come most prominently into play salol is recognized as one of the most useful remedies. The action of salol as an antiseptic is to be credited to the phenol liberated, as the salicylic acid is transformed into sodium salicylate, which has little antiseptic power. From experimental evidence it seems to be an established fact that phenol is antiseptic in the proportion of 1 part in 1,000 (Park), so that a dose of from 1 to 2 gm. of salol (15 to 30 grains) would be needed for the antisepsis of a liter of food. The value of salol would appear, therefore, to be greatest in the period when little food is taken and we wish to affect the comparatively small amount of intestinal contents remaining after catharsis has removed the bulk of the offending material.

Salol may be combined with bismuth:

℞.	Bismuthi subnitratis	ʒii	8
	Phenylis salicylatis	ʒi	4

Misce et divide in pulveres No. xii. Sig.: Give one powder once in three hours.

Yeo recommends:

℞.	Phenylis salicylatis		
	Bismuthi subsalicylatis		
	Sodii bicarbonatis, āā	ʒiiss	10

Misce et divide in pulveres No. xxx. Sig.: One powder to be taken before food twice or three times a day.

Beta-naphthol is a substance that appears to fulfill the conditions required of an intestinal antiseptic to an exceptionally high degree. Experimental results regarding its antiseptic power are somewhat at variance, Bouchard and Maximovitch having found that about 1 part to 5,000 (3 grains to a quart) will arrest putrefaction, while the experiments of Surveyor and Harley indicate that naphthol is less active as a germicide than is bismuth subnitrate. It is very slightly poisonous so that large doses can be given; it is soluble enough to act as an antiseptic and insoluble enough to act throughout the entire intestinal tract. Excellent clinical reports regarding its usefulness have been given, but it appears to have fallen in the estimation of the profession.

Beta-naphthol may be given in combination with bismuth compounds and it is not clearly evident why this mixture should not be as efficient as the proprietary synthetic which consists of a combination of beta-naphthol and bismuth that is broken up into its constituents in the intestine.

℞.	Beta-naphthol		
	Bismuthi subnitratis, āā	ʒii	8

Misce et fac pulveres No. xxx. Sig.: Take one powder once in three hours.

The following is credited by Yeo to Prof. W. W. Johnston:

℞.	Benzo-naphthol	gr. ii	13
	Bismuthi subsalicylatis	gr. v	32
	Resorcinol	gr. ii	13

M. et ft. pulv. Sig.: One such powder every three hours.

The phenolsulphonates (sulphocarbolates) have been highly extolled as intestinal antiseptics, but little definite information is available. They are generally rated as inefficient or of doubtful efficacy and seem to take an inferior position in the estimation of clinicians. It is claimed that in combining with the sulphuric acid the phenol has lost much of its toxicity, but has parted with its antiseptic power as well.

It is stated by most pharmacologists that zinc phenolsulphonate, as well as the sodium salt, is best given in solution. We may prescribe:

℞. Zinci phenolsulphonatis ....ʒss 2
Aquæ menthæ piperitæ................℥ii 60
M. Sig.: Take a teaspoonful once in three hours.
℞. Sodii phenolsulphonatis ....ʒi 4
Elixir aromatici ....℥ii 60
M. Sig.: Take a teaspoonful once in three hours.

Guaiacol, which is the chief constituent of creosote, shares the antiseptic properties of the latter substance. Its exact place as an intestinal antiseptic is hard to define since it has been almost exclusively used in phthisis, a condition in which intestinal antisepsis plays a secondary rôle in the indications for treatment. It is probably inferior to salol and one objection to it is the rapidity with which it is absorbed from the intestinal canal.

Sulphur has some popular reputation as an antiseptic, but precise data as to its action are wanting. Given as an intestinal antiseptic, its action would probably be subsidiary and adapted to chronic rather than to acute cases. It is converted slowly into alkaline sulphids which may exert an antiseptic action.

The second object of intestinal antisepsis, viz., the disinfection or antisepsis of the intestinal wall itself, is unfortunately impractical with our present resources. The bacteria hidden in the wall of the intestine, surrounded by mucus or actually imbedded in the pathologically altered mucous membrane, can not be reached by an antiseptic from the lumen of the intestine, and if we try to affect them through the blood the dilution of the antiseptic agent is such that it can no longer act in that way. We can not hope to affect the essential lesions of colitis, typhoid fever, dysentery, tuberculosis, etc., by intestinal antiseptics, but these agents may be of service in reducing the production of toxins by putrefaction, which is greatly favored by the conditions present in these diseases.

Medicolegal

About Opinions of Non-Experts as to Sanity.

The Supreme Court of Wisconsin says, in Duthey vs. State, that hardly any question of mere practice is so clouded by an indigestible mass of rulings, dicta, and decisions as that of the admissibility of opinions of non-experts as to sanity. A little consideration of the reasons why anything more than evidence of the actual physical facts observed by the witness should be allowed to be stated would greatly aid courts and counsel in this field. First, it is obvious that one not an expert can no more aid the jury by an expert opinion as to sanity than any other fact or condition. If all the physical facts can be stated, the jury are as competent to form an opinion as the witness, and their province ought not to be invaded. But all experience teaches the frequent, if not general, impossibility of stating all things which the eye and ear note in an interview with another, the wildness of the eye, the incoherence of the ideas in speech, hurried or erratic manner, and the like. Ordinarily it is impossible for the narrator either to remember the specific acts, words, and gestures or adequately to describe them so as to convey to his hearer their significance to the real information desired, namely, the mental state, without stating that they were excited, incoherent, unreasonable, unusual, or the like, all of which is but statement of conclusion or opinion. Hence the rule has grown that the ordinary observer may so state his impression of his interview.

Courts have seemingly been unable to express verbal distinctions between the mere statement by a witness as to the impression on his mind of certain acts narrated as fully as he can and a declaration of opinion generally that the person was sane or insane, and a direct inquiry as to such opinion is now sanctioned by the weight of authority, with which the expressions in the decisions of this court agree. The subject received lucid treatment at the pen of Harlan, J., in Conn. Ins. Co. vs. Lathrop, 111 U. S. 612, which case presents ideal illustration of the best manner of propounding the proper question to the witness. After a conversation had been narrated, the manner described as agitated, face flushed, and expressionless the question was propounded, substantially, "What impression was made on your mind by the conduct, actions, manner, expressions, and conversation which you observed?" This was fully approved.

In this case the state called the jailor who received the defendant into custody, and first proved by him that he had a large experience as jailor in dealing with insane people, such as were committed to his custody; also that he had a certain limited conversation with the defendant after his arrest a few hours after the shooting, and he was then asked: "From your knowledge gained from such observation and care of those people and from Duthey's actions, conversations, and manner and appearance as you saw him at the jail Saturday night, September 23d, and as you testified here, would you say he was sane or insane? Answer: Sane." The question here was inaccurate and improper, in that it directed the witness to base his opinion as to the defendant's general sanity, in part at least, on what he had observed in others committed to him for incarceration and custody as too dangerously insane to be at large. It also obviously presented an insidious attempt to dignify the jury the witness' opinion as that of an expert, instead of a mere lay observer, by reason of his frequent contact with insane persons.

Injury to Person with Stricture of Urethra.

The Supreme Court of New Mexico says, in City of Roswell vs. Davenport, a personal injury case brought by the latter party, that it appeared that he was afflicted with a stricture of the urethra; that, while walking along a sidewalk, a loose board flew up and struck him on the left side of the penis and left groin; that in an hour and fifteen minutes after the accident he experienced a retention of the urine which was not relieved for 34 hours, owing to objections of his family and friends; that as a result of his injuries he was ill for six months. It was contended that his injury was not the proximate result of the city's negligence, but was the result of an independent, intervening cause, or causes, viz., the stricture of which he was suffering and the retention of the urine. But no question was raised by the city as to the delay in relieving the retention of the urine, and perhaps none could be; there being no findings as to his having delayed the operation by the surgeons. It was clear, therefore, that the city's contention as above was untenable; and a judgment for $2,000 damages is affirmed. It has almost universally been held that an injury suffered by the negligent act of another is the proximate cause of the effect produced, notwithstanding the person injured may have been suffering at the time from disease which aggravated the consequences of such injury.

Representative May Waive Privilege in Nebraska.

The Supreme Court of Nebraska holds, in re Parker's Estate, that the provisions of the Code of that state against the disclosure of confidential communications may be waived by the party in whose favor they were enacted, and the privilege of waiver extends to the personal representative of a deceased person.

Leaving Child with Wet Nurse of Bad Character.

The Supreme Court of South Carolina says that in the case of Brown vs. Robertson a Salvation Army officer sought by habeas corpus proceedings to take a child about one year of age from a negro woman of alleged bad reputation and character with whom it had been placed by its parents and a physician to be wet nursed. This court, however, does not think any abuse of discretion was shown in the refusal of the trial court to interfere in the case. It says that it naturally excited sympathy and regret that the child was left in such surroundings, especially when the mind adverted to the circumstances which might hurtfully influence its future welfare if left with such custodian for any great length of time. But it must be remembered that the child was where the parents and the physician in charge had placed him, not abandoned, but to be wet nursed, and that there was nothing to show that the child had suffered from any neglect in this regard. The moral and social considerations so strenuously urged would no doubt become more and more weighty and serious as the child became more susceptible to their influence, and if the time had not already arrived, it would soon arrive, when the court might be called on to remove the child into better surroundings, if those in charge of his welfare neglected their duty in this regard.

Emergency Services for Non-Resident Poor Person.

The Supreme Court of Wyoming says, on the appeal of Board of Commissioners of Sheridan County vs. Denebrink, that this was an action brought by the latter party, a physician, to recover $75 for medical and surgical services rendered to a non-resident person who had fallen sick in that county from an accident, namely, having his left arm run over by a railway train, and who was without any money or means to pay therefor. Section 1,260 of the Revised Statutes of Wyoming of 1899 provides that when any non-resident of that state, or any other person not coming within the definition of a pauper, shall fall sick in any county in the state, not having money or property to pay his board, nursing or medical attendance, the county commissioners, on notice thereof, shall provide such assistance as they may deem necessary, by contract or otherwise, etc.

It was urged here that no notice had been given to the board of county commissioners, and that the services were not performed by the request of the board, or of any one having authority to bind the county. But, the board not being in session at the time of the accident, it was reasonable to presume that notice could not have been given to the board of the condition the man was in until long after the possibility of saving his life had passed. The case was one of emergency, so alleged and conceded, requiring prompt action, and the plaintiff took charge of the patient for the purpose of amputating, and he and his assistant did amputate, the arm, and all of which was necessary to save the life of the injured man, and all of which was done with the knowledge and consent of the sheriff, one of the duly-appointed agents of the county to oversee and provide for the poor and indigent of said county.

It was urged, however, that the agent was such for a restricted purpose, and that his authority extended only to the poor and indigent residing within the county, and that he had no authority to act or bind the county in cases coming under section 1260. Such, undoubtedly, is a correct interpretation of the statute; but the liability of the county arises in such cases by reason of the failure of the county to furnish a physician when the exigencies of the case requires immediate surgical and medical treatment. The amputation was done in order to save the life of the injured man. The services were urgent, imperative and admitted of no delay. The board was not in session, and there was no opportunity to notify it, or for it to take action, until it reconvened. The provision in such cases, that "the county commissioners on notice shall provide such assistance as they may deem necessary," is purely one of regulation in view of the attending circumstances in each particular case, and does not make one a volunteer merely who out of a spirit of humanity in an emergency case furnishes succor until the proper authorities can act in the premises. The liability and duty to care for the non-resident sick is statutory, and exists by reason of their condition.

The legislature evidently intended this class of cases should be attended to, yet it has failed to point out the method of giving prompt assistance in an emergency case. In such case he object, purpose, and policy of the law is clear, and, although the statute is silent as to the method of giving speedy nd needed relief, its object and purpose ought not for that eason to be defeated.

This case fell within the exception that the request of the board was necessary for contract liability. To hold that uch request was necessary to maintain the action would, nder the circumstances as shown in the petition, be inhuman nd shocking to all sense of decency, and render the statute ess effective than it was evidently intended. Therefore he court holds that a demurrer interposed to the petition was roperly overruled.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

June 8.

1 *The American Medical Association, Its Aims and Interests. J. D. Bryant, New York.
2 *The Eustachian Tube, Its Anatomy and Movements. W. S. Bryant, New York.
3 Leprosy in the Philippines and the Present Method of Combating the Disease. V. G. Heiser, Manila, P. I.
4 *A New Blood Test. M. Einhorn, New York.
5 Effects of Spirit and Drug Taking on the Upper Air Passages. T. D. Crothers, Hartford, Conn.

1.—This article appeared in full in The Journal, June 8, 1907, page 1909.

2. **Eustachian Tube.**—Bryant gives a minute description of the anatomy of the Eustachian tube, and concludes that the physiologic function of ventilating the tympanic cavity is accomplished mainly by the dilator or levator palati muscle. The mechanism which allows of the opening of the tuba auditiva is the backward pressure of this muscle on the angular process of the alar cartilage, which swings backward, upward and inward on its superior attachment, dragging with it the floor of the tube and forming a triangular ostium.

4. **New Blood Test.**—Einhorn's test consists of testing with paper sensitized by the use of benzidin. The paper is immersed in the solution to be examined and a few drops of peroxid of hydrogen are added, a blue color is formed, if blood is present. The blue or green color appears in a few seconds, and we should not wait more than a minute for the reaction to appear, as after that the color may appear from the presence of other substances than blood. Hydrochloric acid may cause the reaction after two or three minutes. The benzidin test may be recommended as a preliminary test; a strong reaction or no reaction at all gives a reliable test.

New York Medical Journal.

June 8.

6 Deformities of Penis Due to Syphilis, Gonorrhea and Other Causes. R. W. Taylor, New York.
7 *Weak Foot and Its Treatment. C. R. Keppler, New York.
8 *Open-Air Treatment of Tuberculous Bone and Joint Disease. J. Carling, New York.
9 *Rare Forms of Hernia. G. T. Vaughan, Washington, D. C.
10 The Illegitimately Pregnant Woman from a Socio-economic Standpoint. L. T. Royster, Norfolk, Va.
11 Amyotrophic Lateral Sclerosis with Bulbar Onset. A. Gordon, Philadelphia.
12 *Case of Eyestrain Mistaken for Appendicitis and Cholelithiasis. E. M. Alger, New York.

7. **Weak Foot.**—In the treatment of weak foot, Keppler devised as a prophylactic measure the wearing of correct shoes, and as a corrective employment of active exercises, manipulation of the foot, manual and instrumental, and as adjuvants, massage, electricity and vibration, hot foot baths, and such medication as is indicated. He says that the making of a correct brace at the correct time can not be too strongly emphasized.

8. **Open-Air Treatment of Tuberculous Bone and Joint Disease.**—Carling's paper advocates very warmly the open-air treatment of tuberculous bone and joint disease, and emphasizes the fact that it is the duty of municipal authorities to establish and to maintain open-air sanatoria for the treatment of tuberculous children of the tenements.

9. **Rare Forms of Hernia.**—Vaughan reports a case of superficial inguinal hernia of the right side. The displaced testis had come through the external ring and then had passed upward between the external oblique muscle and the superficial fascia. This was a congenital hernia. In another case, occurring in an old man, the bladder formed the herniated mass. A third case reported was one of properitoneal direct inguinal hernia, which came near to becoming an obturator hernia, but instead of passing through the obturator foramen, it passed on upward, to appear at the external ring above the pubes.

12. **Eyestrain Mistaken for Appendicitis.**—In the case reported by Alger, the chief symptom was chronic, severe abdominal pain, of several months' duration, which was com-

pletely relieved by glasses. Three years later the patient lost his glasses, and the pain immediately returned. It was again relieved by the wearing of glasses. Two surgeons had diagnosed the pain as that of appendicitis and cholelithiasis, respectively.

Boston Medical and Surgical Journal.

June 6.

13 *The American Medical Association, Its Aims and Interests. J. D. Bryant, New York.
14 *Coincident Extrauterine and Intrauterine Pregnancy. E. B. Young, Boston.
15 *Bier Suction Treatment of Tubercular Sinuses. J. W. Sever, Boston.
16 Physician's Responsibility in the Training of Infants. A. C. Eastman, Southborough, Mass.
17 *Treatment of Rigid Flatfoot. Excision of Scaphoid. A. T. Legg, Boston.
18 Treatment of Chronic Antrum Disease. R. H. Johnston, Baltimore.

13.—This article appeared in The Journal, June 8, 1907, page 1909.

14. **Coincident Extrauterine and Intrauterine Pregnancy.**—Young reports a case occurring in a young woman, in which one fetus was removed from the uterine cavity and another from the right Fallopian tube.

15. **Bier Treatment of Tubercular Sinuses.**—Sever advocates the routine employment of Bier's suction treatment, combined with compression, in every sinus case, whenever it is applicable. He reports 16 cases; 8 patients were either wholly healed or markedly improved; in 5 the conditions were not apparently improved locally, but there was a distinct gain in weight, and 3 patients lost ground to such an extent that the treatment had to be omitted. The cases treated were cases of Pott's disease, tubercular knee and hip, and osteomyelitis affecting various bones.

17. **Treatment of Rigid Flatfoot.**—Legg advocates excision of the scaphoid, in the treatment of rigid flatfoot, according to the method of Davy and Bird. The operation is a simple one, consisting of a curved incision over the scaphoid, the convexity being directed downward. After turning back the skin and soft parts, the scaphoid is grasped with lion forceps and enucleated by freeing its articulations with the tarsal bones. After the removal of the scaphoid, the foot is corrected and put up in plaster in the corrected position. In the majority of cases operated on by Legg, he has sutured the remaining joint capsule of the head of the astragalus to that of the internal cuneiform in order better to hold the corrected position. The tendons of the peronei, and in some cases the tendons of the tibialis anticus, extensor proprious hallucis and extensor longus digitorum should be divided in order fully to correct the valgus. The after treatment in these cases is of great importance. The foot should be kept in plaster for from three to four weeks, being sure the foot is held in the corrected position. The plaster may then be omitted and the patient allowed to wear a shoe, holding the position of the foot by a properly fitting plate. The patient may have to use crutches for a week or so after the omission of the plaster on account of the pain from the recent operation and in order to become accustomed to walking on a foot in a new position. Massage, manipulation and exercises designed to strengthen the foot are of great benefit in the after treatment. The plates may be ommited in from five to six months.

St. Louis Medical Review.

June 1.

19 Hemoptysis. J. B. Huber, New York.
20 Renal Calculi and Incrustation of Kidney Pelvis with Gravel. H. Jacobson, St. Louis.
21 Augustus Charles Bernays. W. Bartlett, St. Louis.

Lancet-Clinic, Cincinnati.

June 8.

22 Inversion of the Uterus. J. A. Johnston, Cincinnati.
23 Rights of the Unborn Child. W. Gillespie, Cincinnati.
24 Treatment of Tuberculosis. N. I. Frald, Cincinnati.

Surgery, Gynecology and Obstetrics, Chicago.

May.

25 *Endothelioma of Ovary. C. W. Barrett, Chicago.
26 *Surgery of Liver. T. S. Cullen, Baltimore.
27 Treatment of Extensive Cystocele and Uterine Prolapse. A. Dührssen, Berlin, Germany.
28 Newer Methods in Diagnosis of Kidney Diseases. G. Kapsammer, Austria.
29 *Lymphatic Glands in Pregnancy. A. W. Meyer, Baltimore.
30 *Symptomatology and Diagnosis of Acute Pancreatitis. A. Egdahl, Iowa City, Iowa.
31 *Dysmenorrhea as Symptom of Abnormal Pelvic Conditions. G. R. Holden, Jacksonville, Fla.
32 *Valvular Disease of Heart Complicating Pregnancy and Labor. F. S. Newell, Boston.
33 Stricture of Urethra in Male Children. V. F. Marshall and E. Quick, Appleton, Wis.
34 Perineal Lacerations. F. Hinchey, St. Louis.
35 Cervical Fistula Following Suppuration in Patent Thyroglossal Duct. M. G. Seelig, St. Louis.
36 Bier's Method of Anesthesia. J. Sandberg, Bergen, Norway.
37 Syphilis as a Cause of Stomach Disease. F. D. Bird, Melbourne, Australia.

25. **Endothelioma of Ovary.**—Barrett reviews all the cases of endothelioma of the ovary recorded in the literature, and reports one case of hemangio-endothelioma perivasculare observed by him. He presents the following conclusions: 1. Less confusion will prevail if the endothelioma is considered a separate class of tumor. 2. Such a classification has justification in the histogenesis, morphology, and arrangement of the cells. 3. The tumor can not be made to conform to sarcoma or carcinoma. 4. Endothelioma should be divided into three varieties, as suggested by Amann, rather than two as suggested by Cullen and Eckardt, or five, as suggested by Hansemann, to correspond with their three origins. 5. Endothelioma of the ovary has a high mortality if operation is delayed. 6. Patients should be educated to seek earlier relief for pelvic conditions. 7. On account of the tendency of the uterus to become involved and the growth to return in the opposite ovary, the advisability of their removal at the time of removing a malignant tumor of the ovary should be seriously considered.

26. **Surgery of the Liver.**—Cullen reports a series of liver cases, in which it was necessary to remove a segment of the liver, or to suture torn areas. He employs a needle that is almost flat and very slender, making a very small hole in the liver substance. It is a modified Kousnietzoff needle.

29. **Lymphatic Glands in Pregnancy.**—Meyer records his observations made on 59 patients, with reference to the palpability of the lymph glands during pregnancy. The axillary and inguinal glands were palpable in 98.3 per cent. of all cases; the submaxillary in 74.6 per cent.; the supratrochlear in 30.5 per cent.; the posterior auricular in 10.1 per cent. In negro women the glands were found larger and oftener became enlarged. No new formation of lymph glands was observed.

30. **Acute Pancreatitis.**—Egdahl discusses the symptomatology and diagnosis of acute pancreatitis, basing his remarks on a review of 107 cases recorded in the literature, and the observation of one personal case.

31. **Dysmenorrhea as a Symptom of Abnormal Pelvic Condition.**—Holden analyzed the histories of 1,000 consecutive cases, with reference to the occurrence of dysmenorrhea, in abnormal pelvic conditions. As the result of his observations, he presents the following conclusions: 1. Dysmenorrhea is present in 47 per cent. of all gynecologic hospital patients. 2. In about 23 per cent. of the entire number, it seems to be definitely caused by certain abnormal conditions of the pelvic organs. 3. In 22 per cent. of the entire number, it is present in conjunction with such conditions, but is apparently not caused by them. 4. The pathologic conditions which are most frequently seen as the causes of dysmenorrhea are: 1, Retrodisplacements of the uterus; 2, pelvic inflammatory disease; 3, myomata. These three conditions account for nearly 90 per cent. of all the dysmenorrhea which is caused by pathologic conditions of the pelvic organs. Retrodisplacement accounts for 41 per cent., pelvic inflammatory disease for 37 per cent., and myomata for 11 per cent. 5. Of nulliparous patients with retrodisplacements causing symptoms, 86 per cent. have dysmenorrhea. The frequency of association leads to the conclusion that the abnormal position causes the dysmenorrhea. In the retrodisplacements occurring after childbirth, it is much less common; 25 per cent. of multiparæ with retrodisplacements have dysmenorrhea, which is apparently caused by the malposition. 6. Of all the patients with pelvic inflammatory disease, 31 per cent. have dysmenorrhea which is apparently caused by the condition. 7. Of all the cases of

myoma, 20 per cent. have dysmenorrhea apparently caused by the tumor.

32. **Valvular Disease Complicating Pregnancy.**—Newell says that any organic heart lesion, even if perfectly compensated, under normal conditions of life, should arouse apprehension and call for constant watchfulness, if pregnancy supervenes. If pregnancy comes as a complication, when the heart lesion is imperfectly compensated, the indication is for immediate relief by emptying the uterus. This should also be done when a previously well-compensated heart fails, and compensation can not be restored by appropriate treatment.

Journal of Experimental Medicine, New York.

May 25.

38 *Experimental Vascular Lesions Produced by Bacillus Mallei. C. W. Duval, Montreal.
39 *Electric Charges Carried by Hemolysins. O. Teague and B. H. Buxton, New York.
40 *Results Obtained by Injection of Placenta into Animals of Same and Different Species. R. T. Frank, New York.
41 *Nature of Antitetanic Action of Eosin. H. Noguchi, New York.
42 *Local Immunity to Tetanus in Inoculated Rats Treated with Eosin. H. Noguchi, New York.
43 *Physiologic and Pharmacologic Studies of Magnesium Salts. S. J. Meltzer and D. R. Lucas, New York.
44 Influence of Salicylic Acid on Uricolysis. L. B. Stookey and M. Morris, Los Angeles, Cal.
45 *Function of Posterior Spinal Ganglia. S. P. Kramer, Cincinnati.
46 *Pathogenesis of Gallstones. S. P. Kramer, Cincinnati.

38. **Experimental Vascular Lesions.**—In studying the histologic lesions of glanders, Duval was impressed with the nature and regular occurrence of vascular changes that occurred following the injection of the *Bacillus mallei* and its poisons. The animals used were full-grown rabbits and guinea-pigs. He claims that the vascular lesions in experimental glanders afford an excellent opportunity of studying the early changes in the intima and media in experimental arteriosclerosis. Not only are regenerative changes produced, but lesions of an exudative and proliferative character. These proliferative and degenerative vascular changes are analogous to the vascular lesions caused by subacute glanders in man. The most common site of the lesions, both in animals and man, is the peripheral vessels, and especially the smaller visceral arteries. The type of the lesión seems to depend on the virulence of the culture, the sex of the animal, and the degree of acquired immunity. In subacute human glanders, and in experimental animal glanders, the vessels primarily react by the endothelium of the intima proliferating. The first degenerative changes in such cases occur in the innermost layer of the media, and not in the so-called middle zone. This is apparently due to the interference with the nourishment of the circular muscle fibers of the media, by proliferation of the endothelium of the intima.

39. **Electric Charges Carried by Hemolysins.**—Field and Teague have found that toxins and antitoxins (diphtheria and tetanus), tetanolysin and antitetanolysin, and typhoid agglutinin travel toward the cathode. The experiments outlined by Teague and Buxton show that hemolytic amboceptors, hemoagglutinin and probably, also, complement travel toward the cathode, so that apparently all the active substances in serum concerned in antireactions are alike in this respect.

40. **Injections of Placenta into Animals of Same and Different Species.**—Frank's investigations were made to determine experimentally whether actual proof could be found that the placenta (chorioepithelium) exerts a specific influence, trophic or otherwise on the maternal organism. Two methods were used: One consisted of the injection of placental tissue in the females of the same species, followed by examination of the generative organs; the other, the injection of placenta tissue into animals of the same or of other species, with the object of producing a specific biologic reaction. As a result of his experiments, Frank concludes that the injection of rabbit placenta into rabbits produces no isoprecipitins; that placental injections into animals of the same species caused no changes in the generative organs; that the injection of human placental nucleoproteid does not produce an antiserum, but acts merely as mild toxic agents. The injection into rabbits of the human placenta made nearly blood free produces a weak "human reaction," which can be demonstrated by the reaction for precipitin, deflexion of complement, agglutinin and hemolysis. No specific placental reaction could be shown. He feels justified in stating that no experimental proof of a specific placental immune reaction can be demonstrated at present.

41, 42. **Action of Eosin.**—Noguchi briefly refers to the previous work by Flexner and himself on the influence of certain photodynamic anilins on experimental tetanus and reports further experiments by himself on the nature of the antitetanic action of eosin. His conclusions follow: Eosin prevents germination of tetanus spores, when its concentration (in glucose bouillon) reaches 0.2 per cent. When the concentration of eosin decreases to 0.01 per cent., germination of the spores is no longer inhibited. When the eosin concentration increases to 0.001 per cent of eosin, vegetation and multiplication of the bacilli become more active and new spores are not formed, even after long intervals of time. In concentrations of 0.003 per cent. eosin prevents perfect segmentation, so that long and convoluted threads are produced. The spores which are formed in a medium containing 0.01 per cent. of eosin are often situated at the center and not at one pole of the bacilli. Eosin in 2 per cent. solution destroys vegetative bacilli in 15 minutes and in 0.1 per cent. solution in 24 hours. Exposure to sunlight greatly hastens the bactericidal effect in the latter dilution. Eosin in high concentrations is not capable of killing tetanus spores, even after long exposure to sunlight (30 hours). The toxin production of tetanus bacilli grown in eosinized culture media diminishes as the concentration of the eosin increases. The toxin-producing power and the virulence of tetanus bacilli are not permanently modified by contact with eosin for a long period or by successive cultivation in eosinized medium. Eosin is likewise capable of restraining the vegetation of tetanus spores in the normal body. In spore threads inserted beneath the skin of rabbits surrounded with eosin in solution, a very restricted vegetation takes place. If the injections of eosin are repeated, vegetation soon ceases and the bacilli degenerate and disappear. Tetanus spores remain latent indefinitely in the healed wound beneath the skin. These spores do not lose their power to grow outside or inside the body under favorable conditions or to produce toxin.

Noguchi then considers local immunity to tetanus in inoculated rats treated with eosin. He believes that the restricted germination and vegetation which take place in eosin-treated animals produce a small quantity of tetanus toxin, which, acting locally on the tissues, gives rise in them to a degree of immunity. Specific experiments prove the presence of a degree of general immunity in such animals, which in almost all cases is lower than the local immunity. The facts that spore threads in these animals inoculated into the superficial fascia and that the resulting scar tissue was limited to this stratum, led Noguchi to conclude that connective tissue cells and possibly the endothelium of the lymphatics are the cells which yield the antitoxin. Diffusion of the antitoxin from this local area of high concentration into the area of low concentration, i. e., the general body fluids, accounts for general immunity produced.

43. **Magnesium Salts.**—Meltzer and Lucas show that when introduced subcutaneously magnesium salts are eliminated to a great extent through the kidneys and that in nephrectomized rabbits the susceptibility to the toxic action of magnesium salts is increased by about 50 per cent., and that the profound anesthesia of magnesium now may continue for twenty-four hours or longer. Furthermore, magnesium salts in nephrectomized animals have a cumulative effect, so that several small doses produce an effect equal to that of all the doses in a single injection. A dose, which is fatal, immediately after the nephrectomy, causes only anesthesia eighteen hours after the operation, indicating that in the meantime vicarious paths have developed which eliminate part of the salts.

45. **Function of Posterior Spinal Ganglia.**—Kramer in his previous work found that irritation of the central end of the crural nerve produces a fall in blood pressure, but in animals

which were deeply narcotized with ether, in most instances the irritation of the central end of the crural nerve was without effect, either on the circulation or respiration. He now adds the results of more recent work on the effect of stimulating the posterior roots of the spinal nerves. He finds that a degree of irritation which in a given degree of anesthesia is without effect on the circulation or respiration when applied peripherally to the ganglia will, when applied centrally, that is, between the ganglion and the spinal cord, be followed by "vasomotor shock," such as follows irritation of the sensory nerve during incomplete anesthesia. He concludes from this that the spinal ganglion holds back or inhibits the effect of this irritation on its way to the cord and brain.

46. **Gallstones.**—Kramer reviews briefly the various theories in regard to the formation of gallstones, and reports a series of experiments undertaken with a view of throwing light on the subject. He prepared two kinds of culture media: one containing equal parts of bile and ordinary bouillon; the other, equal parts of bile and bouillon plus 1 per cent. cholesterin. The media were filtered and refiltered until perfectly clear. Tubes of these media inoculated with streptococcus aureus showed no change. In tubes inoculated with colon or typhoid bacilli there was a very marked precipitate, increasing in amount with the age of the culture and showing microscopically, besides the bacilli, all the constituents of gallstones—amorphous calcium phosphate, magnesium phosphate, calcium carbonate; biliary coloring matter and crystals of cholesterin (rather numerous in the tubes containing 1 per cent. cholesterin).

From these experiments Kramer concludes "that gallstone formation, just as phosphatic urinary stone formation, is due to a chemical decomposition of the bile, the direct result of the growth of micro-organisms therein." The colon bacillus and typhoid bacillus are the micro-organisms usually concerned, and it is significant that both these produce acid reaction in the media; while the staphylococcus which requires and retains an alkaline reaction, does not cause the precipitation.

Northwestern Lancet, Minneapolis.

May 15.

47 *Cases of Appendicitis, Illustrating Common Mistakes in Diagnosis. A. T. Mann, Minneapolis.
48 Bright's Disease. L. W. Day, Minneapolis.

47. **Mistakes in Diagnosis of Appendicitis.**—Mann describes three series of cases illustrating errors in the diagnosis of appendicitis. The first series included those cases in which the patients presented symptoms of an acute indigestion, and were treated for such; patients who presented symptoms of bowel destruction made up the second series of cases; the third series comprised those cases in which the patient had been supposed to have chronic gastric and intestinal indigestion. The last series, Mann believes, to be by far the most numerous.

Chicago Medical Recorder.

May 15.

49 Opening the Cranial Cavity for Tumors and Evacuation of Circumscribed Infections. J. Frank, Chicago.
50 Specimens Showing Development of Nose in Three Months' Fetus. G. W. Boot, Chicago.
51 *Treatment of Extrauterine Pregnancy. A. P. Heineck, Chicago.
52 Biliary Fistulæ Due to Gall Bladder and Gall Duct Disease. M. R. Barker, Chicago.
53 *Abscess of Mesenteric Lymph Glands. B. Holmes, Chicago.
54 Anatomy of Subphrenic Space. H. O. White, Chicago.

51.—See abstract in The Journal, March 30, 1907, page 1138.

53. **Abscess of Mesenteric Lymph Glands.**—As one of the rare causes of peritonitis, limited or diffuse, Holmes says that the secondary infection of mesenteric lymph glands with ultimate extension or rupture into the peritoneal cavity must be considered. He says that mesenteric lymphadenitis is an invariable result of disease of the mucosa of the intestinal tract and its adnexa. Suppurative lymphadenitis occasionally occurs as the result of typhoid, ulcerative conditions, such as cholecystitis, appendicitis or other local infections. The rupture of such an abscess may result from trauma or pressure atrophy and initiate a terminal peritonitis. He reports one case observed by him.

Detroit Medical Journal.

April.

55 Diseases of the Nasopharynx in Infancy. J. L. Morse, Boston.
56 Restriction of Smallpox. T. B. Cooley, Ann Arbor.
57 Study of the Infant's Stool. (Continued). P. Selter, Solingen, Germany.
58 Typhoid Fever in Michigan. F. W. Shumway, Lansing, Mich.
59 Case of Extensive Leucoderma Successfully Treated. N. E. Aronstam, Detroit.

Journal of the Michigan State Medical Society, Detroit.

April.

60 Sanatorium Treatment and Value of State Sanatorium in Tuberculosis. H. J. Hartz, Detroit.
61 Pathology and Operative Treatment of Chronic Suppurative Otitis Media. R. B. Canfield, Ann Arbor.
62 Pharmacopeia Præcox. F. S. Smith, Saginaw.
63 Renal Surgery and Nephritis. W. C. Wyman, Detroit.
64 Ideas and Ideals. F. R. Blanchard, Lakeview.

Colorado Medicine, Denver.

April.

65 The Free Dispensary as a Factor in the Tuberculosis Crusade. A. S. Taussig, Denver.
66 Gastrointestinal Fever in Childhood. H. B. Whitney, Denver, Colo.

Northwest Medicine, Seattle, Wash.

April.

67 Nervous Manifestations of Syphilis. M. Russell, Seattle.
68 Non-venereal Syphilis. F. M. Conn, Seattle.
69 *Gonorrheal Peritonitis in the Male. J. W. Thomas, Seattle.
70 Etiology and Symptomatology of Gastric Ulcer. G. M. Horton, Seattle.
71 Fracture of Anatomic Neck and Resection of Femur. C. A. Smith, Seattle.

69.—See abstract in The Journal, April 27, 1907, page 1461.

Iowa Medical Journal, Des Moines.

April.

72 Tonsillectomy. F. E. V. Shore, Des Moines.
73 The Physician as a Life Insurance Examiner. P. B. Cleaves, Cherokee.
74 Placenta Prævia. A. E. Cook, Randolph, Neb.
75 Serum Therapy of Tetanus. W. W. Dean, Sioux City, Iowa.
76 Vesicular Mole, Simulating Pregnancy at Full Term. A. M. Avery, Maquoketa.
77 Pneumonia. J. L. Peppers, Goldfield.
78 Therma-Erotherapy. B. Efner-Fell, Moville.

Maryland Medical Journal, Baltimore.

May.

79 Administration of Ether by the Drop Method. S. G. Davis, Baltimore.
80 Dispensary Treatment of Neurasthenia. W. R. Dunton, Jr., Towson, Md.
81 President's Address, Medical and Chirurgical Faculty of Maryland. H. Woods, Baltimore.

Albany Medical Annals.

May.

82 Relation of Tuberculosis to Municipal and Industrial Life. C. Stover, Amsterdam, N. Y.
83 Conditions Resulting from Injuries to Pelvic Floor, and their Prophylaxis. J. A. Sampson, Albany, N. Y.
84 Three Months' Surgical Service at Albany Hospital. E. A. Vander Veer, Albany.
85 Differential Diagnosis of Cerebellar Abscess and Pus in Labyrinth. L. Le Brun, Albany, N. Y.

Medical Standard, Chicago.

May.

86 Fifty Brief Biographic Clinics on Living Patients. G. M. Gould, Philadelphia.
87 Scarlet Fever. W. D. Brode, Chicago.
88 Anatomy of the Sigmoid and Mesosigmoid. B. Robinson, Chicago.
89 Practical Roentgen-Ray Therapy. N. M. Eberhart, Chicago.
90 The Falsetto or Eunuchoid Voice. E. E. Clark, Danville, Ill.
91 Interpreting the Inverted Retinal Image. T. G. Atkinson, Chicago.

Journal of Inebriety, Boston.

May.

92 Influence of Narcotics on Metabolism. W. S. Hall, Chicago.
93 Mental Degeneration the Result of Alcohol. R. Johnson, London.
94 Reformable and Irreformable Inebriates. (Ed.)
95 A Morphiamaniac on Trial for Murder. T. D. Crothers, Hartford, Conn.

Kentucky Medical Journal, Bowling Green.

May.

96 *Cystoscopy: Ureteral Catheterization; Is it Practical? C. L. Wheeler, Lexington.
97 Pleuropneumonia Followed by Pulmonary Abscess. J. G. Cecil, Louisville.
98 Diabetic Gangrene. C. L. Hudgins, Olive Hill.
99 Our County Society. B. G. Allen, Somerset.
100 Apoplexy. H. K. Orsburn, Owensboro.

96.—See abstract in The Journal, Oct. 27, 1906, page 1402.

Canadian Practitioner and Review, Toronto.

May.

101 Chemical Changes in the Animal Body. G. Chambers, Toronto.
102 Successful Case of Cesarean Section. H. C. McLean, Guelph, Ont.
103 Acute or Spontaneous Hemorrhages in the New-born. H. T. Machell, Toronto.
104 Medical Thoughts, Facts, Fads and Fancies. J. S. Sprague, Stirling, Ont.
105 Pyelitis Complicating Pregnancy. H. Meck, London, Ont.

Denver Medical Times, Denver.

May.

106 An Orbital Injury. H. C. Brown, Denver.
107 Two Abdominal Cases. M. Hawes, Denver.
108 Thoracic Effusions with Report of Case of Empyema of Unusual Origin. S. Simon, Denver.
109 Oral Asepsis. W. H. Delbridge, Greeley.
110 Sanitary Bathrooms and Insanitary Kitchens. C. J. Fox, Washington, D. C.

Utah Medical Journal, Denver.

May.

111 Epidemic Cerebrospinal Meningitis. F. H. Raley, Salt Lake City.

American Journal of Surgery, New York.

May.

112 Emergency Dilatation of Urethral Stricture. F. C. Valentine and T. M. Townsend, New York.
113 Carcinoma and Calculus of Prostate. G. F. Lydston, Chicago.
114 Abortion, with Special Reference to Incomplete Abortion. A. R. Small, Chicago.
115 Blood Examination in Surgical Diagnosis. (To be continued.) I. S. Wile, New York.
116 Drainage Method in Treatment of Acute Middle-Ear Disease. A. Wiener, New York.
117 Surgical Postures. (Continued). M. W. Ware, New York.
118 Congenital Absence of Appendix and Suppurative Pelvic Peritonitis in a Boy. I. S. Haynes, New York.

Journal of Mental Pathology, New York.

May.

119 Softening of the Genu Corporis Callosi. A. Giannelli, Rome.
120 Progressive Chronic Chorea: R. Bonfigli, Rome.
121 Resuscitation of Electrocuted Animals. L. G. Robinovitch, New York.

Interstate Medical Journal, St. Louis.

May.

122 Renal Calculus. W. M. Robertson, St. Louis.
123 Water Supplies of the Philippines. J. D. Long, U. S. P. H. and M.-H. S.
124 Case of Tubal Abortion. O. H. Elbrecht, St. Louis.
125 Peyer, His Life and Works. A. E. Taussig, St. Louis.

Journal of the Arkansas Medical Society, Little Rock.

May 15.

126 The Mastoid Operation. H. Moulton, Fort Smith.
127 Asphyxia Neonatorum. E. H. Winkler, DeWitt.
128 Cases of Conservative Surgery. H. C. Dunavant, Osceola.
129 The Practice of Medicine. E. Bentley, Little Rock.

Louisville Monthly Journal of Medicine and Surgery.

May.

130 Appendicitis. L. Frank, Louisville, Ky.
131 Diagnosis of Renal Function. B. F. Zimmerman, Louisville.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 25.

1 *Heart Disease in Relation to Pregnancy. G. F. Blacker.
2 *Effects of Diet on Development and Structure of Uterus. M. Campbell.
3 Case of Sudden Death at Climacteric. E. Pratt.
4 Note on Use of Blunt Hook. J. E. Godson.
5 Extrauterine Pregnancy. J. N. Stark.
6 *Micro-organism Isolated from Acute Rheumatism. E. W. A. Walker.
7 Case of Retropharyngeal Fibroma. N. B. Odgers.
8 Epithelioma of Larynx in Young Man. H. Barwell.
9 Wandering Spleen. A. J. Lewis.
10 Delayed Chloroform Poisoning. R. Ramsey.
11 Unnoticed Lateral Curvature. W. F. Somerville.
12 Tubercle and Erysipelas. C. B. Whitehead.

1. **Heart Disease in Relation to Pregnancy.**—Blacker says hat the view that increased work is thrown on the heart during pregnancy, while probable, has not been proved. During gestation there is probably an increase in the total amount f blood in a woman's body and an increase in the respiratory hanges occurring in the placenta. There is also a necessity or getting rid of an increased amount of waste material prouced partly by the mother and partly by the fetus. While his is so, much of the strain, Blacker thinks, is thrown on the ight side of the heart, as well as on the left side, and can ot, therefore, be taken as complete proof of the occurrence f hypertrophy of the left ventricle during gestation. He thinks that the old idea that the heart normally hypertrophies during pregnancy is not proved beyond doubt. In some cases hypertrophy of the heart is the chief change occurring, while in others there is hypertrophy of the left ventricle and dilatation of the right heart. In some healthy women neither hypertrophy nor dilatation occurs. There are, he says, no characteristic changes in the pulse of pregnant women. In cases of pregnancy complicated by heart disease, the risk of cardiac failure is to be guarded against. If after delivery there are signs of over distension of the right heart, Blacker recommends encouraging postpartum hemorrhage or even performing venesection. With regard to forbidding the patient with heart disease to marry, Blacker takes a moderate course. He thinks the majority of women with cardiac disease pass safely through pregnancy and confinement. If the patient's heart disease is compensated and there are no symptoms, she may marry. Cardiac failure probably will occur sooner or later, whether she becomes pregnant or not. It may be precipitated, but it is doubtful whether the risk is sufficiently great to justify the physician in denying her the right to marry.

2. **Effects of Diet on Development and Stricture of Uterus.**—An investigation was undertaken by Campbell to determine what changes, if any, were produced in the development and structure of the uterus by various diets. The animals employed were rats. Macroscopic and microscopic examination was made of the uteri of 86 animals; the tissue being removed as nearly as possible from the same area in each. One series was fed on an exclusive milk diet; another was fed on bread soaked in milk; a third series was put on a rice diet; a diet of porridge or oats was given another series, and a fifth series was put on a raw meat diet. He arrived at the following conclusions: 1. The use of non-physiologic diet such as exclusive flesh, rice or porridge, induces in the majority of cases a modification in the structure of the uterine mucous membrane. This modification consists in a diminution in the number of the large connective tissue cells. 2. Animals fed from weaning on an exclusive flesh diet showed the most profound structural changes of the uterus. In such animals the development of that organ was also most interfered with. 3. The structural change in the flesh-fed animals is associated with sterility. Campbell believes that from his experiments, it is evident that the food factor is one worth considering in dealing with the question of the falling birth rate.

6. **Micro-organism Isolated From Acute Rheumatism.**—Walker states that as a result of his researches, carried on in connection with Beaton, he has isolated a micro-organism for rheumatic cases, which he calls the *Micrococcus rheumaticus*. The organism which they isolated was capable, he claims, of producing in animals the morbid lesions of acute rheumatism. Four points of apparent difference between this organism and other streptococci were, first, a greenish-brown discoloration produced in a blood agar culture, apparently due to a reduction of hemoglobin to hemochromogen; second, the growth obtained on using Marmorek's test; third, the faculty of growing on very alkaline media, and fourth, the production of considerable quantities of acid and its rapid hemolytic action on red blood corpuscles. While he does not consider the case in favor of the *Micrococcus rheumaticus* as proved, he sees no reason for abandoning positive results in favor of negative evidence.

The Lancet, London.

May 25.

13 Abdominal Diseases Associated with Disease of the Testicle. W. Osler.
14 *Lesions of the Trigeminal Nerve. J. H. Parsons.
15 *Torsion of the Testis. H. M. Rigby and R. J. Howard.
16 Hypopharyngoscopy. P. T. Hald.
17 Cases of Pulmonary Regurgitation. D. B. Lees and V. Z. Cope.
18 *Acute and Chronic Appendicular Pain. S. Bonnet.
19 An Acute Infectious Condition (Glanders?). H. T. Marrable.
20 Case of Aberrant Functional (?) Chronic Intestinal Obstruction. G. S. Thompson.
21 Case of Melena Neonatorum. J. B. Page.
22 Criticism of the Mode of Administering Public Health Acts in England. J. H. Garrett.

14. **Lesions of Trigeminal Nerve.**—In discussing herpetic and allied affections of the cornea, Parsons states that there

is good reason to believe that ophthalmic herpes is dependent on definite lesions in the Gasserian ganglion, which morphologically is a dorsal-root ganglion. Herpes zoster is the outcome of an intense and concentrated attack on certain dorsal-root ganglion. Herpes febrilis and similar affections of the cornea, he thinks, may reasonably be regarded as a less acute and more widely diffused attack of a similar nature. Even though our views as to the site of the lesion are accurate, there still remains the extremely difficult task of explaining its manifestation. Sensory nerves are commonly supposed to convey afferent impulses only, and this, Parsons says, makes it difficult to imagine how even an inflammatory block in the course of the nerve can produce pathologic changes in structure at its distant termination. He claims that there is some experimental evidence of the transmission of impulses along sensory nerves, in a direction opposite to that of normal impulses.

15. **Tortion of the Testis.**—Rigby and Howard give the result of their examination of nine cases of torsion of the testis. They think the predisposing cause is a congenital abnormality of the attachment of the testis to the spermatic cord; the exciting cause is not positively known. In some cases, no cause of any kind could be discovered, the condition occurring with the patient in bed and asleep. The onset of the symptoms was always sudden and the severity depends on the tightness of the twist. Vomiting is an early and frequent symptom. The result of torsion usually is atrophy of the testis affected. In treating the condition, two stages must be considered, the treatment of the attack, and the prevention of further attacks.

18. **Acute and Chronic Appendicular Pain.**—For reasons, which he gives at length, Bonnet concludes that there are good reasons for the restriction of the surgical treatment in cases of appendicular pain. He believes that the tendency to resort more frequently to medical methods is justified, bearing in mind always the great advantage of surgical treatment in special cases. These special cases he describes in full.

Medical Press and Circular, London.

April 24.

23 Nervous Diseases. W. Carter.
24 *Treatment of Tuberculosis by Marine Climates. W. Ewart.
25 Abdominal Colpopexy. Jacobs.
26 Extrauterine Pregnancy. F. B. Jessett.

May 1.

27 Glaucoma. A. H. Benson.
28 *Cerebrospinal Meningitis. W. B. Warrington.
29 Treatment of Tuberculosis by Marine Climates. W. Ewart.
30 Ruptured Ovarian Cyst (Malignant), Generalized Peritonitis. F. B. Jessett and J. H. Evans.

May 15.

31 Climacteric Floodings. A. J. Smith.
32 *Ocular Headaches. R. P. Brooks.
33 Intubation of Larynx in Laryngeal Diphtheria. C. B. Ker.
34 Symptoms, Treatment and Sequelæ of Non-Malignant Duodenal Ulcer. D'A. Power.
35 Treatment in Inoperable Cancer. J. A. Shaw-Mackenzie.

May 22.

36 *Treatment of Pneumonia. J. Barr.
37 Operative Treatment of Inflammatory Diseases of Uterine Appendages. A. E. Giles.
38 Medicolegal Definition of Insanity. C. H. Sers.
39 Splint for Local Application of Continuous Heat. J. F. H. Dally.

24. This article also appeared in the British Medical Journal April 27, 1907.

28. **Cerebrospinal Meningitis.**—Warrington discusses the relation of cerebrospinal meningitis to other forms of meningitis. Whether a case is really one of meningitis or not, he thinks, can only be answered by a knowledge of general medicine aided by the findings of lumbar puncture. The latter procedure also determines the form of meningitis. Warrington is of the opinion that persons affected with this disease should be isolated, even though the direct contagion is probably no greater than in pneumonia. He would disinfect the secretion and advises those engaged in nursing to apply an antiseptic lotion to the nasopharynx.

32. **Ocular Headaches.**—Brooks thinks that the principal eye conditions giving rise to headache, are errors of refraction throwing an excessive amount of work on the ciliary muscles, a want of balance between the external muscles of the globe and what he calls retinal hyperesthesia. He describes various methods for determining which of these conditions is present.

36. **Treatment of Pneumonia.**—Barr believes that in the treatment of pneumonia the temperature affords a reasonable point of attack, as he strongly favors an increased dissipation of heat. He suggests that, when possible, the patient should have a warm bath, with plenty of soap, or if this be impracticable, he should be well washed, and the action of the skin encouraged by the administration of a diaphoretic. Should the temperature rise as high as 104 F. the sooner a large ice bag is applied to the abdomen the better. Promptitude of action in the early stage, he claims, often arrests the spread of the disease and may even arrest its further progress. With regard to venesection, he has no doubt that in some plethoric cases it does good, but it never should be adopted after the first forty-eight hours, and never at any time if the pulse is small, feeble and compressible. Bleeding, he says, should not be performed on the very young, the old or the debilitated. After bleeding, the patient should abstain from fluid for several hours. He urges particularly the need of good ventilation. The sick room should be the best in the house and, if possible, should contain at least 1,000 cubic feet of air for each occupant. The whole air of the room should be changed three times every hour. The administration of oxygen in cases where the sick room ventilation is poor and insufficient he believes to be unscientific, irrational and absurd. The temperature of the room should be maintained at from 60 F. to 65 F. At this temperature, Barr says, the air is not saturated with moisture; it is capable, therefore, of holding the patient's exhalations, and there is not much danger of him drowning in his own excretions. Speaking of the bronchitis kettle, he says the man who invented it should have been hanged, as he thinks death from strangulation would be a just punishment for the number of deaths from drowning which his appliance has caused. The bed clothing of the patient should be sufficiently light to allow free escape for the evaporation of the sweat. The room should be well-lighted and cheerful.

Semaine Médicale, Paris.

40 (XXVII, No. 20, pp. 228-240.) *Histopathologic Diagnosis of Affections of Liver and Spleen. (Diagnostic des maladies du foie et de la rate.) F. Schupfer.
41 *Lesions in Suprarenals in Course of Nephritis. (Lésions surrénales dans les néphrites.) E. Beaujard.
42 New Organization of Military Sanitary Service in Germany. (Service de santé de l'armée allemande en campagne.) Commenced in No. 18.
43 (No. 21, pp. 241-252.) Case of Congenital Atony of the Muscles. (Maladie d'Oppenheim.) A. Baudouin.

40. **Histopathologic Differentiation of Affections of Liver and Spleen.**—Schupfer uses a special hollow needle about 8 cm. long, with an external diameter of from 1.8 to 2 mm. The tip is cut slanting and the walls of the needle taper at the tip to a sharp cutting edge. This needle is inserted into the liver or kidney tissue, with mild aspiration from a glass syringe, kept up while the needle is being withdrawn. This excises a plug of tissue about 1 mm. wide and from 1 to 2 cm. long. Sections of the portion thus obtained enabled him to differentiate thrombosis of the portal vein from cirrhosis of the liver, cirrhosis with hypertrophy from secondary bile cirrhosis, and syphilitic lesions from primary tumors in liver and spleen. The technic also proves useful for exploration of the liver in hard drinkers before giving chloroform. In Banti's disease it permits inspection of the condition of the liver when considering the advisability of splenectomy or the ultimate results years after removal of the spleen, and also renders valuable service in suspected metastases in the liver. It can also be used on tumors elsewhere than in the liver or spleen.

41 **Suprarenals in Nephritis.**—Beaujard regards the suprarenals as practically each two organs, the cortical substance with its antitoxic action, and the medulla with its secretion of chromophil substance. The general intoxication resulting from a kidney affection entails in time hyperplasia of the cortical substance, while hypertrophy of the medulla is one of the consequences of the hypertrophy of the heart accompanying the nephritis.

Berliner klinische Wochenschrift.

44 (XLIV, No. 15, pp. 417-460.) Transplantable Rat Carcinoma. (Transpl. Rattencarc.) L. Michaelis and C. Lewin.
45 Appearance and Neurologic Significance of Medullated Nerve Fibers in Human Retina. (Markhaltige Nervenfasern in der Netzhaut.) M. Bernhardt.
46 *Abdominal Section without Tendency to Subsequent Hernia. (Bauchschnitt ohne spätere Hernienbildung.) A. Dührssen.
47 Clinical Significance of Periodical Return of Irregularity of Pulse Under Digitalis. (Digitalis-Allorrhythmie.) L. F. Dmitrenko. Commenced in No. 14.
48 Cardiac Defects. (Herzfehler.) Hirsch (Nauheim).
49 *Balneologic Treatment of Tardy Manifestations of Gonorrhea. (Gon. Späterkrankungen.) J. Siebelt.
50 Physical Treatment of Nervous Diarrhea. (Nerv. Diarrhoe.) E. Tobias.
51 *Benefits of Hot Mud Baths in Chlorosis. (Bleichsucht und heisse Moorbädern.) L. Steinsberg.
52 *Efficacy of Roentgen Treatment in Chronic Bronchitis and Bronchial Asthma. (Behandlung der chron. Bronchitis nach T. Schilling-Nürnberg mittelst Roentgenstrahlen.) Immelmann.
53 *Electric Belt for Mud Baths. (Elekt. Moorgürtel.) I. Nenadovicz (Franzensbad).
54 *Functional Diagnosis and Treatment of the High Blood Pressure in Arteriosclerosis and Chronic Kidney Affections. (Hoher Blutdruck bei Art. und chron. Nierenleiden.) Gräupner.
55 Indications for Mud Baths in Chronic Kidney Affections. (Moorbäder bei chron. Nierenerkrankungen.) A. Loebel.

46. **To Avoid Tendency to Hernia After Abdominal Section.**—After trying various technics, Dührssen has returned to Lennander's as the safest and best. The incision is made through the various layers of the abdominal wall at overlapping points, only the cutaneous incision being on the median line. He gives several illustrations of the technic and describes his favorable experiences with it in twenty cases in which the conditions threatened trouble later. All tendency of the kind was averted by using this technic.

49. **Late Gonorrheal Manifestations and Balneology.**—Siebelt advocates very hot mud baths for late gonorrheal joint affections, with massage. Some cases resist all treatment, but, as a rule, benefit is promptly realized. He adds parenthetically that possibly there may be a gonorrheal basis for some of the joint affections commonly ascribed to rheumatism. Fine results were obtained in gonorrheal catarrhal affections of the female genitalia by pine-bark baths, associated with prolonged irrigation kept up during the bath, exerting a mild massage of the parts. The pine-bark baths are prepared fresh each time, the chemical constituents losing some of their properties by keeping.

51. **Hot Mud Baths in Chlorosis.**—Steinsberg regards chlorosis as essentially a gynecologic affection, probably referable to the ovaries. Hot mud baths seem to exert a specific action on the ovaries, and hence are theoretically indicated in chlorosis. His experience has confirmed the correctness of this assumption, as he relates in detail.

52. **Roentgen Treatment of Chronic Bronchitis.**—In The Journal December 1, 1906, page 1861, was mentioned Schilling's favorable experience with systematic Roentgen-ray treatment of chronic bronchitis and bronchial asthma. Immelmann reports a series of ten patients treated by Roentgen-ray with remarkably fine results. The asthmatic attacks were aborted and relief was almost immediate. He exposed the front, back and sides of the thorax in turn, a total exposure of ten minutes. Asthma due to cardiac or nervous factors is not amenable to this treatment, which seems to have a specific action on the bronchitic element.

53. **Electric Belt for Mud Baths.**—The mud baths at Franzensbad are said to contain sulphuric and other acids. A galvanic current is generated when the person stepping into the bath wears a belt containing strips of zinc, connected by a wire with strips of copper at the wrist or elsewhere. The electricity seems to enhance the medicinal action of the mud bath, judging from the experiences related.

54. **Functional Diagnosis of High Blood Pressure.**—Gräupner ascribes the high blood pressure in nephritis to a regulating process in the effort of the organism to restore normal conditions. In arteriosclerosis the high blood pressure is due to mechanical factors. It is frequently possible to reduce the blood pressure in these cases by baths and gymnastic exercises, and this relieves the heart and enables it to do better work. He has devised a method to determine the actual functional capacity of the heart, aside from the clinical findings. It is based on the fact that the blood pressure is regulated according to an absolute physical law when the individual is performing a certain given work. The behavior of the blood pressure during this work is a positive index of the functional capacity of the heart. He is inclined to accept disturbances in metabolism and blood affections as important factors in functional weakness of the myocardium, even with existing myocarditis.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed, page 1906.

56 (XXXI, No. 15, pp. 401-424.) Effect of Injection of Placental Elements into Animals of the Same and Other Species. (Einverleibung placentarer Bestandteile.) R. T. Frank (New York).
57 *Cologne Water for Simplified Hot Water-Alcohol-Sublimate Disinfection of the Hands. (Desinfektion der Hände.) E. Ekstein.
58 *Treatment of Primary Vaginal Cancer. (Scheidenkrebs.) J. Jacub.
59 (No. 16, pp. 425-464.) Operative Correction of Chronic Inversion of Uterus. (Inversio ut. inveterata.) O. v. Herff.
60 Etiology of Inversion of Uterus. (Puerperale Uterus inversion.) H. Fritsch.
61 Large. High Rectal Fistulas. (Mastdarmfistel.) O. v. Herff.
62 Are There Male and Female Ova in Woman's Ovaries? (Männliche und weibliche Eier im Eierstocke?) A. Sippel.
63 Catheter with Stopcock. (Katheter mit Bügelhahn.) Dedolph.
64 Medicolegal Questions in Obstetrics and Surgery. (Rechtliche Fragen in der Geburtshilfe und Chirurgie.) Füth, Kölliker and Galli.

57. **Simplified Technic for Disinfection of Hands.**—Ekstein announces that Cologne water is an effective solvent of corrosive sublimate and other ordinary disinfectants, while it answers the purpose of alcohol, and thus simplifies and improves the technic for disinfection of the hands. After the hands have been thoroughly scrubbed with soap the Cologne water containing the disinfectants in solution can be applied to them, and, as the alcohol evaporates, the disinfectants are left on the hands as in ordinary hot water-alcohol-bichlorid disinfection, while the skin is not affected by the procedure as with the latter technic. The whole process is much less cumbersome.

58. **Primary Vaginal Cancer.**—Jacub reports two cases. The patients were 44 and 57 years old and had borne children, but had been widowed fifteen years before. The tumor in each case was in the rear wall and was readily reached by a perineal incision. With this technic the tumor did not come in contact with the wound and the removal of the entire vagina was not difficult. There was not much hemorrhage, and the extirpation of the uterus was facilitated by the ample access allowed. There has been no recurrence during the eighteen months since in one case, and the vagina is approximately normal in shape and size, although bare of mucosa. He was able to leave a strip of mucosa on the anterior wall in each case.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed, page 1643.

65 (LXV, No. 5, pp. 519-642.) *Pathology of Dystrophic Form of Congenital Partial Giant Growth. (Riesenwuchs.) E. Wieland.
66 Metabolism in Case of Alimentary Intoxication. (Stoffwechsel bei alimentaren Intoxikationen.) L. F. Meyer.
67 *Acute Leukemia and Tonsillectomy. (Leukämie und Adenotomie.) F. Stirniman.

65. **Partial Giant Growth.**—Wieland concludes his study of the pathology of this condition with the statement that attempts at compression to restrain the growth do no good. If function is seriously hindered, surgical measures may become necessary and they have always proved successful. They should not be advised, however, in the early stages to check further development of the acromegaly, as they do not seem to arrest the tendency to excessive growth in the part.

67. **Acute Leukemia and Removal of the Tonsils.**—Stirniman describes the case of a child of 3, never very healthy. Symptoms then developed suggesting possible leukemia, but without tumefaction of spleen and liver or enlargement of glands. The tonsils were enlarged and were removed about two months after the first symptoms, and this operation was followed by severe acute leukemia, fatal in nine days. He thinks that

the tonsillectomy was a serious operation under the circumstances. He has found in the literature records of two similar cases.

Monatsschrift f. Geb. und Gynäkologie, Berlin.

Last indexed, page 1068.

68 (XXV, No. 5, pp. 571-784.) *Long Duration of Gestation. (Spätgeburt.) B. S. Schultze.
69 What Has Been Accomplished in the Line of Disinfection of the Hands. (Händedesinfektion.) W. Cohn.
70 *13 Cases of Pubiotomy. (Pubiotomie.) K. Preller.
71 *Ovariotomy in Pregnancy and the Puerperium, (Ovariotomie.) O. Retzlaff.
72 *Forty-five Childbirths After Vaginofixation. (Geburten nach Vag.) A. Haupt.
73 Backward Displacement of Uterus in Last Months of Pregnancy. (Retroflexio uteri.) Lange.
74 Progress in Hematology During Last Ten Years. (Hämatologie.) Wolff. Concluded.

68. **Duration of Pregnancy.**—Schultze discusses the German law which accepts in questions of paternal responsibility a duration of pregnancy of 181 to 302 days before the birth of the child. He thinks that this is ample allowance for the duration of pregnancy, erring, possibly, on the side of too great latitude, as even 285 days is an unusually long period for gestation.

70. **Pubiotomy**—Preller states that consolidation was perfect only in two of his thirteen patients after pubiotomy. In the others there was still some movability of the parts a year after the operation, but not sufficient to interfere with walking. The pelvis was never permanently enlarged more than 0.5 to 0.75 cm., but later childbirths in the same women were accompanied by a loosening up of the consolidation which rendered delivery easier. The patients generally complained that they became fatigued more readily and had pain on the side operated on when doing heavy work; they had no disturbances with ordinary light work. In one case the pelvis was moderately contracted and the child was exceptionally large, measuring 42 cm. around the shoulders and weighing, without the brain, 4,590 gm. The disproportion was therefore abnormally great; if this had been known beforehand pubiotomy would not have been attempted. In this inability to determine beforehand the proportions between the size of the pelvis and of the child lies the greatest danger of pubiotomy. It should never be attempted except when there is a prospect of delivering a viable child. If the child dies during or soon after delivery, the operation was unnecessary. In the above case the vagina ruptured up to the wound in the bone and the mother succumbed to infection. In two of the first five cases the bladder was injured during the pubiotomy, but in none since then. Traumatic paralysis of the bladder was observed in one of these cases, and it still persists. The greatest danger for the future of pubiotomy is that too much latitude will be given to indications. The difficulties increase with increasing disproportion between the size of the pelvis and of the head.

71. **Ovariotomy in Pregnancy and Childbed.**—Retzlaff describes a few cases from his own experience and summarizes those that have been published since 1905. An ovarian tumor which may not have caused any symptoms during pregnancy or parturition may be so injured by the compression that it may become inflamed and suppurate during the childbed and induce chills and fever. As there was no suspicion of a tumor, the tumefaction then palpated is more liable to be taken for a parametritic exudate than for an ovarian tumor. Torsion of the pedicle occurs more frequently after the child is delivered than before. In one of the cases reported the discovery of the ovarian tumor and of placenta prævia, with obstruction to delivery, compelled intervention. During the attempts to push the ovarian tumor out of the way it burst. The ovary was removed immediately after delivery of the child, but no traces of its contents could be found. They had evidently been absorbed by the peritoneum and no signs of reaction on the part of the peritoneum were observed then or later.

72. **Childbirths After Vaginofixation.**—Haupt reviews a series of 35 cases of pregnancy after vaginofixation. Seven are from his own experience and the others from nearby clinics. Including 19 from an earlier series, his statistics comprise 45 cases of gestation after vaginofixation with premature delivery in only 2.2 per cent. Artificial intervention was required in only 2.2 per cent., and in these nothing but the introduction of the metreurynter. The uterus retained its corrected position after delivery in every instance. Kleinwächter estimates at 9.82 per cent. the proportion of premature deliveries after the Alexander-Adams operation. Haupt concludes his review with the statement that he knows of no instance of actual danger to mother or child from the results of low vaginofixation.

Münchener medizinische Wochenschrift.

75 (LIV, No. 15, pp. 713-760.) Endocardial Friction Sounds. (Endokardiales Reibegeräusch.) R. Geigel.
76 Waning Elasticity of Aorta with Incipient Arteriosclerosis. (Elastizität der Aorta, etc.) J. Strasburger.
77 Favorable Results of Suction Therapy in Forty Cases of Mastitis. (Mastitis und Biersche Stauung.) P. Zacharias.
78 *Treatment of Anthrax. (Milzbrand.) Barlach.
79 *Determination of Carbohydrates in Urine. (Kohlehydraten im Harn.) R. Grünewald.
80 Oxalic Acid Poisoning as Factor in Polyneuritis of Fowls and Beriberi. (Oxalsäurevergiftung.) G. Maurer.
81 What Can the General Practitioner Do for the Relief of Cripples? (Linderung des Krüppelelends.) F. Lange. Commenced in No. 14.

78. **Treatment of Anthrax.**—Barlach has become convinced that the spread of the anthrax bacilli from the original focus is promoted by the pressure from the swelling. This forces the bacilli out into the surrounding tissues and spaces. He thinks that it is of the utmost importance to incise the pustule early and not let it become tense and hard. He also strives to prevent the dissemination of the germs by surrounding the focus with a deep groove made by applying the actual cautery around the periphery of the pustule, burning a circle of holes. He incises the pustule with a sharp knife and injects tincture of iodin in a ring around the pustule, about 5 to 10 cm. from its base. If there is much erysipelas he injects the iodin more freely, repeating possibly the next day. If there is considerable hemorrhage when the pustule is incised, so much the better, he thinks. He also incises wherever there is much edema, to evacuate the fluid and the toxins contained in it. He then dresses the pustule and the edematous and erysipelatous regions with a solution of bichlorid of mercury and, if necessary, completes the treatment by injections of camphor and brandy. The whole treatment requires only a few minutes, and the results, he states, are always good. The course of the affection is shortened by this method of treatment. He ascribes a specific action to the tincture of iodin. He has noticed that general symptoms coincide with the development of hardness and tension in the pustule, and that early relief from pressure in the focus results in the complete subsidence of the commencing general symptoms.

79. **Determination of Carbohydrates in Urine.**—Grünewald describes a technic with which, he says, even traces of the various sugars in the urine can be detected. Exactly 10 c.c. of urine are mixed with 1.2 gm. of sodium acetate, dissolved in 6 c.c. of warm distilled water, and 2 drops of acetic acid are added. Then 0.6 gm. of phenylhydrazin hydrochlorate are added and the whole is gradually heated and evaporated in the water bath to a residue of 5 or 6 c.c. of fluid, and then rapidly cooled. The yellow needles of the phenylglucosazon crystals are readily distinguished under a microscope magnifying 250 or 300 diameters, and differentiated from the brown glycuronates. The latter crystals melt at 155 C., while the crystals of phenylglucosazon do not melt under 206 C. In using the Lohnstein glycerin saccharometer he mentions that the glycerin always should be tested for a specific gravity of 1.25. To detect levulose, he heats to boiling point a mixture of equal parts of urine and resorcin, then warm, concentrated hydrochloric acid is added and the whole heated for a minute longer. A red tint is certain evidence of the presence of levulose. To detect pentoses, he dissolves 0.05 gm. orcin in 10 c.c. of 25 per cent. hydrochloric acid and then adds 1 c.c. of a 10 per cent. solution of ferric chlorid. To this mixture, 5 c.c. of urine are added and the whole is heated for 2 minutes, shaking constantly. In the presence of pentoses, a green color spreads through the mixture. The negative fermentation test and spectrum analysis confirm the findings of the test. The

test for pentoses can also be used for glycuronic acid by boiling with sulphuric acid to split the conjugate glycuronates. The polarization and fermentation tests can be used for control. A form of sugar may be found in the urine in cases of nervous irritability, when the filtered urine, after the removal of albumin and sediment, is rendered alkaline with a solution of sodium carbonate. It is then heated with a few drops of a solution of potassium sodium tartrate and bismuth tartrate for 2 or 3 minutes, cooled and vigorously shaken while 3 or 4 drops of chloroform are added. In case of the presence of this form of sugar, the upper edge of the precipitate of bismuth shows a distinct bright red in the course of an hour on standing.

Therapie der Gegenwart, Berlin.

Last indexed, page 1992.

82 (XLVIII, No. 1, pp. 1-48.) *Should We Treat Fever? (Sollen wir das Fieber behandeln?) F. Kraus.
83 Immobility of the Pupils in Hysteric Pseudo-epilepsy and in Syncope. (Klinische Mitteilungen.) F. Schultze.
84 *Diagnosis of Leukemia. (Leukämie.) Id.
85 *Treatment of Dropsy by Regulating Intake of Water and Salt. (Behandlung der Wassersucht.) O. Minkowski.
86 *When to Operate for Diabetic Gangrene. (Wann soll bei diab. Gangrän op. werden?) G. Klemperer.
87 Syphilitic Liver Fever. (Syph. Leberfieber.) Géronne.
88 *Active Plus Constriction Hyperemia in Gout. (Therapie der Gicht.) L. Alkan.
89 Constriction Hyperemia in Head for Seasickness. (Biersche Kopfstauung gegen die Seekrankheit.) J. Simon.
90 Tricycle in Place of Roller Chair for Invalids. (Dreirad als Krankenfahrzeug.) G. Hauffe.

82. **Shall We Treat Fever?**—Kraus concludes his historical sketch of the treatment of fever with the statement that moderate clinical measures to reduce fever are still the best means at our command in numerous febrile infections. This applies especially to influenza, to typhoid, and to the fever of tuberculosis and anemia.

84. **Diagnosis of Leukemia.**—Schultze comments on the paucity of communications in regard to Roentgen ray treatment of leukemia during the last year. He also discusses what he calls the absurdity of the terms "leukemia" and "anemia"—"white blood" and "no blood"—as exaggerations which frequently lead to the overlooking of the condition because it is not of such a pronounced type as to correspond to its exaggerated name. A healthy color of cheeks, lips and mucosæ is frequently observed in the first and middle stages of leukemia, even with pronounced enlargement of the spleen. The hemoglobin percentage may persist within normal range although the blood otherwise may present the typical leukemic findings.

85. **Treatment of Dropsy.**—If of cardiac origin, Minkowski gradually reduces the intake of water down to 1,200, 1,000 or 800 cc. a day, supervising the general health. Salt is likewise restricted to reduce thirst. Sometimes restriction of salt is of marked benefit. In true kidney dropsy, restriction of salt alone sometimes gives brilliant results. In other cases the benefit is not so prompt. Repeated weighing is the best way to supervise the effect of treatment. Restriction of salt is indicated whenever a nephritic finds his weight suddenly increasing, even although there may be no edema at the time. It usually soon develops. Tapping the edema not only relieves the patient, but removes a large amount of retained waste products at the same time. A milk diet gives too much water. Carbohydrates and fats—which spare the kidney—are more rational than two or three quarts of milk a day, throwing extra work on the kidneys. Heart tonics, he thinks, are indicated whenever cardiac incompetency becomes manifest, regardless of the condition of the blood pressure. Digitalis will sometimes reduce an over-high blood pressure—the cases of "high-pressure congestion."

86. **When to Operate for Diabetic Gangrene.**—Klemperer gives an illustrated report of several cases summing up the lessons he has learned from them in the statement that no operation should be done in case of gangrene of the extremities in a diabetic free from acidosis and albuminuria. On a strict antidiabetic diet, demarcation and sloughing off should be patiently awaited. The healing process should be promoted by dry powder dressings and occasional constriction hyperemia. On the other hand, in case of acidosis, amputation should be done at once, and high up, even when the local focus is small. The same rule applies also when there are pronounced signs of chronic nephritis.

88. **Hyperemia in Treatment of Gout.**—Alkan relates the details of two cases to illustrate the great benefits derived in acute gout from a combination of intermittent constriction hyperemia and hot cataplasms to the swollen toe, supplemented by stimulating the emunctories. The elastic band was applied above the ankle, and a hot cataplasm to the toe. The relief from pain was almost immediate. After two or three hours the constriction was removed, the limb raised and cold applied to the toe, to induce anemia. After two hours the hot cataplasms were resumed for the rest of the day. The patients were ordered to move about. Carlsbad salts were given internally, and in the evening hot drinks to induce sweating. In one case the gouty tophi could be felt crumbling under light pressure after a course of this treatment and the patient has been well for about eight months since.

Archivio per le Scienze Mediche, Turin.

Last indexed, page 1072.

91 (XXX, No. 5, pp. 453-550.) Regeneration of Nerve Fibers. (Rigenerazione delle fibre nervose.) A. Perroncito.
92 Hardening of Human Hairs Under Artificial Digestion. (Corneificazione dei peli.) S. Giovannini.
93 Processes of Repair in Experimental Wounds of the Spleen. (Ferite della milza.) G. Baggio.
94 *Question of Ascending Tuberculous Infection in Urinary Apparatus. (Infezione tub. ascendente?) R. Giani.
95 *Secretory Processes in Hypophysis of Mammals. (Ipofisi dei mammiferi.) A. Gemelli.
96 Primary Angiomata of Striated Muscles. (Emangioma cavernoso del musclo soleo.) M. Donati.

94. **Impossibility of Ascending Tuberculosis in Urinary Apparatus.**—Giani states that the results of his experimental research confirm the assumption that with the normal secretion of urine it is impossible for tuberculous infection to spread upward against the current.

95. **Secretion of the Pituitary Body.**—Gemelli's experiments on animals and study of the hibernating marmot have convinced him that the pituitary body has a marked antitoxic action, supplementing that of the thyroid and suprarenal glands. He theorizes to explain the mechanism of this action to correspond with the anatomic findings.

Gazzetta degli Ospedali, Milan.

Last indexed, page 1824.

97 (XXVIII, Nos. 3-9, pp. 17-96.) *Calcium Salts and Liver Substance in Treatment of Epilepsy. (Epilessia e sali di calcio.) T. Silvestri.
98 *Toxi-infectious Origin of Chronic Inflammation and Enlargement of Prostate. (Prostatite cron. e ipertrofia prostatica.) G. Li Virghi.
99 Modifications of Formed Elements of Blood in Experimental Tuberculosis. (Crasi sanguigna nella tub. exp.) G. Romanelli.
100 *Antibodies in Blood in Case of Echinococcus Cysts and Helminths. (Anticorpi echinococcici e anticorpi elmintiaci.) Ghedini.
101 Post-typhoid Myasthenic Syndrome. (Sindrome miastenica.) T. Prandi.
102 Second Case of Cirrhosis of Liver Treated by Omentopexy with no Recurrence During Year Since. (Cirrosi epatica curato coll' op. di Talma.) F. Bindi.
103 *Hemolytic Test in Case of Cancer and Leukemia. (Sensibilizzatrici nel siero di sangue, etc.) E. Tedeschi.
104 Enlargement of the Tongue. (Macroglossia.) G. Marangoni.
105 *False Abdominal Tumors. (Falsi tumori add.) Bruchi.

97. **Calcium Salts and Liver Substance in Treatment of Epilepsy.**—Silvestri has previously called attention to the lack of lime in the organism as an important factor in the convulsions in eclampsia, tetany, etc., and in epilepsy. The proportion of lime in the blood is revealed by its coagulating properties, as fibrin ferment is an organic compound of lime. Besta found lesser coagulating power in the blood in 37 out of 45 epileptics examined, and other Italians have confirmed the evident relations between convulsions and deficiency of lime in the blood. Silvestri's experience confirms the assumption that lime has a preserving and rejuvenating action on the nerve tissue, and especially on the cortex of the brain. He believes that its action in moderating the condition of hypertension in the brain and the composition of the blood in general has a favorable influence on the digestive and other functions of the body. Calcium salts in the test-tube have a remarkable action in increasing the digesting power of the pancreatic juice. He is convinced that altered functioning of the liver is responsi-

ble in large measure for the convulsions in eclampsia and for epileptic seizures, as he explains in detail. For this and other reasons which he enumerates, he recommends treating epileptics with liver substance. This supplies the missing liver elements while it also supplies the lacking calcium salts, as the livers of young animals contain them in large proportions. He is convinced that the reduced coagulating power of the blood in epilepsy is the result of perverted functioning on the part of the liver, one of whose tasks is to transform the lime circulating in the blood in such a way that it can readily be utilized by the organism in maintaining normal conditions of coagulation. The liver stores up the calcium and then dispenses it as needed. In epilepsy this functioning is defective. and the unutilized calcium is cast off from the body in the urine, while the nerve tissues suffer from lack of calcium.

98. **Toxi-Infectious Origin of Inflammation and Enlargement of the Prostate.**—Li Virghi found the colon bacillus alone in 60 cases of prostatitis and associated with other germs in 65 others, all with gonorrheal antecedents. In 38 others without gonorrheal antecedents the colon bacillus was present in all but 6, and in these cases the prostatic affection had healed under treatment. He summarizes his conclusions from this and other clinical experience in the statement that chronic prostatitis is invariably a mild toxi-infection of the prostate due to the colon bacillus. Enlargement is the final outcome of the chronic inflammation. The result of the toxi-infection is a slow sclerotic process, and the only means of arresting it is by massage of the prostate, prostatic urethra and neck of the bladder. When not too far advanced this, he states, is liable to cure the chronic inflammation definitely and completely.

100. **Antibodies in Blood in Case of Echinococcus.**—Ghedini has found that the hemolytic blood test is able to reveal the presence of an echinococcus cyst in the body, possibly not discoverable by any other means. The antibodies were pronounced in the case of a lad of 13 with a large echinococcus cyst in the liver, while the test was always negative when serum from persons with various forms of helminthiasis was substituted. He is now studying the serum of persons with helminthiasis to determine whether it contains specific antibodies, and is experimenting to find means to preserve the echinococcus serum to use in testing other patients.

103. **Positive Findings with the Hemolytic Blood Test in Cases of Cancer and Leukemia.**—Tedeschi thinks that the positive findings which he obtained constantly with the hemolytic blood test have considerable practical importance in the diagnosis of cancer and leukemia. The hemolytic test was described in The Journal, Dec. 1, 1906, page 1832.

105. **False Abdominal Tumors.**—Tuberculous peritonitis was responsible for the formations in the abdomen simulating a tumor in the three cases described. Two of the patients were in apparently perfect health, which rendered differentiation difficult.

Norsk Magazin for Lægevidenskaben, Christiania.

Last indexed, page 1731.

106 (LXVIII, No. 4, pp. 345-452.) *Sodium Phosphate in Neurasthenic Conditions. (Fosforsurt natron ved neurastheniske tilstande.) H. J. Vetlesen.

107 Three Patients with Gangrene of the Lungs Treated by Operation. (Lungegangræn.) A. Gundersen. (La Crosse, Wis.)

108 Triple Phosphate Crystals in the Cadaver. (Tripelfosfatkrystaller fundet i kadaver.) H. Hopstock.

109 *Congenital Cardiovascular Defects. (Medfødte hjertefeil.) O. Scheel.

110 Importance of Milk-Vegetable Diet. (Lacto-veg. diæt.) E. Møinichen.

111 Rupture of Bladder. (Ruptura vesicæ urinariæ.) O. Borchgrevinck.

112 Hemorrhage from Gastroenterostomy Wound. (Efterblødning.) Id.

106. **Sodium Phosphate in Neurasthenic Conditions and in Exophthalmic Goiter.**—Vetlesen has been proclaiming for some years the advantages of sodium phosphate in exophthalmic goiter. His later experience fully confirms his first assertions in regard to the efficacy of this remedy, which, he says, was first suggested by the success of organotherapy. He has now a record of 40 cases of exophthalmic goiter in which it has been applied. He tries it in every case and generally derives great benefit from it. His present article relates his experience with it in neurasthenic conditions. He gives the details of 6 out of 30 cases in which he has administered it in his private practice, while it has been given to hundreds at the hospital. No by-effects were observed, but the tonic action on the nervous system was striking in many instances. He adds that the drug is a welcome addition to the usual measures at our command in treating the protean manifestations of neurasthenia. The examples he gives show marked benefit under sodium phosphate administration and its harmlessness even when continued for months. He orders one tablespoonful four times a day of a solution of 15 parts sodium phosphate in 250 parts water.

109. **Patent Duct of Botallo.**—Scheel's first patient was a woman of 28 who had had a tendency to slight cyanosis of the periphery since childhood, and dyspnea on violent exertion. As she grew up the cyanosis became more pronounced while the diuresis decreased. The area of dulness over the heart was enlarged, extending upward to the second left costal cartilage with marked systolic thrill over the entire heart and a loud, prolonged murmur ending in an accentuated second sound. The patient succumbed to an attack of pneumonia. The mechanism of the defect and of the heart functioning is compared to the conditions in normal hearts, and in conditions in which, with enlargement of the pulmonary artery, the ascending aorta was unusually narrow, normal or dilated. In another case of congenital anomaly the patient was a four-weeks-old infant and the aorta and pulmonary artery were transposed.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their methods, or in the interest of our readers.

Gynecology and Abdominal Surgery. Edited by Howard A. Kelly, M.D., F.R.C.S. (Hon. Edin.), Professor of Gynecologic Surgery at the Johns Hopkins University, and Charles P. Noble, M.D., Clinical Professor of Gynecology at the Woman's Medical College, Philadelphia. Illustrated by Hermann Becker, Max Brödel and Others. Volume I. Cloth. Pp. 851. Price, $8.00 net. Philadelphia and London: W. B. Saunders Co., 1907.

Hygiene of Nerves and Mind in Health and Disease. By August Forel, M.D., Formerly Professor of Psychiatry in the University of Zurich. Authorized Translation from the Second German Edition. By Herbert Austin Aikins, Ph.D., Professor in Western Reserve University. Cloth. Pp. 342. Price, $2.75. New York and London: G. P. Putnam's Sons, 1907.

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Address

SPECIALISM IN ITS RELATION TO GENERAL MEDICINE.

ADDRESS OF CHAIRMAN OF THE SECTION ON LARYNGOLOGY AND OTOLOGY, AT THE FIFTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT ATLANTIC CITY, JUNE, 1907.

S. MAC CUEN SMITH, M.D.

PHILADELPHIA.

"From the remotest past which science can fathom, up to the novelties of yesterday, an essential trait of evolution has been the transformation of the homogeneous into the heterogeneous." This statement of the great English philosopher, Herbert Spencer, is especially applicable to the development of medicine. The history of our art and science is a brilliant example of the truth of this assertion. Of humble origin, nourished and reared by superstition, for ages an integral part of theology and priestcraft, medicine has grown to be of so complex a nature that the combined intelligence of many sages is insufficient to grasp all its essentials. At first homogeneous, it is certainly now heterogeneous. "From an insignificant shrub a stately tree has developed, its numerous branches profusely laden with blossoms and fruits, and the widely-disseminated roots drawing their nourishment from a resourceful ground."

The development of the art and science of medicine was exceedingly tardy. Checked and hampered by the miracle workers, retarded by the lack of investigation and of scientific study, it was many ages before the dawn of actual progress. As early as 500 B. C. the Egyptians, during the time of Herodotus, practiced applied methods of healing different parts of the body, specialists being sent to the patient as his symptoms demanded special treatment. We read that at that time Arthothis, the first successor of Menes, founded the palace at Memphis and was the author of books on surgery. During the evolution of medicine which followed from the time of Æsculapius, the most prominent contributors to science among the different schools were those who devoted their time and energies to one particular branch of medicine, such as anatomy, physiology, pathology or therapeutics. Even the influence and teachings of Hippocrates were encompassed in an empiric system by his successors, and it was only in the luster that was diffused from the great Italian universities during the Middle Ages, in which anatomy and physiology were systematically taught, that there existed a ray of hope for the future. This was the period in which medicine and surgery were sharply separated. The physician deemed it beneath his dignity to undertake any kind of operation, and the barber was the surgeon, *per se.* Paré and his pupils had not yet appeared on the scene, and venesection was the universal operation. Practically the earliest division of medicine into specialties was this separation of internal medicine from surgery.

An epoch then appeared in which the natural sciences began to exert their influence on the development of medicine. Practice, which up to that period had been conducted entirely on the basis of authority—the teachings and writings of the old masters—began to depend more and more on observation and research. Chemistry, the daughter of alchemy, developed into a rapidly-growing science. Biology was studied systematically, and natural science was invoked to elucidate many hitherto unexplained problems. Pathology was the logical outgrowth from anatomy. Histology and microscopic anatomy arose from research in physiology. Other departments were speedily developed, and by means of the results thus obtained it soon became impossible for a single individual to grasp all the essentials that had been thus evolved. This culminated in the origin of specialism and specialists. Although this tendency was at first combated by certain leaders of the profession, because it was thought that such a division would shatter the unity of scientific medicine, the opposition proved fruitless. Thus the addition of many new chairs to the university course in medicine became necessary, although the introduction of strict specialists as teachers is of more recent occurrence. It was not until near the close of the eighteenth century that a special course on surgery was taught in the German universities.

As era succeeded era and scientific truths were spread broadcast through the establishment of societies and medical journals and by the important discoveries of such men as Harvey, Sylvius, Sydenham, Cowper, Boerhaave, Bichat and others, specialism maintained its growing importance in the domain of medicine, until at the beginning of the nineteenth century we find one of our broader specialties, i. e., surgery, represented by Sir Astley Cooper and Sir Benjamin C. Brodie.

Strictly speaking, specialism and specialists have been known since the remotest ages. In the school of Alexandria numerous specialists were connected with the faculty. In the Middle Ages there were oculists, those who made a specialty of stone in the bladder, worm doctors, etc.; finally the exorcist arose, whose specialty consisted in driving out from the body the supposed evil spirit that was considered the cause of the disease.

As history repeats itself in medicine as well as in civic and political affairs, so the advent of any new discovery of note often exposes the discoverer to severe and drastic ridicule. Thus we find that Harvey, the discoverer of the circulation of the blood, was exposed for a long time to numerous indignities by his rivals, which must have been most difficult for one of his sensitive temperament to endure. When fifty years ago Manuel Garcia introduced the laryngoscope it was regarded by the general profession as a "physiologic toy," and its introduction into hospitals and dispensaries was accomplished with great difficulty, because of the popular prejudice existing at that time; whereas in the comparatively short era that has elapsed since then its invaluable aid in diagnosing abnormal conditions of the upper air passages is undisputed.

But all this bears no comparison to the modern development of specialism, for to-day we have specialists for a single disease, or even for a special method of treatment. It is impossible to deny that this tendency to specialization is justified to a certain extent, and is quite proper, for medical science owes many valuable discoveries and therapeutic methods to this tendency. Furthermore, the same tendency is noted in the arts and industries, and has proved to be an essential factor in our modern material progress. The continued growth in medical knowledge, the acquisition of great experience, and the development of improved methods of examination and treatment, all require intense study and careful research in special fields. In order to be thorough, therefore, it is necessary to limit our efforts.

The practice of medicine has gained greatly by this process of evolution of specialism. Every specialty has added something, either in diagnosis or in treatment, to the common fund of knowledge. The youngest child of medicine—bacteriology—has been a great contributor, and surely this is a specialty. All that we know of serum treatment and immunization, with perhaps the single exception of vaccination, has been contributed by this science, a science so recent that most of us were not even taught the essentials while in college. Diphtheria, even in its severest manifestations, has become manageable through the administration of antitoxin. Certain forms of sepsis are controlled with antistreptococcic serum; favorable reports are becoming more numerous in regard to tetanus antitoxin; hydrophobia is successfully combated according to Pasteur's method, and yet we are only in the incubation stage of serum treatment. Wright, of London, has opened up to our view a new field by his studies of opsonins, the opsonic index and methods of immunization.

Not merely has bacteriology aided us in the treatment of disease, but diagnostic methods have even been revealed. In illustration it is sufficient to mention the tuberculin test of Koch. Carried to its legitimate and logical conclusion, this has proved to be the initial reaction, which, when continued, has often demonstrated its therapeutic power to check tuberculous lesions.

Coincident with this advancement, organotherapy was inaugurated. We already know much in regard to the uses of the thyroid extract. We have found a specific for myxedema. Other organs have yielded extracts from which much is expected, such as the ovary, the adrenals and the brain or medulla.

Clinical medicine has now been divided into numerous specialties. We have specialists for diseases of children, for nervous diseases in general and for purely mental diseases, for diseases of the chest (heart and lungs), for diseases of the abdomen (stomach and intestines), for diseases of the kidney, while there are even specialists who treat nothing but diabetes, and so on *ad infinitum*. It has not yet been definitely recorded whether there are specialists for diseases of the umbilicus, although some one has suggested that this domain belongs to the "naval surgeon." But, seriously speaking, much good has been accomplished by this apparently ridiculous dismemberment of clinical medicine.

The special study of digestive diseases has developed a more exact understanding of the chemistry of the stomach. With the introduction of the stomach tube by Kussmaul we have learned to recognize many obscure maladies and to give prompt relief. This was followed by the chemical examination of the gastric juice. It was found that hydrochloric acid was usually increased in amount in ulcer and absent in cancer of the stomach. This led to the early recognition of malignant affections of the stomach and the possibility of their removal by the surgeon.

Nothnagel's studies of intestinal affections became the stimulus which brought about the systematic examination of the feces. The chemical and microscopic examination of the feces is just as important in intestinal disease as is the examination of the sputum in affections of the lungs, or the examination of the urine in diseases of metabolism and of the kidneys. Thanks to the researches of Schmidt and Strassburger, the chemism of the intestine is no longer the enigma that it formerly was. The finding of occult blood in the feces is an immense gain in the diagnosis of many bowel conditions.

Otology has cleared up the relation of abscess of the brain to diseases of the ear. We now know that the otitis media complicating many general diseases is frequently the cause of meningitis, of brain abscess, and, by metastasis, of hepatic abscess. It is now clear that many a life has been sacrificed by waiting until pus has accumulated in sufficient quantity within the tympanic cavity to cause spontaneous rupture of the membrana tympani. Physicians are beginning to recognize the value of repeated aural examinations in an illness of doubtful diagnosis, and thus avoid the unpardonable blunder of treating patients for ailments, until a suddenly-discharging ear relieves the symptoms and clears the diagnosis.

Laryngology has contributed its share toward the common fund. Many obscure nervous affections are properly appreciated by the finding of a paralyzed vocal band. Aneurism of the aorta is often positively diagnosed by the recognition of the same condition. The laryngologist has taught us to appreciate the laryngeal crises of tabes dorsalis. He has shown us that asthma is often of reflex origin; that excision of the tonsils and adenoids frequently relieves deficient mentality and other sequelæ of suboxidation.

It would require a large volume to enumerate the benefits that ophthalmology has conferred on clinical medicine, and, in fact, there is a stately volume of 559 pages by no less an authority than Schmidt-Rimpler in the Nothnagel Series on "Diseases of the Eye in Connection with Other Diseases." Is it necessary to speak of albuminuric retinitis, of diabetic cataract, of choked disc in meningitis and brain tumor, of optic atrophy as a sequel of toxemia or of tabes? How often has headache been relieved by the correction of some error in refraction? And if we were to credit all that has been claimed, we might believe that quite a number of the world's geniuses behaved in an erratic manner because they were myopic!

The follower of one particular pursuit in medicine can not fail to realize at the very outset that as the organism is composed of individual organs or members, each of which, although possessing individual functions peculiar to itself, bears an intimate and constant relationship one with the other, the successful treatment of abnormal conditions of one individual organ or group of organs depends not alone on the correction of the abnormal condition itself, but on a careful study of the organism as a whole. The internist or practitioner of general medicine has, therefore, the opportunity to amalgamate and co-ordinate all these heterogeneous medical facts by taking a bird's-eye view and surveying the organism as a whole. His is the master mind which sees in specialism the evolution of a "medical minutiæ" which furnishes him with those special facts which he has not the time, inclination or ability to secure for himself, but which he knows are essentials. He calls on his fellows to supply him with the missing links, and gradually welds together a perfect diagnostic chain. He thus broadens the horizon of the specialist and illumines the future of medicine.

While it is a well-established fact that pathologic processes vary greatly in the different tissues of the body, depending on their structure, whether endothelial or epithelial, archiblastic or parablastic, yet certain morbid processes frequently occur (notably toxemia and the specific forms of disease) which affect the entire economy. In addition to this, the reflex influences exerted by diseases of different organs, and the various causes which modify the functions of the entire organism, all need to be taken into consideration as etiologic factors influencing the course of the local disease. Perhaps the specialist of the past has unwittingly erred in dealing with his specialty as though it were a distinct entity, often overlooking the fact that each tissue or organ is but an integral part of the whole; but during the past few years developments of the specialties, notably those of otology and ophthalmology, have done much to convince the family physician and the laity that those who limit their treatment to diseases of these special organs are far from being narrow or short-sighted in their conception of disease in general.

Another potent factor which is tending to develop specialism to-day, in its broader sense, is the fact that our medical schools have established such high-grade and rigid requirements of tuition that only men of good general education can enter on the curriculum. Many of our medical colleges now require compulsory examinations in special branches. One of our celebrated diagnosticians has truly said that "one year in a good hospital equals ten years in private practice in point of experience gained," and certain it is that ten years in private practice will prove an adequate foundation for the broad-minded specialist.

It is possible to enumerate the advance in every specialty and to show the contributions to the common fund, but this is all familiar knowledge to you. What, however, is the meaning of this tendency? Does it show that the days of the general practitioner are past? That we must all become specialists? That the unfortunate sufferer must have a corps of doctors for his nose, his throat, his ear, his chest, his stomach, etc.? Not at all! The analysis of this problem has quite a different significance. It indicates that the education of the medical man must be more thorough. It points out that the practitioner must have a wider general knowledge, and this can only be obtained by better instruction of the student while in college. It means more practice and less theory. It does not indicate that we can educate specialists in our general medical course, nor that we can make specialists in a six or eight weeks' postgraduate course. The general family physician must have sufficient learning to know when the time approaches to consult a specialist, and the specialist must have a broad enough general medical education not to become narrow, but to be able to appreciate conditions just a little beyond his own horizon. After all, the art of medicine is diagnosis. Diagnosis can not be taught in four or five years in a medical course. It includes an appreciation of physiognomy and psychology. The classic dictum, *"Qui bene diagnoscit, bene curat,"* still holds true.

As reports of new discoveries and new methods of treatment are constantly being made and each individual branch of medicine becomes the seat of a vast amount of necessary knowledge, the fact must become evident to the general practitioner that to perfect oneself in all branches would be an utter impossibility. He can not fail to recognize, therefore, the equally important fact that when years of tireless study and energy are concentrated on one special branch of medicine, the physician who devotes himself to this special study must needs be more capable of diagnosing and treating successfully the diseases comprised in that specialty. To quote from an address on the subject by an eminent authority: "It is not a sign of strength, but of weakness, if a practitioner, misguided by a false sense of shame, obstinately refuses to recognize that he has arrived at the end of his own powers, and if with equal obstinancy he refuses to let his patient have the benefit of advice in conjunction with himself."

There is not the least doubt that the public is fast recognizing the fact that specialism is a valuable and, at the present day, indispensable adjunct to general medicine. This is, perhaps, emphasized by the fact that until within the last decade men were graduated as full-fledged M. D.'s who had absolutely no compulsory, and little volitional, instruction in the special branches of medicine, i. e., otology, rhinology, ophthalmology, gynecology, dermatology, proctology, etc., and who at the time of their graduation could not diagnose suppuration of the middle ear from a furuncular abscess, hypertrophic rhinitis from a nasal spur, or eczema from acne. It can be easily understood how patients falling into the hands of such graduates would fail utterly to receive any benefit, and thus would be compelled to change medical advisers or to consult a specialist. Again, the busy general practitioner can not well take the time, even if he has the ability, to make the prolonged examinations which are so necessary in special branches, notably that of ophthalmology.

In the praiseworthy desire to benefit humanity by concentration and specialism, however, let us not forget that the general physician has been and always will be an indispensable factor in the community in which he lives, and whom he willingly serves to the best of his ability, often at the sacrifice of his own comfort and health. All honor to him who has served faithfully and well, who has studied the histories, idiosyncrasies and temperaments of his patients, and has advised and comforted them through the dark hours of affliction. His riper knowledge, which comes from a school without books—the school of experience—can never be gainsaid, nor his place usurped in the hearts and minds of right-thinking men, and, as specialists, let us deem it a privilege, nay, an honor, to assist and to cooperate with him at all times and under all circumstances, and in any way within our power.

Learning to Use the Ophthalmoscope.—To facilitate practice in the use of the ophthalmoscope, Dr. William A. Fisher (*Ophthalmic Record*, March), president of the Chicago Eye, Ear, Nose and Throat College, has arranged a little artificial eye chamber with an iris diaphragm in the front, with an arrangement at the rear for inserting disks on which are represented, in natural colors, various diseased conditions of the retina. He thinks that this contrivance will aid students to become proficient in the use of the ophthalmoscope.

Original Articles

NON-OPERATIVE TREATMENT OF THE MIDDLE TURBINATE.*

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The proportion of cases in which we find the middle turbinate involved in a pathologic condition that does not require operative treatment for its removal is, relatively speaking, small in number.

The etiology of these is: (1) Systemic, (2) local. The non-operative treatment consists in the removal of the cause of the trouble.

The primary cause of the average case of disease or irritation of the middle turbinate which does not require surgical treatment—those cases of vasomotor coryza, spasmodic rhinitis and edema—I have found to be systemic, and the exciting factor in precipitating the acute attack is not so frequently due to exposure to colds and draughts as to overindulgence in, or injudicious, eating and drinking. The large majority of these cases are in "the overfed and underworked" class and those who live an indoor and sedentary life. I have seldom seen this condition in the outdoor laborer or in one who lives on plain food and uses sparingly, or not at all, alcoholics, coffee, tea and so-called desserts.

I do not recall seeing any case of middle turbinate disease (which did not require operative treatment for its relief) in which the entire nasal and nasopharyngeal cavity was not involved, except a few cases in which the cause of the trouble was the inhalation of an irritating vapor or dust. In these cases the trouble was confined to the nasal cavity alone. All the other cases can be included in that class which, on other occasions before this Section and before the meetings of the American Laryngological, Rhinological and Otological Society, I have designated as lithemic nasopharyngeal irritation.[1]

The views expressed in these papers have been verified by subsequent observation. The cases of middle turbinate irritation, whether it be that form known as lithemic rhinitis, vasomotor coryza, spasmodic rhinitis and edema are characterized by no lesion, and there is no distinct pathologic alteration, the entire trouble being a local manifestation of a systemic condition. The patients are usually highly neurotic, good livers, leading more a mental than an active physical life. They complain of always taking cold, of sneezing, of having a stuffy feeling in the head, of one nostril being always stopped up, of copious and frequent discharge from the nose, and of being greatly annoyed by an accumulation behind the palate, and by cracking noises in the ear. In addition to these nasal symptoms, attention will be called to a stiffness in the throat, with the sensation of a foreign body, like a piece of bread crust or fish bone in the tonsil. Altogether they are a miserable, snorting, snuffling, handkerchief-using, irritable and generally uncomfortable set, who are prone to blame all their ills on a "catarrh."

Interrogation reveals the fact that more or less constipation exists and some laxative is frequently needed. Little water is drunk. Meats and sweets are freely used, as well as salads, acids, coffee and tea. The skin is abnormally florid or muddy, in the former case suggesting too free use of alcoholics, in the latter so-called biliousness; in both cases the liver is most unmercifully suspected if not damned. A patient with such a history leads me to suspect at once indicanuria, with probably an excess of uric acid.

My observation is that when there is an abundance of indican in the urine, in cases such as I have described, there is no satisfactory or permanent relief until the treatment thoroughly eliminates this, and till the insufficient functioning of the large and small intestines be remedied and the improper diet corrected. It is not so much a question of diet as of regulating the intestinal tract.

Anterior rhinoscopic examination reveals a congestive rather than an inflammatory process, with apparently an "increase in the connective tissue elements, or through a multiplication and extension and distension of the blood interspaces or sinuses. These tissues occupy a relatively greater space than they should and cause a narrowing of the respiratory area of the anterior portion of the nasal cavity" (Wishart). In these cases the occupation, environment and climatic conditions which obtain, the nervous mechanism of the patient and the use of alcoholics and other stimulants, must be considered in arriving at the cause of the nasal disturbance; but far more frequently do I find of more importance than all these in the production of the irritation and discomfort in the middle turbinate imperfect or incomplete digestion, assimilation and elimination. Faulty and imperfect elimination of the gastrointestinal contents results in subalkalinity, this, in turn, causing faulty oxidation and consequently retarded digestion, assimilation and elimination. As a result of this there is fermentation and putrefaction as well as the growth of pathologic micro-organisms, all these favoring autointoxication.

If an excess of indican or acid is found in the urine, that form of treatment which removes the cause of this most thoroughly and rapidly should be used. In either case, the diet should be restricted, the intestinal canal emptied and cleaned by either olive oil in large doses or castor oil in doses of 1 ounce daily, followed in six or eight hours by an alkaline laxative saline. The salicylates should be given largely diluted in moderate doses and at short intervals. I have rarely found local treatment necessary except in the beginning of the treatment, when the nasal cavity is cleansed with normal saline solution containing a small quantity of menthol and adrenalin solution. Of the latter I never use a stronger solution than 1 to 7000. Sprays, nebulizers and local applications of astringents are seldom given the patient, as their frequent use has a tendency to increase the irritation.

In the treatment of that class of cases due to climatic changes or inhalation of irritants, the cause of the trouble is as far as possibly removed and as little local treatment of a soothing nature is used as will allay the irritation.

The non-operative treatment of disease of the middle turbinate may be summed up as follows: (1) Correct faulty intestinal metabolism, (2) restore bodily resistance, (3) cleanse, sooth and protect the diseased or irritated area.

[A GENERAL DISCUSSION ON ALL THE PAPERS ON THE TURBINATE WILL FOLLOW THE LAST PAPER OF THE SERIES, WHICH WILL BE PUBLISHED IN DUE COURSE.]

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

[1] Annals Otology, Rhinol. and Laryn., May, 1902; Trans. Amer. Laryn., Rhinol. and Otol. Soc., 1902 and 1905, and THE JOURNAL A. M. A., Oct. 15, 1904.

THE BACTERICIDAL VALUES OF SOME WIDELY ADVERTISED ANTISEPTICS.

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In a brief communication to this journal it was pointed out[1] that if hydrocele fluid is added in sufficient amount to a solution of sodium aurate, protargol or argyrol, although no visible reaction takes place, the bactericidal power of the antiseptic is immediately destroyed. Following a suggestion that this inhibitory action of serum in all probability also held true for all other non-irritating antiseptics, G. S. Derby[2] tested its action on the following silver preparations: Collargol, albargin, ichthargan, argentamin, largin and argonin. In each case he found, as was anticipated, that the antiseptic was rendered ineffective. The importance of this action of serum on an antiseptic will be apparent when it is considered that in penetrating the tissues the antiseptic at once meets with an excess of serum, and hence loses its bactericidal power.

In view of the great claims made by manufacturers and others in regard to still other much advertised antiseptics, it occurred to us that it would be well to investigate these also. The number of such preparations, however, was found to be so great that we abandoned the idea of testing all of them and confined our attention to those concerning which the claims seemed more or less rational. However, we find on referring to the "formulæ" that most, if not all, the antiseptics not tested by us differ only in name from one another of those in our list.

The micro-organism on which the tests were made was the *Staphylococcus pyogenes aureus*. This was selected because of its great prevalence and because of the ease with which its colonies may be recognized. The particular strain of coccus used was not very resistant, as is shown by the fact that it was killed by an exposure of one minute to a 1:1000 solution of mercuric chlorid, or to a 2 per cent. solution of phenol (carbolic acid). The tests were all carried out at room temperature.

In making the tests, one or two c.c. of the solution to be tested was placed in a small sterile glass vessel provided with a cover, to which were added one or two loopfuls of the fluid from a 24-hour culture on blood serum. To increase the number of bacteria in the fluid it was previously run over the solid medium so as to wash all the colonies into it. Cultures were then taken at definite intervals, one large loopful of the mixture being transferred each time to the fluid in a blood serum culture tube, the latter shaken, and the fluid flowed over the solid medium. The culture tubes were specially prepared with an extra amount of fluid for this purpose. By this method the number of bacteria killed in a given time was quite accurately indicated by the number of colonies that grew out on the solid media. Thus, in case all the cultures taken were positive, the length of exposure necessary to kill all the organisms could be closely estimated, and the next series of exposures timed accordingly.

In determining the effect of serum or albumin on the antiseptic, hydrocele fluid, or a saturated solution of albumin, was first placed in a glass vessel, the bacteria stirred in, and the antiseptic solution then added to the mixture.

It seems to us that the above is a fairer method of testing antiseptics than is the case when the cultures are made in bouillon, for it is evident that if only one or two groups of organisms escape the action of the antiseptic, perhaps by floating on the surface, or being protected by an air bubble, at the end of 24 hours an abundant growth would still be obtained in a bouillon culture. If, however, it is demanded that all of the organisms must have been killed, this is easily ascertained in the method used by us, by once more flowing the fluid over the solid media at the end of the first 24 hours and again incubating the tubes.

According to our findings, the antiseptics tested may be classified as follows:

ANTISEPTICS WHICH, ACTING ALONE IN THE STRENGTH SPECIFIED, FAIL TO DESTROY THE VITALITY OF THE *Staphylococcus aureus* AFTER AN EXPOSURE OF OVER FOUR HOURS.

Alkalol, 100 per cent.
Crystalline, 100 per cent.
Vaginal antiseptic (Abbott), 2.5 per cent.
Borol, 50 per cent.
Alkathymol, 100 per cent.
Glycothymoline, 100 per cent.
Cuprol, 5 per cent.
Zinc sulphocarbolate, 1 per cent.

The strength of the solution tested was in every case no less than that recommended as effective by the makers.

It is evident that these antiseptics could have little if any greater therapeutic value than sterile salt solution. Certainly, for the purposes for which they are recommended they could never have an opportunity of acting for over four hours in an undiluted condition. In fact, the sterile salt solution would be in most cases preferable, if only for its non-irritating property, to say nothing of its inexpensiveness.

ANTISEPTICS WHICH, ACTING ALONE, ARE MORE OR LESS EFFECTIVE, BUT WHICH, WHEN MIXED WITH AN EQUAL VOLUME OF HYDROCELE FLUID, FAIL TO DESTOY THE VITALITY OF THE *Staphylococcus pyogenes aureus* AFTER AN EXPOSURE OF OVER TWO HOURS.

Acting alone kills in	Substance.	Strength—per cent.
One minute.	Liquor antisepticus, U. S. P.	100
One minute.	Listerine	100
One minute.	Lysol	1
One minute.	Cresylone	1
One minute.	Trikresol	9/10
One minute.	Acetozone (1 :1,000)	
One minute.	Alphozone (1 :1,000)	
One minute.	Euthymol	100
One to five minutes.	Germicidal discs (HgI_2, 1 :1,000)	
Two minutes.	Picratol (1 :2,000)	
Fifteen minutes.	Nargol	1
Twenty minutes.	Therapogen	3
Thirty minutes.	Creolin	1
One hour.	Sal hydrastin	1
One hour.	Kreol	1
One hour.	Sulphonaphthol	1
One hour.	Sublamine	4/10
Two hours.	Mercurol	1

In the case of alphozone, 1:1000, and acetozone, 1:1000, it is claimed that they are effective when taken internally. They are even recommended as effective remedies in typhoid fever. We have, therefore, tested the bactericidal action of each of these antiseptics on the typhoid bacillus when mixed with equal volumes of saturated albumin solution. In each case positive cultures were obtained after an exposure of 24 hours. The same result was obtained likewise with zinc sulphocarbolate in 1 per cent. solution (included in our first list) which also has been exploited as an intestinal antiseptic.

The results with mercuric iodid (germicidal discs) were also of interest aside from the fact that this chemical is inactivated by serum. The makers claim that this is more highly bactericidal than mercuric chlorid in solutions of equal strength. We find, however, that when tested on the *Staphylococcus aureus* the two salts are about equal in germicidal power, each destroying this organism in one to five minutes. We find, also, that the 1:5000 solution of mercuric iodid, which the makers claim to be more effective than a solution of mercuric chlorid of 1:1000, requires over thirty minutes to kill the *Staphylococcus aureus*. The makers lay great stress on the fact that mercuric iodid does not coagulate albumin. As a matter of fact, however, this is true also of mercuric chlorid when the latter is combined with certain substances, such as ammonium chlorid, which is the case with the antiseptic tablets commonly used.

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[1] Verhoeff (F. H.): A Further Note on the Antiseptic Properties of Sodium Aurate, The Journal A. M. A., May 12, 1906.

[2] An Experimental Study on the Bactericidal Power of Various Silver Preparations, Am. Ophth. Trans., 1906.

We desire to call especial attention also to the fact that in the above list none of the antiseptics were found more effective than the Liquor Antisepticus of the new Pharmacopeia. The first eight antiseptics given in the second list could no doubt be used for disinfecting hands or instruments. In our opinion, however, they possess no advantages over alcohol for this purpose. We find that 95 per cent. alcohol will destroy the *Staphylococcus aureus* in twenty seconds.

In this connection it may be well to point out that Harrington and Walker[3] have shown that 60 per cent. to 70 per cent. alcohol is more efficient than 95 per cent. alcohol on dried threads impregnated with staphylococci. As an explanation of this fact we suggest that it is probably due, not to the drying of each individual organism, but to the fact that in certain clumps of organisms the bacteria at the periphery, in drying, form a wall around those in the center, which protects the latter from drying, and also from the action of the strong alcohol. We also suggest that this difficulty could be better obviated for practical purposes by moistening the hands or instruments before immersing them in the alcohol than by reducing the concentration of the latter, as recommended by Harrington and Walker. The advantage of the strong alcohol over the weaker is that in practical use its efficiency would be less quickly reduced by evaporation or addition of water from the hands.

While it is true that the antiseptics tested by us are comparatively few in number, they contain the active constituents of probably all those in practical use, so that our results seem to justify the belief that no non-irritating chemical antiseptic can be effective in the presence of serum. That is to say, no chemical antiseptic can destroy micro-organisms within the tissues without injury to the latter. In fact, it would seem that the non-irritating property of any given antiseptic is dependent on the inhibitory effect exerted on it by the tissue fluids. Whether this protective action of serum is due to a chemical reaction with the antiseptic or whether it is due to the physical properties of serum which may prevent the antiseptic from entering the bacterial or tissue cells we are unable to say.

Notwithstanding the fact, however, that local antiseptics if non-irritating are ineffective within the tissues, it does not necessarily follow that they are altogether useless, for by destroying the bacteria on the surface of an infected area they prevent constant reinfection of the tissues, and hence reduce the number of organisms against which the latter must contend. This beneficial action of local antiseptics is especially evident in cases of acute catarrhal conjunctivitis, the course of which is undoubtedly shortened by their use. On the other hand, the fact that the actual cure of an infection is ultimately dependent on the resistance of the patient is well illustrated by gonorrheal conjunctivitis, which is not appreciably influenced by the use of antiseptics.

Although our results indicate that none of the antiseptics tested by us, in the necessary dilutions, could be effective in the intestinal tract, we are not justified in concluding that it is impossible to find an antiseptic which would be active here. For it is conceivable that a chemical antiseptic could exist, which would act in the presence of the intestinal contents, and yet be prevented from injuring the intestinal walls by the inhibitory action of serum. However, although possible, it is extremely unlikely that an antiseptic could exist which would fulfill these requirements, and which could still safely be used in sufficient quantity to disinfect more than a small part of the intestinal tract. Even if such an antiseptic could be found, it would be useless in such a disease, for instance, as typhoid fever, since the bacilli in the Peyer's patches, as well as those in the blood, would be protected from the action of the antiseptic by the tissue fluids.

THE RELATIVE VALUE OF CLINICAL MEDICAL AND SURGICAL KNOWLEDGE TO THAT OF THE LABORATORY.*

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The knowledge gained by clinical experience is acquired in quite a different manner from that through the laboratory. Generally, in the laboratory, a definite and inflexible end is pursued, and more or less established methods followed.

Clinical knowledge and experience, on the contrary, are acquired by daily and hourly individualized observation. The knowledge and wisdom of Marion Sims and O'Dwyer, for instance, were acquired by patient, persistent clinical observation and experiment of an individual character, while that of the laboratory student is the result of following, too often, the beaten path blazed by original investigators.

It is an old and hackneyed aphorism that in human affairs the pendulum never rests at zero, but swings now to this, now to that extreme, and so slowly at times that its movement is hardly realized. We are all aware that just now in medicine and surgery it swings toward an exploitation of the laboratory and its facts and theories. The man, the mind behind the microscope, the culture tube and the antitoxin syringe, is comparatively lost sight of. In fact, many enthusiastic young graduates seem to think medicine about perfect as a science, and when later on they are confronted with the problems of human temperament, heredity and the complexities of human nature they are apt to blunder in bewilderment, and are unpractical, tactless and incompetent in the presence of serious disease. They have yet to learn that "Knowledge and wisdom oft confounded are," and, above all, that medicine is to-day about three-fourths an art; an art not to be mastered even partially before the age of—shall I say—forty or fifty or seventy years.

Of course, it is not that the young doctor's technical and laboratory knowledge is at all to be despised or underrated. The trouble is that our young colleagues, and old ones, too, often do not acquire the ability to apply their theoretical accomplishments, or do not possess or try to cultivate that breadth of view which, with sympathy and tact, finally rises to the heights of an altruistic intuition. Probably there is not one of us who, having a desperately ill wife or child, would not pass by his best friend and confrère endowed with the perfection of cold, technical knowledge, and place the loved one into the keeping of another (perhaps a comparative stranger), whom he knows has an honestly sincere, conscientious heart, with but an average training in the minutiæ of laboratory detail, yet possessed of that not common faculty of intuitive diagnostic ability which comes only from observation and long experience.

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[3] The Germicidal Action of Alcohol, Boston Med. and Surg. Jour., May 21, 1903, cxlviii, 548.

* Read before the Portland Academy of Medicine, May 9, 1907.

The bold, successful (in the world's sense), and ambitious surgeon, we must fear. Or, it is the similarly favored internist, who believes he has a sort of infallibility of diagnosis and therapy. Most dangerous of all is he who rushes in and attacks disease with a scant recognition of the patient's personality, and that he is a human brother in distress. It was long ago said: "It is as important to know what kind of a patient the disease has as to know what kind of a disease the patient has."

Surgery has long been termed "the reproach of medicine"—knife knowledge used to cut the Gordian knot which might be untied by a patient and wise use of long acquired clinical wisdom. Doubtless the proverb is often justly quoted, yet to no one would I give place as regards a high respect for a learned and conscientious surgeon, for, when he has performed, say, a capital operation with life at stake, or blindness (held at times as worse than death), he is still face to face with the after-treatment, and by his ability to fight this battle we must judge his courage and resources.

I doubt whether any man ever illustrated in his life and teaching these facts with more faithful earnestness than that great American surgeon, Samuel D. Gross, author of the first American work on pathological anatomy. Between the covers of his treatise on surgery are nearly all the principles of surgical anatomy, pathology and treatment now so widely scattered through special volumes. He seems to have drawn, as from an inexhaustible storehouse, the well matured and wise experiences of his extraordinarily laborious life. To-day, the day of bacteriology, toxins and antitoxins and of physiologic chemistry, not only does medicine draw on every branch of natural science, but on every branch of human knowledge.

As apropos to my subject, I draw especial attention to the present changed attitude of the profession toward mental therapy. Less than ten years ago a physician, even if skilled in psychiatry, who dared to avow and use this form of treatment, was subjected to sneering condemnation by men who now accept it as orthodox. Such individuals, who do little thinking for themselves, are now hastening to proclaim their approval of the views of, for instance, Dr. Richard Cabot of Boston. An optimistic bearing in the presence of the sick is no new thing. Some doctors possess it in virtue of their temperament, and no great credit is due them. But the intentional use of it in the face of their own worries and infirmities is a power which not many physicians appreciate. A colleague has told me that when he is overwearied and incapable of alert attention he does not dare to let an impressionable patient detect his condition, but sends him or her (more often a "her") away, to come later.

There is, however, no reasonable ground for antagonism between the experienced family physician and the laboratory devotee. Common sense recognizes that the best results are to be obtained by their friendly coöperation. But the universities should endeavor to find some method of enabling the laboratory enthusiast to systematically apply his special technical knowledge. Long ago the medical leader was the teacher who gave personal attention to the training of his pupils' minds. The art was the aim. To-day, science appears to be a modern Frankenstein, pagan and untamed, overwhelming and pursuing wisdom and experience. To wise medical education we must look for relief.

THE EARLY OR PREMONITORY SYMPTOMS OF PERNICIOUS ANEMIA.*

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As far as we now know, pernicious anemia is the result of a toxemia. The symptoms and course of the diseases are clearly in accord with this, and the study of the bothriocephalus anemias permits scarcely any other conclusion. What the exact nature of this toxin is is still a matter of speculation and doubt. It is generally agreed, however, that its origin is somewhere in the alimentary canal. The study of the bacteria in the intestinal canal has gone far towards establishing this consensus. In a recent publication by Dr. C. A. Herter, it is definitely shown, for instance, that the *B. aerogenes capsulatus* is an active hemolytic agent, and that when the *B. coli* type is sufficiently meager to permit a very large and free growth of the *B. aerogenes* alterations in the blood gradually appear and ultimately the blood picture of either a secondary or a pernicious anemia arises. Although experimental pernicious anemia, by producing *B. aerogenes* infection of the intestinal canal has not yet been brought about, the evidence of a causal relation is as strong as in the bothriocephalus anemias. In a number of cases collected by Herter, the typical blood picture of pernicious anemia was present, while the *B. aerogenes* held full sway in the intestinal canal and disappeared as this particular bacillus disappeared and the usual intestinal flora returned.

At present, as has been in the recent past, the diagnosis of pernicious anemia is based almost entirely on the blood picture, such as a high color index, megaloblasts, megalocytes, poikilocytes and leucopenia. If our present conception of this disease is correct, this striking blood change is due to a toxemia. This blood change is not the cause of the symptoms which may have preceded it or which followed. It is simply a part of the symptom-complex of pernicious anemia, and is at present looked on as pathognomonic. Other prominent symptoms are, as is well known, loss of muscular power, dyspnea and cardiac oppression, a peculiar pallor, edema, subcutaneous and submucous hemorrhage, loss of appetite, achylia, diarrhea or alternate diarrhea and constipation, a peculiar odor of the breath, eye symptoms, and certain nervous manifestations, such as tabes dorsalis or peripheral neuritis.

The object of this paper is to consider the order or sequence of these symptoms, whether there is any definite regularity of their appearance, whether the characteristic blood changes are sufficiently marked to be detected before the major symptoms arise, or, if they are not, whether there is a group or complex of premonitory symptoms on which a diagnosis could be safely established before the so-called pathognomonic blood signs can be found.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

From the literature of this subject, especially that which has arisen since the recognition of the bothriocephalus anemias, it is evident that there is no recognized regularity in the order of the appearance of the symptoms. Some may appear long before the typical blood picture can be detected. In one case one lesion may appear first, in a second another, and in a third a group may appear suddenly, or, again, none may be found at all before the blood shows a decided suspicion of the actual condition.

Now and then cases have been reported as pernicious anemia to which exception was taken at the time, because of discrepancies in the blood, but usually the diagnosis was made absolute in a subsequent report. One such case especially was reported by Dr. F. P. Henry before the Association of American Physicians in 1900. In referring to this case later, when the blood findings had become positive, Dr. Henry says:[1] "The diagnosis of pernicious anemia is most firmly based on the *tout ensemble* of signs and symptoms, both positive and negative. The presence of megaloblasts is confirmatory of, but not indispensable to, the diagnosis. They possess a prognostic rather than a diagnostic value, for they often appear in the blood in large numbers shortly before death, and are often absent for months during periods of remission." It is this statement, together with the fact that I have often in my own cases, especially during remission, found only "trifling anomalies of the blood," while grave symptoms could be easily elicited, that emphasized the necessity of considering more closely the early or premonitory symptoms of pernicious anemia. These symptoms seem to group themselves under those belonging to the digestive system, those of the nervous system and those of the cardiovascular system.

The relation of pernicious anemia and achylia gastrica has long been recognized. Their etiologic relation has been a matter of dissension since Flint's original observation. In a paper read by Stockton before this Association at this place in 1904, the discussion was properly closed by concluding that achylia gastrica is not an etiologic factor. I wish to refer to it again, however, as being a rather frequent symptom, and sometimes a very early symptom. Of the twenty cases which have come under my observation, achylia gastrica and its associated diarrhea were present in fourteen. In nine it was a very early symptom. In one of these cases it seemed to have been present thirty-five years before the blood condition was recognized, and in one remarkable case, which I shall report briefly, it was present eight years before the blood changes appeared.

Mrs. J. H. C., aged 66 years, first consulted me in September, 1901. She then had an attack of diarrhea and vomiting which had come on suddenly without any apparent cause, and was persistent. The vomitus contained no free HCl. The hemoglobin was 75 per cent., and the R. B. C. 3.600,000. The patient had had similar attacks during the previous six years. During the first attack, in 1895, she was very ill and consulted Dr. Max Einhorn of New York, who made a diagnosis of achylia gastrica, and suggested a course of treatment which resulted in apparently complete recovery. The blood, which was examined at that time by Dr. Einhorn, showed no evidence of pernicious anemia. In none of the attacks did the blood show any anomalies up to January, 1903. At this time the hemoglobin was 45 per cent. and the R. B. C. 1,680,000. The red corpuscles appeared unusually large. No megaloblasts were found. The patient now began to appear like a case of pernicious anemia, but not until May, 1903, was the pathognomic blood picture detected. Death occurred in June, 1903. At that time the hemoglomin was 10 to 15 per cent.; R. B. C. 744,000, and the leucocytes 1,300. Though Dr. Einhorn did not find any anomalies in the blood in 1895, and I did not find them until eight years later, the continuousness of the symptoms through the whole course makes it appear highly probable that the underlying cause of pernicious anemia was present from the first.

Another case which I saw in consultation with Dr. Harshberger of Lewistown, Pa., also shows that gastrointestinal symptoms were present six years before the full blood picture appeared. A brief report is as follows:

Miss McC., aged 47 years, was seen first in August, 1905. She had had diarhea and vomiting at intervals for five years. The patient was anemic, and was thought by Dr. Harshberger to have pernicious anemia, as she had that appearance. A blood examination made at the time showed, however, the hemoglobin 40 per cent., R. B. C. 4,000,000, W. B. C. 13,800, no nucleated red corpuscles. Repeated examinations were made. The stomach contents after an Ewald test breakfast showed an absence of gastric juice. I was unwilling to make a diagnosis of pernicious anemia, and considered the case one of achylia gastrica. The patient made an apparently remarkable recovery, but in January, 1906, when the symptoms returned, I had the opportunity of making another blood examination and found the hemoglobin 30 per cent., R. B. C. 1,330,000, W. B. C. 6,000, and after a long search a few nucleated reds. From this time on the patient became gradually worse and died in August, 1906. Here again the gastrointestinal symptoms were present long before the pathognomonic blood symptoms arose.

It must, of course, be remembered that the findings of a blood examination are only relative. The smallest droplet appears infinitesimal compared with the volume of blood in the human body, and it is not unlikely that blood changes are present long before it is possible to find them.

The early gastrointestinal symptoms in all of my cases were marked by their intermittency and their resistance to ordinary treatment. They usually recurred without any reasonable cause.

The nervous symptoms of pernicious anemia may appear very early in the disease or may only enter the group of terminal symptoms. Leichtenstern observed a group of cases in which the spinal disease was observed first, the pernicious anemia becoming manifest later. In six of my cases the nervous symptoms were marked, but in none were they the first to appear. Four presented decided symptoms of peripheral neuritis, and two the usual symptoms of tabes dorsalis. In one of these cases the symptoms of tabes appeared late and in the following order: loss of co-ordination, loss of pupillary reflex, disturbances of sensation, loss of knee jerks. The knee jerks disappeared a month before death. In the other case, the symptoms appeared early with the gastric symptoms and four years before the blood symptoms appeared. A report of this case is as follows:

Mr. J. V. S., aged 47, consulted me first in August, 1897. He was pale, had lost twenty-five pounds in the previous two months and had gastric symptoms which were rather characteristic of carcinoma of the stomach, but after a short course of treatment, in which the regulation of the diet was the principal feature, the symptoms disappeared. The blood at this time showed the hemoglobin 73 per cent., and the R. B. C. 3,520,000. A year later I again saw the patient. He had done a year of hard work as pastor of a large congregation.

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[1] Philadelphia Medical Journal, June 22, 1901.

He complained now of a numbness on the outer side of the left leg. The knee jerks were normal. The blood at this time showed a hemoglobin of 85 per cent., and R. B. C. 3.680,000. The gastrointestinal symptoms had about all subsided. I did not see the patient again until August, 1901. At this time the gastrointestinal symptoms were characteristic of achylia gastrica. The nervous symptoms, which had advanced slowly since 1898, were decidedly those of tabes dorsalis—absent knee reflexes, loss of co-ordination, girdle symptoms, pupillary disturbances and lightning pains. A history of lues was excluded, but there had been a severe postdiphtheritic paralysis at the age of 30. The blood now was hemoglobin 72 per cent., R. B. C. 4,008,000, but within six months the color index became high and poikilocytes and megalocytes appeared. The patient was under my observation for the following two years, during which time there were several marked remissions. In 1903 he went to the Pacific Coast, where he lived for two years, finally dying of pernicious anemia.

In this case I scarcely hesitated to make a diagnosis of pernicious anemia at least six months before the appearance of the blood warranted it. Here, again, it seems to me that the underlying cause of pernicious anemia was present from the beginning of the illness in 1898.

The cardiovascular symptoms of pernicious anemia are the least characteristic of the disease. The earlier ones can, therefore, be very easily overlooked or misinterpreted. They consist of palpitation, precordial distress, dyspnea, pulsation of the carotids, sleeplessness and anxiety, and later small hemorrhages, edema and nearly all the symptoms of failure of cardiac compensation. Practically all of these symptoms at one time or another were present in all of my cases, but in a few (five cases) such symptoms as precordial distress and dyspnea appeared early before the real condition was suspected and before the condition of the blood warranted a diagnosis. One of these is rather remarkable in that the precordial distress and peculiar color of the skin were the only symptoms, and only for a short interval did the blood show that slight suspicion which revealed what seemed to me the real condition.

I report this case, though objection to my diagnosis may reasonably be taken.

Mr. G. W. B., aged 67, consulted me first in October, 1903. He complained of pain through the upper portion of the chest when walking, slight dyspnea, and of feeling unusually weak and tired. These symptoms had come on gradually during the previous six months; otherwise he felt perfectly well. His color made me suspicious of some form of anemia. The Hb was 64 per cent., and R. B. C. 3,040,000, possibly slightly irregular in size and shape—no nucleated reds were found. Physically he seemed perfectly well. There was a marked arcus senilis, but no retinal changes. His arteries were probably a little thick. The heart sounds and blood pressure were normal. The urine was normal. No intestinal parasites were recovered. I was unable to account for the substernal pain and distress; at the same time I could not entirely dismiss the idea of the presence of the early signs of pernicious anemia. A number of blood examinations were made and finally distinct poikilocytosis was recognized, but no nucleated reds were found. A study of the leucocytes at one time showed 9,800 to the cubic millimeter; mononuclears 36½ per cent., polynuclears 55 per cent., and eosinophiles 8½ per cent. The spleen now became enlarged.

Fowler's solution in small doses was given at intervals for a year or more, and rest and freedom from care were advised. Improvement began, and at present the patient reports himself perfectly well. I have not had an opportunity to make a blood examination in the past three years. The last examination of the blood showed no poikilocytes, and the color index was normal; at the same time the spleen was normal in size. I shall not be surprised to see this patient in the near future with the typical symptoms and signs of pernicious anemia.

It is not difficult to recognize the early symptoms of pernicious anemia when once the characteristic blood changes are present. Every symptom seems to take its natural place, and the wonder is that it was not recognized earlier, or that it could be confounded with any other condition. Unfortunately, of my fourteen cases having early gastrointestinal symptoms, in but two am I able to say positively the symptoms appeared long before the blood warranted a diagnosis. Of the six having early nervous symptoms, in only one case did they appear before the signs in the blood were found, and of the five having early cardiovascular symptoms in only one—the case reported—did I properly interpret the symptoms before the blood showed any suspicious changes.

These four cases were seen early in the disease. In considering the histories of the fifteen cases in which one or more of the symptom groups, which I have mentioned appeared early, it seems to me if it had been possible to study the blood from the first it would have been found, as I positively found in the four cases, that in all, certain premonitory symptoms antedated for a longer or shorter time the appearance of the characteristic blood signs.

I am unable at present to describe a symptom-complex built on the groups of premonitory symptoms I have described in this paper which can be relied on to make an earlier positive diagnosis than can be made from the blood, but I believe a more careful study of these patients in the earlier stages of the disease will give considerable evidence that such a symptom-complex is possible.

In conclusion, I wish to summarize briefly the twenty cases on which this paper is based: They occurred among about 7,300 patients seen in a general medical and consulting practice. The average age was 55 years, the youngest being 27 years and the oldest 80 years. Eleven were males and nine females. All cases had at some time an achylia gastrica. Fourteen had remissions varying from a few months to five or six years. The spleen was enlarged in three cases. Seventeen have died. In only two were autopsies made. The autopsies were noted for the absence of positive lesions. The treatment followed was based on the necessity of rest, fresh air, abundance of nutritious food, a rational consideration of the gastrointestinal symptoms, and the almost marvelous effect of arsenic. When arsenic could not be taken by the mouth, the hypodermic use was not followed with favorable results. When the gastrointestinal symptoms could not be controlled, the administration of arsenic was useless and even harmful at times.

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DISCUSSION.

Dr. James B. Herrick, Chicago, said that in our reliance on the so-called methods of precision and laboratory methods we often overlook a method of great importance in diagnosis, a careful study of the subjective symptoms. In not a few cases he felt sure one could at least suspect the existence of pernicious anemia in the early stage from a consideration of some of the subjective symptoms. There is another period in which much difficulty is encountered, that is, when a patient comes to the office at the time of improvement. Relapses and spells of betterment are very characteristic and at such times we may find the blood picture anything but conclusive. But from a study of the subjective symptoms one might get a clew as to the probable diagnosis. Among those symptoms he wished to emphasize the gastrointestinal as of great importance. Among the other symptoms which seem worthy of note and which might come on early is paresthesia, the so-called spinal cord symptom; in not a few instances the patients complain of numbness and tingling in the fingers, even before the attention is called to the appearance of pallor, weakness, etc. There is another symptom noticed, the symptom to which Hunter called attention, the sore mouth and sore tongue. The more one looks for this in cases of pernicious anemia, the more often will it be noted. Therefore, Dr. Herrick believed that while we should not neglect a careful blood examination, we should pay more attention to the paresthesias and other subjective symptoms which might ultimately enable us to establish fairly definitely a symptom-complex of the disease.

Dr. W. S. Thayer, Baltimore, insisted that pernicious anemia is much more common than is generally supposed. He emphasized the importance of paying attention to the early nervous signs. Paresthesia is perhaps the earliest symptom complained of. Dr. Thayer gave illustrative cases.

Dr. G. W. McCaskey, Fort Wayne, Ind., said that he believes it to be a reasonable assumption that pernicious anemia is due to some toxic condition. It is often due to changes within the gastrointestinal tract, but toxins may arise from various other sources and among them metabolic changes of an undeterminable character. Certain symptoms may be found in the preliminary stage of pernicious anemia, sufficient to cause a suspicion in cases in which a diagnosis of pernicious anemia appears doubtful.

Dr. McCaskey thinks that there must be destruction of the red blood corpuscles, and that the iron in the blood must be eliminated by the kidneys or stored in the liver or elsewhere. He believes that, during the stage in which the anemia is progressive, an increase in the iron excreted will be found. Theoretically anemia may be the result either of toxins or interference or impairment of the hematogenic function. A distinction can be made between these two groups of cases if the urine is examined carefully during the different stages of the disease, and also careful estimations made of the quantity of iron excreted.

Dr. Max Einhorn, New York, spoke of the invalid to whom Dr. Lichty referred, who suffered from diarrhea, severe anorexia and loss of flesh. She could not go about. She was pale and had a type of simple anemia. The test meal showed achylia gastrica and Dr. Einhorn suggested a diet of eggs, milk, gruel, etc. She changed in ten days and the diet was kept up. Something was given to check the diarrhea. She improved so much that she could go about, and gained 20 or 30 pounds. Three years later the anemia was not so pronounced. Although somewhat pale, she felt practically well. But the gastric contents presented no change. Dr. Einhorn said that he often meets with such cases, in which there is an absence of gastric secretion and a severe type of anemia not pernicious anemia. These patients, if left to themselves with restricted diet, will die in two or three years, but if treated and nourished well, in nine cases out of ten these patients become active members of society. Some will pick up, but not become entirely well; the appetite does not return, anemia develops, and then an examination of the blood reveals a type of pernicious anemia. He was not willing to say that it is an entirely different disease. He said that he does not know to what condition pernicious anemia is due; but he does know that the condition of inanition, malnutrition of the body, the body being in a bad state, below par, badly nourished, plays a part in the production of a stage of pernicious anemia.

Dr. Howard S. Anders, Philadelphia, called attention to one feature of etiologic value, floating kidney. He had two cases under his care. A woman, 47 years of age, had a moderate degree of pernicious anemia and gave a clear history of gastrointestinal symptoms preceded by traumatism producing a floating kidney. The gastrointestinal disturbance set up by the renal displacement persisted for one and a half years, and resulted apparently in pernicious anemia. This case suggests that correction of floating kidney may help the pernicious anemia tendency.

Dr. N. S. Davis, Chicago, remarked that all present knew that cord degenerations occur with great frequency in pernicious anemia, but that all do not appreciate that this degeneration is one of the earliest symptoms. This has been impressed on him during the last two or three years, when he met with cases of combined degeneration of the posterior and lateral tracts. In such cases of combined cord degeneration, in which the anemia was slight and was characteristically pernicious, but became so later, anemia should be thought of as a possibility. Pernicious anemia should be kept in mind and the cases watched, because frequently after a time the characteristic symptoms develop. He had in mind several such cases.

Dr. Frank Smithies, Ann Arbor, said that he does not think that any symptom-complex in the early stages of pernicious anemia can be considered diagnostic which does not include careful and repeated study of the blood picture. Many classes of cases come to the physician which show disturbances of the nervous system, the heart, the stomach, etc., which do not have pernicious anemia. Although in the early cases the manifestations on the part of these organs may lead one to suspect the disease, it can not be positively diagnosed without study of the blood. If this is not done patients are apt to be improperly treated for years—although this should not be so, inasmuch as the organs supposed to be involved rarely show typical alterations. For example, the dyspnea, the edema, the heart size in those cases which exhibit cardiac disturbances are rarely typical of true, organic valvular disease. He stated that, in his experience, covering the records of more than 100 cases of pernicious anemia, there are always blood alterations in these cases, even the very earliest. There may be only the presence of oval red cells, an occasional megaloblast, or the variation in the size of the red cells. He considered normoblastic "showers" of graver prognostic value than "showers" of megaloblasts. He cited several recent cases in support of this point. Cases with even the most pronounced increases in the number of megaloblasts usually improve markedly if, during these critical periods, they receive careful nursing, feeding and the medication indicated. In all these cases frequent blood examinations are of the greatest value in guiding treatment and prognosis.

Dr. John A. Lichty, Pittsburg, said that the megaloblastic showers indicate that the end is approaching; he seldom saw a patient improve after them. His experience was in accord with that of Dr. Hoover. He had had patients that, so far as the blood picture was concerned, seemed to be perfectly well, but the attacks grew worse. Movable kidney is an unreliable factor etiologically as he finds it in from 30 per cent. to 40 per cent. of all the cases he sees. He said he was afraid to mention movable kidney as a cause of any condition. He wished to bring out in his paper that if one symptom points to the possibility of pernicious anemia, the blood should be examined, especially if cardiovascular symptoms are present. He spoke of one patient in particular whom he treated after she returned from Egypt. She had been sent to Nauheim because of heart disease. She was sent from Nauheim to Egypt for an after cure, and was told to climb the pyramids. It was found that she had had pernicious anemia for a year. He urged more careful examinations in suspected cases.

Clinical Notes

OPSONINS AND THE USE OF THERAPEUTIC VACCINES IN TREATING GENERAL PARALYSIS OF THE INSANE.*

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As a result of previous observations on the etiology of general paralysis, I was led to believe that the disease is a bacterial infection and that the *Bacillus paralyticans* is the specific etiologic factor in its production. This conclusion was further corroborated by experimental inoculation of animals with material obtained from general paralytics and the successful production of a train of symptoms and pathologic pictures, similar to those seen in general paralysis. Further evidence was obtained of the etiologic relationship of the bacillus with the disease by the presence of a positive agglutination test in a series of twelve cases, its absence or a negative reaction in the other insanities and likewise in normal blood serum. Following E. A. Wright's most brilliant contribution to medical science, the opsonic theory, I have occupied myself principally with its study in the further relation of the *Bacillus paralyticans* to general paralysis.

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* Read before the American Medico-Psychological Association, Washington, D. C., May 9, 1907.

Wright, following many thousands of quantitative estimations of the opsonic power of the blood in the different bacterial diseases, concludes that bacterial infections in themselves are divided into two great classes:

1. In one class of infections the opsonic power with respect to the infecting organism hardly varies from day to day, remaining always inferior to that of the normal blood.

2. In another class of infections the opsonic power is continually fluctuating, the range of variation being far below the normal to far above the normal; these two categories of infections correspond respectively to strictly localized and systemic infections.

THE OPSONIC INDEX IN GENERAL PARALYSIS.

For a period of time I made daily observations of the opsonic index with respect to the *B. paralyticans*, regardless of the duration or stage of the disease, and we found the opsonic content of the serum to fluctuate considerably; even daily fluctuations were observed. One variation of 0.30 to 1.40 was noticed in one case; this fact, in connection with the multiplicity of symptoms and viscera diseased in this infection, its rapid course in some cases, adds considerable evidence that the disease is undoubtedly a systemic one. These variations in the opsonic index of the blood serum are an evidence of the periodic activation and inhibition of the machinery of immunization, that in a progressive infection of this kind there seems to be a gradual unabated multiplication of bacteria in the blood and tissues, bacteria thrown out from the various infective foci in different parts of the body in large doses and at inappropriate times, their conveyance to different parts of the body and consequent deleterious effects, the immunizing stimuli which are here required for raising the opsonic power and for maintaining it at a high level, make default.

Each exacerbation of the patient's condition corresponds to a large outpouring of bacteria into the blood stream, with a diminution in the resistive power of the individual, followed again and again by ill-adjusted doses and at inappropriate times until finally one long invasion, and either a congestive seizure occurs or a series of invasions and death ensues.

THE APPLICATION OF BACTERIAL VACCINES IN THE TREATMENT OF THE DISEASE.

The results achieved by Wright and his followers in the treatment of different diseases, more so tuberculosis, by the injection of properly dosed killed cultures of causative organism, led me to apply the principle of such to this disease; accordingly, a vaccine was prepared from *B. paralyticans* for injection, each injection to be governed by a quantitative measurement of the antibacterial power or opsonic index of his blood serum as compared with that of the serum of a normal person.

It might be well to state here the conditions supervening on the inoculation of a bacterial vaccine. Without exception there has followed the same train of events in each case; on the inoculation of the vaccine there supervened a period of intoxication which is characterized by a decline in the antibacterial power of the blood called the "negative phase." This negative phase, which usually terminates at about the third day following the inoculation, is usually more or less accentuated or prolonged according as a larger or smaller dose is used, discloses itself clinically by mental disturbance, patients growing quite depressed, irritable, severe headache, marked degree of discomfort and a feeling of general malaise; on the negative phase there followed the "positive phase," whose characteristic feature is an increase in the antibacterial power of the blood corresponding to a period of increased resistance. There is associated with this phase a slight rise in temperature, marked leucocytosis, a general pronounced feeling of vigor and well-being; this phase may be prolonged from seven to ten days, and on the event of its decline, as estimated by an examination of the opsonic content of the serum, is the signal for re-inoculation. Of course, if the opsonic index remains at a high level and well above normal, it is well to wait until it begins to decline. This condition of high positive phase may last for several days. I found, as a rule, that my cases were ready for inoculation at about the twelfth to fourteenth day.

In the beginning of such a treatment I was confronted with two problems: 1. Character of patients to chose from. The patients taken were of the ordinary run of general paralytics as admitted to the hospital; as the technic entails so much care and the liability of error was so great, I decided to choose a small number and confine my observations thereto. 2. Relative to dosage, each case determines its dose; I began with minute doses, one sufficient to evoke a satisfactory response, and then regulated same by the length of the negative phase; in this way I was able to obtain a satisfactory standard dose for each individual under treatment.

I will recite a few brief points relative to some cases I have had under this plan of treatment:

Case 1.—E. W., male aged 29. Recognized onset of disease 3 years ago; at the time inoculations were first commenced, patient was mute, confused, resistive, untidy, bed-ridden, markedly ataxic, unable to walk, refused food, it being necessary to tube him twice daily; following the second inoculation he grew brighter, became talkative, manifested an interest in his surroundings, asked concerning home life, friends, relatives, began to eat, untidiness disappeared, and his improvement both mentally and physically has continued, gaining 29 pounds in weight, and at present is in a well-defined remission, enjoys the priviledge of walking about grounds alone and is arranging his plans for the future.

I mention this case particularly because it is one of the most typical cases showing improvement. The same striking changes occur in nearly all the cases I report.

Case 2.—H. I., male, aged 44. Onset of disease dates back 2½ years. At the time inoculations were first started, he was very noisy, delusional, incoherent, unclean at times, destructive, able to walk but a short distance, ataxic, stumbling gait. He also ate sparingly; since inoculations were given five weeks ago, he has grown considerably quieter, talk is more coherent, delusions have faded, grown very tidy and gentlemanly, manifests an interest in his surroundings, reads daily papers, assists feeble patients, shows a very decided change in manner and appearance, and is rapidly approaching a remission, also shows a gain in weight of 4½ pounds.

This patient. it also might be added, was the only one of the group to show any serious febrile disturbance during the course of inoculation.

CASE 3.—J. E., male, aged 46. Onset of disease dates back 2 years. Demented, bed-ridden, weak, tottering gait, unable to stand, muttering constantly unintelligently, ate very little. Following three weeks course of inoculation, patient grew brighter, talk became more intelligible, began to show decided interest in his surroundings, improved considerably physically, and at present is up, walking about.

I believe this case to have been too far advanced to expect any very great improvement, although what improvement seen was most striking.

CASE 4.—E. H., male, aged 52. Onset of disease dates back 1½ years. Tabetic symptom-complex present; quiet, muttering to self, very delusional, excitable, confused at times. It has been three weeks since inoculations were first started, and but slight improvement mentally has been noticed, although there was marked physical improvement, patient gaining 5 pounds in weight.

With this case I was compelled to suspend inoculations, owing to the fact that he developed acute articular rheumatism and it became necessary to direct treatment in that direction.

CASE 5.—J. M., male, aged 40. History states he had an epileptiform seizure about 4 months ago. At the time inoculations were started, he was very excitable, boisterous, loquacious, incoherent, delusions of grandeur, impulsive. Since the inoculations began three weeks ago, he has grown quiet, orderly, assisting in ward work, reads books and daily papers, attends amusements, and is now a model patient, readily conversing in a coherent manner, and apparently in a remission. During the three weeks treatment he has gained 5½ pounds in weight.

CASE 6.—J. S., female, aged 39. Onset of disease dates back 2 years. At the commencement of inoculations she was untidy, destructive very excitable, resistive, incoherent, delusional, showing homicidal tendencies, extremely slow in moving about and ate sparingly. In two weeks from date of first inoculation, this patient showed marked mental improvement, from a resistive, untidy, delusional patient, she became quiet, orderly, assisting in ward work, reading and sewing, dressing and assisting infirm patients, attending amusements, in which she takes great delight, and boastingly refers to her improvement. She is now in an apparent remission, having been removed from the infirmary ward to one of the best cottages. Physically she shows a gain in weight of 12½ pounds. A most interesting fact in connection with her case was the establishment of her menstrual period, she having not menstruated for over two years, which probably dates the beginning of her illness.

Her opsonic index reached a very high point, 2.10, and maintained this level for fully one week, during which time much of her improvement was noticed.

CASE 7.—M. D., female, aged 30. Onset of disease dates back 1 year. History states she had an apoplectiform seizure six months ago, involving left side of body, resulting in a marked speech defect. At the time inoculations were commenced she was sluggish in her movements, untidy, destructive, mute at times, incoherent, expressing a few delusions of grandeur and mildly elated. Inoculations started two weeks ago, during which time she has grown brighter and more active, talk more coherent, occupies her time with sewing and reading, having grown very clean and tidy in her habits. She has recently been removed from the infirmary ward to one of the best cottages. Physically she has gained five pounds in weight.

Observation of the above cases lead me to believe that we can expect great assistance from vaccine therapy, if the same is conducted under the guidance of the opsonic index, but I believe it is futile to attempt it otherwise, as great harm can be done.

It is interesting to observe the clinical picture during the different phases. All the patients in the beginning of the treatment were apparently at their worst during the negative phase, being depressed, irritable, and with but little display of energy, while within a few hours of the establishment of a positive phase the picture was reversed, they appearing bright, active, congenial and obedient. That this improvement corresponds with an increase in opsonic power I have satisfied myself by observing the alternate improvement and depression with the rise and fall of the opsonic index of the blood, and that with proper dosage a steady uphill progress is observed, both mentally and physically.

In the control cases of general paralysis no such changes mentally or physically occurred, the opsonic index remained as before stated, fluctuating considerably. The cases for control were kept under constant observation, they were placed under the same dietetic conditions, weighed regularly, not one showing even one-half pound gain in weight. As a result of this I am led to believe that some specific change has taken place in patients we have had under our treatment, and for the present this plan of treatment has been adopted for general paralysis.

As this communication is intended merely as a preliminary one, I will defer any explanation of the phenomena involved.

MODIFIED ESMARCH ANESTHESIA MASK FOR EYE SURGERY.

PAUL DeWITT, M.D.
NASHVILLE, TENN.

The need for a special anesthesia mask for operations on and about the eye has occurred to me often. The regular Esmarch inhaler is too much in the way of the operator when used in the usual manner with the handle between the eyes and does not fit the face when reversed. Recently I made the modifications shown in the cuts and have used it with the greatest satisfaction to both operator and anesthetist.

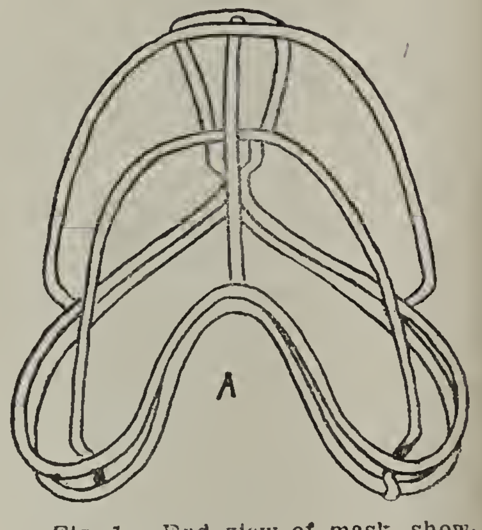


Fig. 1.—End view of mask, showing nose bridge, A.

A bridge for the nose (Fig. 1, A), which crosses just above the tip of the nose, leaves a clear operative field. The frame has a downward convexity (Fig. 2, B to C) of about three-fourths of an inch. This fits snugly the sides of the face, preventing pressure on the nose and closing in the spaces at the corners of the mouth, thus

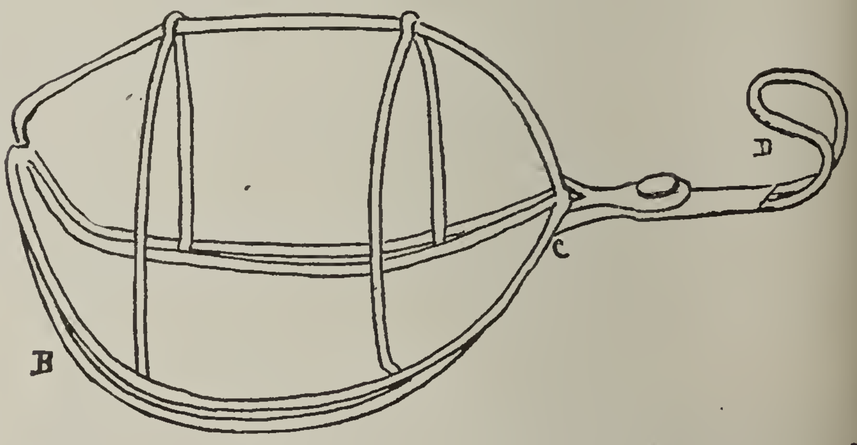


Fig. 2.—Side view of mask, showing convexity from B to C, and handle D.

doing away with the folded towel often wound around the ordinary Esmarch to exclude the air. The handle (Fig. 2, D) being on the end next the chin, renders the mask easy to manage and keeps the anesthetist's hand away from the field of operation.

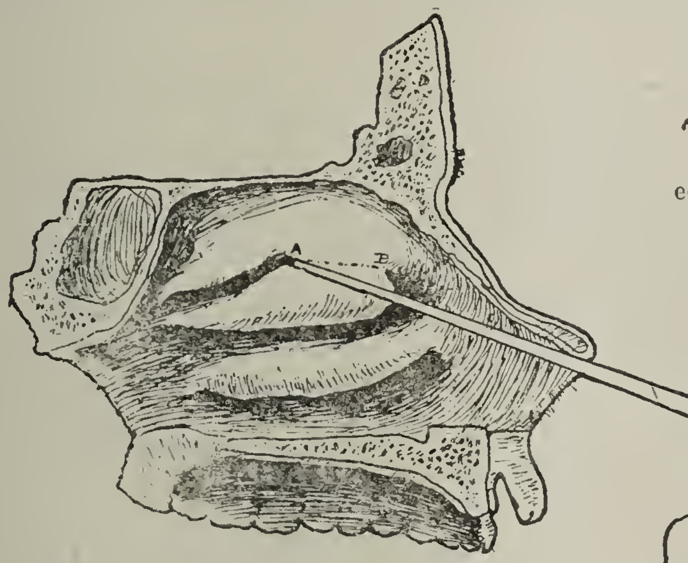
With this frame ethyl chlorid can be administered with as much ease as ether and chloroform.

139 Eighth Avenue, North.

A METHOD FOR THE REMOVAL OF THE WHOLE OR A PART OF THE MIDDLE TURBINATE.

GREENFIELD SLUDER, M.D.
ST. LOUIS.

The method which I shall describe has for its plan of execution an incision made from above, which detaches the turbinate at its origin from the capsule of the ethmoid. It is an incision such as one might make with a straight knife to remove a turbinate from a decalcified anatomic preparation, cutting from above instead of from below.



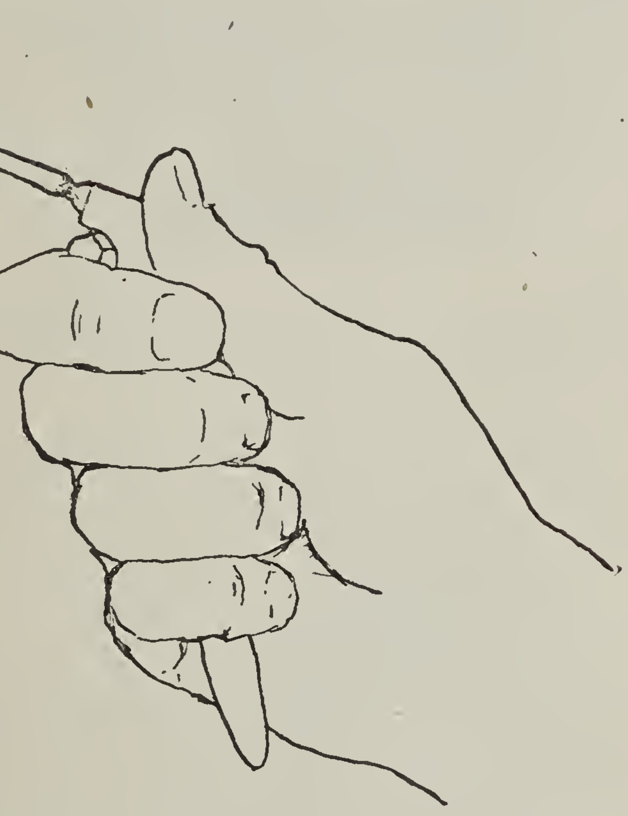


Fig. 2.—Knife in position ready to draw forward with slight upward pressure to detach the turbinate at the line A. B.

It has the recommendations (1) of being rapidly executed; (2) of precision as to the amount of bone removed; with equal ease the anterior or the posterior fourth, half or two-thirds, or the entire turbinate may be removed; (3) the line of incision may be put so snug on the external wall as to leave no stump; (4) it may be executed in quarters so cramped that the blade of the scissors or the cutting forceps may not be possible of introduction; (5) it is not interfered with by the size of the bulla underneath; (6) it is done with no injury to the bulla or uncinate process; (7) the middle meatus is, therefore, left free of scar tissue.

The success of the "conservative treatment" of the suppurations of the accessory sinuses of the nose seems to me to depend to a large degree not only on the clean removal of the necessary part of the middle turbinate, but also on the avoidance of injury to the middle meatus and, therefore, freedom from all unnecessary scar tissue, especially in the hiatus semilunaris. If there has been any injury to the hiatus proper or to the uncinate or bulla some scar tissue must follow, which in itself may act as an obstruction to the outflow of pus. This leaves matters little if any better than when the turbinate was in position, if not actually worse. It seems to me that such injuries are unavoidable by any method which employs the scissors or a cutting forceps, one blade of which must be introduced from below, to the outer side of the turbinate, the other blade to the inner side of the turbinate in order to make the preliminary cut.

The spokeshave is open to the same criticism. If the uncinate or the bulla be at all prominent the blade of the scissors or forceps which is introduced external to or below the turbinate (that is between the turbinate and the external wall) will surely injure one or both of them. If the uncinate or bulla are large they will block the introduction of the blade, or they will prevent the line of incision being put close enough to the external wall to avoid a stump, or prevent the incision reaching far enough back to free the opening of the anterior ethmoidal labyrinth. If, in order to avoid a large bulla, the blade has not been applied close to the external wall there will be left a stump which will defeat the object of freeing the outlet of the frontal or ethmoidal sinus. The method by the spokeshave is open to the same criticism under the same circumstances.

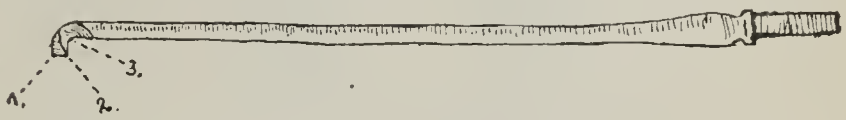


Fig. 1.—Knife sharpened alike from both sides, making cutting edge 1, 2 and 3.

With a turbinate lying free from the septum and free from the external wall, and with a small uncinate and small bulla underneath, there will certainly be no difficulty in making a satisfactory removal by means of scissors or cutting forceps and snare, or spokeshave. These methods, however, may become difficult or impossible should the tubercle of the septum be very large or should the septum be deviated to that side, narrowing or obliterating the olfactory fissure and crowding the turbinate tight on the external wall. It may be equally difficult should the general formation of the nose be narrow, so that the turbinate rests in firm contact with the septum as well as with the external wall.

METHOD.

By this method these difficulties are scarcely noticeable. The turbinate is cut loose at its origin from the capsule of the ethmoid by means of a knife (Fig. 1) bent at a right angle to a shaft and sharp on the edges, represented in the illustration by the line 1, 2, 3; that is, to cut on the pull. It is carried in a handle at an angle of about 135 degrees to the grip. It has the size and general appearance of Hajek's hook for tearing out the capsule of the ethmoid and of Myles' sphenoidal knife, but smaller, and its angular portion is square. The shaft is about 1/16 inch thick. It is well to have a heavier one also. I use the smaller one only when the quarters are crowded.

The blade is introduced into the olfactory fissure "on the flat" to a point as far back as is desirable to go and as high as the origin of the turbinate. If this point can not be seen it may be estimated very accurately by taking the height from the point where the anterior end springs from the capsule of the ethmoid and then passing backward. The middle turbinate arises from the external wall along a line which is more or less horizontal but which dips downward about ⅛ of an inch before it terminates anteriorly. The downward portion of the line varies from ⅛ to ¼ of an inch in length and, makes, usually, an angle of about 110 degrees with the horizontal portion. These facts may readily be determined by using this knife, or a small probe bent similarly and introduced "on the flat" under the anterior one-fourth of the turbinate. It is then brought forward to cut the attachment or to feel just what may be its limits. The knife is then introduced into the olfactory fissure as above described and the cutting edge turned outward by a rotary movement of 90 degrees, making the direction of the cutting edge horizontal and outward. Then by a slight pressure outward it cuts its way through the turbinate. It is then drawn forward with a slight upward pressure (Fig. 2), when it will be found to have cut its way out (forward), detaching the turbinate at its origin regardless of the size of the bulla or uncinate underneath the turbinate and without injuring them.

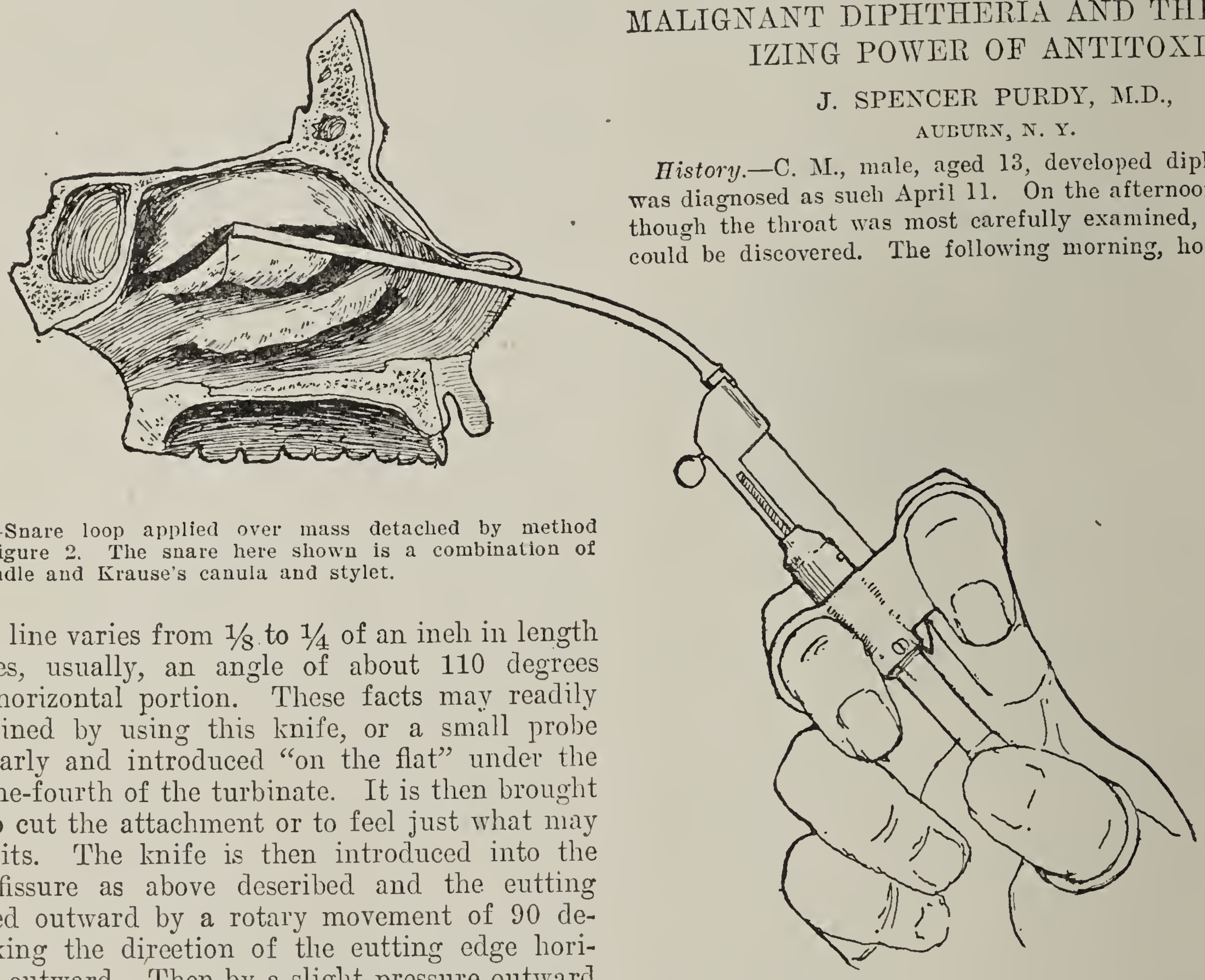


Fig. 3.—Snare loop applied over mass detached by method shown in Figure 2. The snare here shown is a combination of Hooper's handle and Krause's canula and stylet.

I frequently divide the cut into parts, taking first the anterior fourth, then the second fourth, then the third fourth and finally the posterior fourth. For the posterior fourth the cutting edge is turned somewhat downward. If the entire turbinate is to be removed it may often be done without the aid of a snare, but as a rule it will be found to be still attached by some shreds of membrane, and these are quickest and easiest cut through by slipping a wire loop over the detached mass, slipping it full backward and snaring it off. For the removal of a part of the turbinate the cut is made as far back as necessary and the loop slipped back to that point (Fig. 3.). In removing the posterior half the cut begins at the back and is brought forward to the desired point, when the loop is slipped over the mass from the back and pulled forward to this point and snared through. The snaring is frequently facilitated by depressing the mass to be removed, after it has been cut loose by the knife, using the knife for this purpose.

I have employed this method since 1898, having removed the middle turbinate 221 times. In one case after the turbinate was removed the olfactory fissure measured one-sixteenth of an inch when completely shrunk by cocain and adrenalin. This turbinate was in the firmest contact with the septum and external wall. A number of these turbinates were with difficulty visible because of a large tubercle of the septum or because of the septum being deviated into the middle meatus of that side.

MALIGNANT DIPHTHERIA AND THE IMMUNIZING POWER OF ANTITOXIN.

J. SPENCER PURDY, M.D.,
AUBURN, N. Y.

History.—C. M., male, aged 13, developed diphtheria which was diagnosed as such April 11. On the afternoon of April 10, though the throat was most carefully examined, no membrane could be discovered. The following morning, however, it covered the tonsils, posterior pharynx, uvula and nasal cavity. The attack was apparently a most malignant one, cultures of pure growth of the Klebs-Loeffler bacillus being made from swabs of the nose and throat. On the night of April 12, the patient, while in a critical condition, was kissed by the three other children in the family and also by his parents; this in the face of severe opposition on the part of the attending physicians. The patient died April 13, having previously received 60,000 units of diphtheria antitoxin.

The rest of the family developed diphtheria on April 13 and 14, 3 of the 5 members having received on April 11, 500 units of antitoxin as a prophylactic. On April 17, the nurse, who five days previously had received 1,500 units of antitoxin, developed a suspicious sore throat. A culture was not taken but she was at once given 6.000 units more. All of these patients did well and, except in the case of the father, who was constantly with the child who died, the attacks were mild. The nurse developed no membranous patch, there being only a suspicious redness, but the three children who were supposed to be immunized developed true diphtheritic membranes. The antitoxin used was that made by the New York State Board.

The question arises, were these unusually virulent cases or are 500 units insufficient for immunization?

In two other cases of diphtheria which recently came under my observation there was in each considerable membrane present. This exfoliated after using the antitoxin, but shortly afterward there appeared on the tonsils a pseudo-membrane, very thin, delicate and easily removed. It had the appearance of a coating of lymph and while not at all characteristic of the pseudo-membrane of diphtheria, it seemed as if it must be a return of the diphtheritic membrane. However, two cultures taken from the membrane of each patient on two successive days failed to disclose the *Bacillus diphtheriæ.* The condition is one I have not seen mentioned.

AN ATYPICAL CASE OF ANEMIA.*

E. V. FREDERICK, M.B. M.R.C.S.
PETERBOROUGH, ONT.

Patient.—Mrs. C., aged 35, married, Irish, was seen in consultation with Dr. McNulty.

History.—Before the birth of her first child she had some slight eclamptic seizures which subsided under treatment. She was delivered of a healthy child; the puerperium was normal and recovery good. One and one-half years later she was again delivered of a healthy child. The puerperium continued normal until the tenth day when she became very anemic extremely weak, with troublesome cough and slight fever. On physical examination little was found except an enlarged spleen reaching to the umbilicus. During that illness no blood examination was made.

After two months, during which time she was almost moribund, apparent complete recovery took place. At the end of one and one-half years she was again delivered of a healthy child. During the puerperium she received of calomel gr. 1/10, with salol grs. 5 every 4 hours, but in spite of this on the tenth day she again became very weak with rapidly increasing anemia, troublesome cough and fever ranging from 101 to 102 F., pulse from 100 to 120. Her face was bloated and puffed under the eyes. During none of the pregnancies was albumin found in the urine, nor was there any other indication of kidney trouble. During the illness following confinement slight albuminuria appeared.

Examination.—In appearance, the patient was very pale, the face was puffed, and there was fullness under the eyes. The mucous membranes were very anemic and weakness was extreme. On physical examination nothing of account was found except the enlarged spleen again reaching almost to the umbilicus. A diagnosis of splenic leukemia had been made.

Blood: On careful blood examination I found: Red corpuscles, 1,200,000; white corpuscles, 13,000 and hemoglobin, 45 per cent. Among whites no myelocytes were found. Among the reds all forms characteristic of pernicious anemia were present, large reds, small reds, nucleated reds with many poikilocytes. The reds also showed very typically the punctate degeneration usually found in lead poisoning. No history of contact with lead could be obtained.

Treatment.—When given arsenic the temperature rose to 104 F. and the patient became worse. On treatment with extract of medulla rubra with phosphate of iron and manganese she improved for a couple of weeks and then again became worse. When given nucleinic acid from yeast she improved rapidly and in two weeks was discharged completely recovered.

The points of peculiarity about the case are:

1. It was a case of pernicious anemia from the blood appearances.
2. It was a case of splenic leukemia from the physical signs.
3. It did not react beneficially to arsenic or iron.
4. It was cured under or coincidentally with the treatment with nucleinic acid.
5. It was not typical of either form of anemia in recovering.

191 Brock Street.

A NEW CHLOROFORM AND ETHER (OPEN METHOD) INHALER.

A. CECIL HERBERT, M.D.
Clinical Assistant in Medicine, Yale University.
NEW HAVEN, CONN.

The inhaler shown in the accompanying illustration has several advantages over any now in use. (1) It does away with the dangers consequent on the use of the cloth-covered inhaler, (2) it can be handled with ease, (3) it is self-retaining, and (4) it can be sterilized.

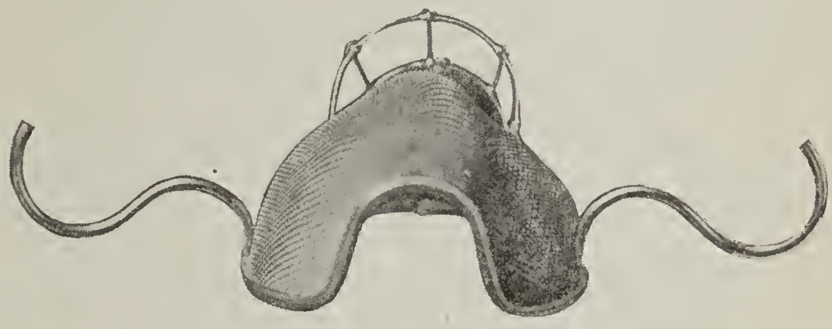


Figure 1.

The mask is made of fine wire mesh, shaped to conform to the face, and having opposite the nose and mouth a wire basket to contain cotton or gauze on which the anesthetic is dropped (Fig. 1). Small wire handles bent to accommodate the thumb and first finger project from each side, so that it can be used by either a right-handed or left-handed anesthetist. Over these handles may be slipped spectacle wires (Fig. 2), which, passing behind the ears, retain the mask firmly in position, leaving both hands of the anesthetist free. This will be found especially convenient when the mask is used on a refractory patient, or alone, say in labor.

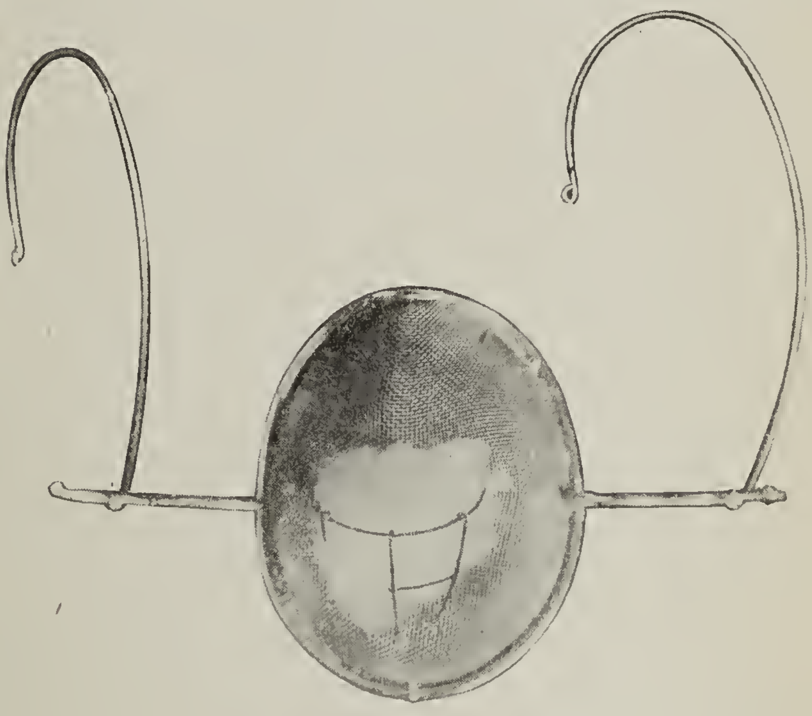


Figure 2.

Being small, $2\frac{1}{2}$ in. by $3\frac{1}{2}$ in., the vapor can be concentrated at any time by simply cupping the hand over the entire mask. Made entirely of metal, its cleansing is the work of a moment, and no appreciable time need be lost during anesthetization should it become soiled by hyper-secretion of saliva or by vomitus.

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* Read before the Peterborough Medical Society.

The wire mesh insures that the air entrances are kept patent. This is always in question with the cloth-covered inhaler, as its permeability varies with the amount of moisture it contains, whether this be from saliva or soil of vomitus—a not inconsiderable danger, as mentioned by Bryant and others.

When not made self-retaining by the use of the spectacle clips, the mask is under perfect control of the thumb and forefinger only, leaving the other fingers free and in the most natural position for constant scrutiny of the facial pulse or support of the angle of the jaw.

The directness of application—the anesthetic being dropped immediately opposite the respiratory ingress—economizes the amount necessary for narcosis.

The inhaler was made by the Kny Scheerer Co., New York.

159 Elm Street.

APPARENT RECOVERY FROM PROGRESSIVE PERNICIOUS ANEMIA, FOLLOWING CECOSTOMY AND COLONIC LAVAGE.

HARRIS A. HOUGHTON, M.D.
Attending Surgeon, Clinic of the University and Bellevue Hospital Medical College.
NEW YORK CITY.

Attention is called to this case of progressive pernicious anemia because of many unusual features and the nature of the treatment employed. The advanced age of the patient and the prompt recovery from many symptoms following cecostomy and enteric lavage lead me to believe that the present therapeutics of the disease must be modified to meet etiologic facts recently discovered.

The following premises concerning the etiology and pathology are presented that grounds for the treatment may be understood.

1. The blood picture of progressive pernicious anemia and the other systemic effects are but the reaction of the organism to the toxemia. Natural hemogenesis is restrained and there is a coexistent hemolysis. The presence or absence of megaloblasts in any given case is a measure of the severity of the disease (Bunting[1]). If present they indicate severe hemolysis, to which the hemogenic organs are responding. If absent the toxemia may not be so severe or the organisms may not be reacting as well as it would in a more healthy individual. This latter form is known as the asthenic variety. Too much stress has been placed on megaloblasts as necessitous for completion of the diagnosis (Hunter[2]).

2. Assuming the absence of macro-endoparasites (*Bothriocephalus latus,* etc.), progressive pernicious anemia is in reality an enterogenic intoxication of a saccharo-butyric type, chronic in character, due to a disappearance of normal vegetative varieties of intestinal bacteria and a substitution therefor of aggressive, anaërobic bacteria, and particularly of the *Bacillus aerogenes capsulatus* (Welch) as shown by Herter.[3]

3. Ammonium butyrate is at least one of the hemolytic substances formed. Bacterial intracellular toxins probably play a considerable part.

4. There is among many features of the disease a decided decrease in the quantity of the blood circulating in the system.

Other points will be brought up later. The clinical notes which follow are necessarily brief:

History.—Dec. 20, 1906—James S., a gardener, aged 67, married, healthy children, and negative family history. Born in England. Possible etiologic factors: (1) Habit of eating quantities of cheese for years. (2) In the fourth decade, an attack of psoriasis, for which large quantities of arsenic was taken. (3) Not a large meat eater, but there is a possibility that his regular home food was insufficiently cooked.

Previous History.—Following symptoms began in May, 1906; Progressing weakness, anemia, emaciation, periodic attacks of diarrhea, each lasting from two to three days and with intervals of two weeks; cough and plenteous expectoration in the past month.

Examination.—General loss of flesh and muscular tone. but a considerable quantity of subcutaneous fat persists. Peculiar yellowish skin, and yellow sclerotics. Marked edema of the ankles. Mouth: Saliva acid in reaction, putrefying detritus surround bad teeth. Lungs; General moderate emphysema and bronchitis. Heart: Sounds so weak they could scarcely be heard, moderate left ventricular hypertrophy but no dilatation. Arteries: Practically no arteriosclerosis, pulse occasionally intermittent, and systolic arterial pressure with Janeway instrument 70 mm. Liver: Enlarged downward, hand's-breadth, no nodules. Stomach: Relaxed and slightly enlarged. Spleen: Probably somewhat contracted. Rigidity of the abdominal recti marked. Considerable distension. Rectum: Many distinct ecchymotic spots scattered through the sphygmoid flexure. Feces: Usually formed, acid in reaction, filled with fat droplets, and a lack of bile. A peculiar condition was noted in that whenever the feces soiled the linen, a spot formed which it was impossible to wash out. Urine: Twenty-four hour specimen normal in amount, with abundant excretion of urea. Hyperacid, trace of albumin (Esbach), no sugar. The excretion of ethereal sulphates was the largest I have ever seen outside of ptomain poisoning. Jaffe's indican test gave a response which was something to wonder at, while the reaction with Ehrlich's dimethylamidobenzaldehyde (probably skatol) was exceedingly great. The casts included, small and large hyaline, finely granular and epitheliated, coarse granular, blood and fatty. There were also present calcium oxylate and uric acid crystals.

Blood.—Hemoglobin, 45 per cent.; differential white cell count, polynuclears, 51 per cent.; small lymphocytes, 40 per cent.; large lymphocytes, 4 per cent.; transitionals, 2 per cent.; eosinophiles, 3 per cent. There were a large number of poikilocytes, many normoblasts but no megaloblasts at this time. It is with the utmost regret that red cell counts and the color indices can not be given, but the circumstances were such as to make it impossible.

Progress of the Disease.—The patient was treated for one month in the conventional manner, intestinal lavage through the rectum twice daily; arsenic as a hemogenic stimulant; Squibb's acid oleate of sodium as a cholagogue; iron and proteid diet. While there was some improvement in the physical character of the stools, his general condition grew worse. At the end of the month he developed a blood crisis, with megaloblastic shower, accompanied by albuminuria (25 per cent. by bulk), a systolic arterial pressure of 50 mm., pulmonary edema consequent to cardiac asthenia. On every other day for eight days he was given a saline infusion (.9 per cent.) with adrenalin chlorid, the latter being also used continuously by hypodermatic method. This started the improvement and rise in blood pressure. On February 18, I performed the first part of a cecostomy, sewing the cecum into the abdominal wound. The gut was opened and lavage commenced later. In the meantime however, he developed a second blood crisis, less marked than the first.

The irrigations through the fistula were begun March 1; 1,500 c.c. normal saline, sometimes with peroxid of hydrogen and sometimes with permanganate of potash, were washed in and out morning and night. Much of the time, a goodly part of the fluid was left in. Notwithstanding the amount of fluid he received in this manner, the stools remained solid. His diet was changed to one practically nitrogen free. Later he was allowed gelatin.

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[1] Bunting, C. H.: Jour. Experimental Med., 1906, viii, 625.

[2] Hunter's work in experimental anemia can be found in the Lancet (London), 1888, 1889, 1890.

[3] Herter, C. A., Jour. of Biol. Chem., 1906, ii, 1.

Present Condition.—He is now walking about with but little effort. His systolic pressure is 100 mm. He has gained much of his normal weight. The hemoglobin is now 85 per cent. There are no abnormal blood elements. I would base a claim that much of the initiating pathologic process has ceased on the fact that there is a marked decrease in the indican and Ehrlich's aldehyd tests. Neither indican nor skatol are present in greater quantity than one would expect in a man of his age.

I am not prepared to say that his cure is a permanent one, but I believe the present condition warrants me in saying that he has still a good lease of comfortable life ahead of him, particularly as the fistula is still open and can be used at any time that the disease shows signs of recurrence.

Some other observations during the course of the disease were made: 1. At operation the dark color of the blood, noted by Fuhrbringer, was observed. 2. Coagulation of the blood was abnormally prompt, contrary to general observation. The clot, however, was exceedingly weak. 3. The presence of intestinal gases was more marked at megaloblastic crises. 4. There was no tendency toward sepsis, as shown by prompt healing of wounds. 5. There was delay in the formation of peritoneal adhesions. 6. The appearance of the gut at operation was interesting. The peritoneum resembled one subject to a low grade of inflammation without exudate. The color was darker than normal, the vessels injected, and that tissue itself very easily torn.

Bayside, Borough of Queens.

A NEW METHOD FOR THE SPREADING OF SPUTUM PREPARATORY TO A MICROSCOPIC EXAMINATION.*

EDWARD H. GOODMAN, M.D.
PHILADELPHIA.

Various ideas have been suggested for the macroscopic examination of sputum preparatory to the microscopic examination. The one most extensively in use is the spreading of the sputum between two plates of glass, the under side of the lower one being blackened. I have not found this to be particularly satisfactory, inasmuch as, through repeated sterilizations of the glass, the blackened under surface becomes scratched and in part removed. I prefer a heavy plate of glass under which is laid a piece of black paper; the sputum, after being spread between the two plates of glass, is held against the black background. By this means the black surface remains the same, there is no impairment of its surface, and it may be used indefinitely.

The method of using two large pieces of glass offered several objections which I was unable to overcome. The first was that in spreading the sputum between the two plates there was very often an oozing from between the two glasses, rendering it extremely difficult to do clean work. Second, there was often difficulty in separating the glasses to select the proper pieces for microscopic study. Third, in order to accommodate the profuse sputa so often examined, the plates had to be very large, and this large-sized glass made sterilization by heat very inconvenient. It had to be done immediately with boiling water, or else raw carbolic acid was poured on and the specimen was allowed to stand until a thorough sterilization by boiling could be undertaken, a method to be heartily condemned. Then the sterilizing vessel must be very large in order to accommodate the glass plates, and for ordinary laboratory work this is not always convenient.

The method I use is very simple, the only paraphernalia required being a Petri dish. The cover is used as a receptacle for the sputum, and the latter is spread out by using the bottom dish as a top glass. The sputum may be spread very readily, with no danger of contaminating the desk or the worker's fingers. The rim of the lower dish prevents any protrusion of sputum, and the rim of the top dish prevents the fingers from becoming infected in case there should be some soiling of the outside of the lower glass, which rarely happens. In case of profuse sputa, two or more dishes may be used. The specimen is examined against the black background already described, the inverted top Petri dish is readily removed in order to select suitable particles for microscopic study. When the examiner is finished with the sputum the dishes are separated, put in a large wide-mouthed jar, covered with raw carbolic acid and the jar covered with a suitable lid. The various dishes are cleaned with boiling water at a later date.

I recommend this method on account of its simplicity, convenience and cleanliness. As it is almost impossible to keep posted on all the proposals for the improvement of laboratory technic, I may be deceiving myself with the idea that I am offering a new suggestion, in which case I would appreciate enlightenment. If the method has been previously suggested it seems to have fallen into oblivion, as I have never heard of it in the laboratories of Germany or America. Even if the method is not new, this brief report may aid in giving it the recognition it deserves.

2035 Chestnut Street.

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* From the Private Laboratory of Dr. John H. Musser.

A CASE OF MERCURIC CHLORID POISONING.

IRWIN W. BLAKE, M.D.
BUFFALO, WYO.

The following report of a case of poisoning by bichlorid of mercury is unusual on account of the absence of typical symptoms:

History.—A child, aged 3¼ years, took at least one tablet containing 7.3 grains of mercuric chlorid. An emetic was given immediately, which produced vomiting in twenty to twenty-five minutes. Emesis continued for more than an hour, the child then going into a quiet sleep. Up to this time the composition of the tablet was not known, and the child's mother was certain no poisons were in the house. Twenty minutes after leaving the house I was recalled to examine a similar tablet found in my absence. The potassium iodid test demonstrated the presence of mercuric chlorid. Egg albumin and milk were given immediately, and everything possible was done for the child, but without avail. Death occurred on the eighth day.

It is interesting to note: 1, There was no burning sensation in the throat; 2, there was no pain in the stomach nor bowels; 3, there was no thirst; 4, the pulse was not small nor frequent except for the first twelve hours; 5, there were no cold sweats; 6, there was no general debility; 7, the respirations were not labored; 8, there were no cramps in the extremities; 9, there was no fainting; 10, there was no insensibility and but one convulsion, that during which death occurred.

Medical Mission Work in India.—Statistics of the Indian Medical Missionary Association show that in the past year more than 2,000,000 patients were treated, and that 54,298 operations were performed. There are now in India over 300 medical missionaries, 120 of whom are men.—*Cumberland Presbyterian.*

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[*For other information see second page following reading matter.*]

SATURDAY, JUNE 29, 1907.

TREATMENT OF PULMONARY TUBERCULOSIS BY TUBERCULIN IMMUNIZATION.

The conviction is gradually spreading that tuberculosis in various forms, as well as other infectious processes, more particularly when chronic, can be treated more or less effectively by means that stimulate the production of specific immunity and hasten the processes of healing. An interesting and valuable contribution in regard to this form of treatment of tuberculosis of the lungs is made by Trudeau,[1] and it may be of value to discuss some of the principal points considered. In the first place, he points out that it is possible, at least to a certain degree, to immunize animals to tuberculosis, the best results being obtained by the use of living bacilli, although germ-free products and killed bacteria also have some value. The mechanism of the immunity thus produced is not understood thoroughly; it is known, of course, that various antibodies are produced, but as yet no exact measure of the degree of immunity or reliable guide to the dosage of infectious material necessary for its production has been established. That the quantity and intervals between injections of immunizing material are of great importance is shown by the results of Calmette, who in calves and young goats found that whether ingestion of bacilli through the digestive tract results in localization and immunity or progressive invasion depends on the number of bacilli introduced and the time before the second introduction. Small amounts of bacilli are arrested by leucocytes and immunity results, whereas larger amounts or repeated introductions of smaller amounts end in general infection. Whatever the degree of immunity, it develops slowly. Thus v. Behring, in his experiments on cows, found little immunity before three months after the vaccination. The duration of artificial immunity to tuberculosis in animals has not been ascertained, but all seem to agree that the most durable is that produced by immunization with living cultures. This is an interesting point so far as human beings are concerned, because the patient already has within him the living organism so that destruction of bacilli as the process heals should help to produce a substantial form of immunity.

Turning now to the consideration of the treatment of established tuberculosis by means of immunizing substances, we note, first of all, that Koch did not consider his original tuberculin as an immunizing agent, but regarded the healing obtained as the result of more or less violent local reactions in and about the tuberculous areas. Now, however, the essential action of all the various tuberculins is held to be the stimulation of the defensive resources of the organism and the production of probably both antitoxic and antibacterial immunity. Time is not yet ripe for the decision as to which tuberculin is best, but at present Koch's emulsion of crushed, virulent tubercle bacilli (Tuberculin B. E.) and filtrates of human cultures, such as Denys' tuberculin B. F., are used extensively. The method of using tuberculin in whatever form is of great importance, and at present there are two distinct procedures, which Trudeau designates as the laboratory method and the clinical method. The laboratory method is based essentially on determinations of the opsonic index as elaborated by Wright, and it has been discussed repeatedly in recent current medical literature. In this case the dose of tuberculin remains minimal throughout the course of the treatment which has met with most success in chronic localized tuberculosis elsewhere than in the lungs. The clinical method, which has developed gradually during the past fifteen years or so, is controlled solely by the clinical course and manifestations. Anent the opsonic index, Trudeau makes the wise and conservative observation that, leaving aside the difficulties and the sources of error in determination of the index, we as yet are unable to say how reliable a criterion of immunity the opsonic power of the blood in reality is, because opsonins, after all, constitute only one of the active bodies produced in immunity reactions. Originally it was assumed that definite reactions on the part of the patient were a necessary consequence in treatment with tuberculin, but at present it is believed that such reactions are harmful, and all are agreed that too large doses must be avoided.

The laboratory or opsonic method takes no account of the value of habituation, and production of immunity, to tuberculin, while the clinical method aims gradually to produce immunity to tuberculin without demonstrable clinical reactions or disturbance. Here probably lies the main difference between the two methods. It has been found that tuberculous patients may be rendered insusceptible to as much as ten thousand times the amount of tuberculin that at first would produce marked signs of intolerance. In such cases the coincident improvement in the general conditions shows that, whatever the state of the opsonic index may have been, progressive increase in dose need not be harmful. Trudeau points out that it is possible to produce strong immunity to tuberculin without any violent general or local reactions. For this purpose various schedules are recommended which may be followed with confidence but modified at once, if necessary, in the individual case. Here skill and experience count for much. It is not possible in this connection to give the detail of Trudeau's present plan. It may be well to emphasize, however, that he begins with extremely small doses—.0001 mg.—because if a marked reaction occurs at the very beginning of the treatment it seems to be more difficult to habituate the patient to increasing doses. The doses are then gradually increased, the intervals between the injections being four or five days. If no intolerance develops it may require from six months to a year or longer before a high degree of tuberculin immunity is reached. It is important to resist the temptation to shorten the time, because the immunity is always produced very slowly. If the recognized evidences of increasing sensitiveness appear, all injections should be suspended for a time and then commenced again with smaller quantities, gradually increasing. In this way immunization to tuberculin may be carried so far that a dose of 1 c.c. is tolerated readily and with advantage, but such a dose should not be continued indefinitely, as the power to resist the effects may be exhausted.

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[1] Amer. Jour. Med. Sci., 1907, 137, 813.

It has been claimed that good results may be obtained by this method even in acute cases, but so far Trudeau treats only those who are free or nearly free from fever. The more chronic the disease the better appear the results obtained from tuberculin. As regards the actual practical results obtained, Trudeau expresses himself conservatively as follows: "The more familiar one becomes with the varying courses of chronic tuberculosis the easier it is to realize the difficulty of setting forth any positive evidence as to the favorable influence *per se* of any specific treatment when so many other factors influence the course of a disease in itself so erratic and varying in its manifestations." It would be well if the results of other forms of treatment of tuberculosis and other diseases were weighed with a similar appreciation of the difficulties in the way of reaching final conclusions.

In addition to the favorable impression obtained from watching patients thus treated, Trudeau points to the evidence afforded by his statistics, which show that of the patients treated with tuberculin from 18 to 25 per cent. more were alive than of those not treated with tuberculin during the past fifteen years. Careful mortality statistics of this kind are the only means that can furnish in time unquestionable evidence of the exact value of tuberculin immunization in the case of pulmonary tuberculosis. The treatment of infections by means of active immunization, i. e., by the use of specific vaccines, is as yet in its beginning. At present the interest is especially concentrated on the methods advocated with great enthusiasm by Sir Almroth E. Wright, of which the continued use of doses of vaccines just sufficient to raise the opsonic index is an essential feature. It may well be that in the near future a departure from this method will take place in the direction of progressive increase of the doses in the hope that thereby a greater degree of immunity and a more decisive therapeutic effect may be secured, as we see has been done already by Trudeau and others in the case of pulmonary tuberculosis, and that quite independently of the work of Wright and his followers on the opsonic index. A promising field has been opened in which there is abundant room for the careful, critical and comprehensive study of different methods and we may look for interesting developments.

THE ASSOCIATION OF APPENDICITIS WITH DISEASES OF THE GALL BLADDER.

Although the literature on appendicitis has grown enormously in the past fifteen years, the accumulated evidence of the clinic and the laboratory has not yet sufficed to clear up all points relating to this many-sided disease. The great amount of the literature of itself suggests uncertainty on many points, just as an abundance of remedies for a single disease throws doubts on the specificity of all of them. So far as the plain uncomplicated cases are concerned little need be said, but the complications and sequelæ are still not widely appreciated. The pylephlebitis, the association with movable kidney, and the venous thromboses are rather widely recognized; other complications, such as the association of appendicitis and gall-bladder diseases, are not so well known.

Clinicians of the French school are the ones who have most persistently laid stress on this association. Dieulafoy,[1] who has recently considered the association, speaks of the condition as *"appendiculo-cholécystite."* Many operators who have had wide experience with gall-bladder and appendix surgery have noted that the two diseases concur not infrequently, and some have commented on the fact. The association is not the same in all instances, for in some patients the cholecystitis and the appendicitis occur together, while in others one condition precedes the other, and the intervening period may be one of months or even years. In most instances, nearly one-half of the cases in fact, the disease of the appendix precedes the gall-bladder involvement; next in frequency the two conditions appear together; less often the gall-bladder disease precedes the appendicitis. The association appears practically always in adult life, and there seems to be no especial sex susceptibility. Gallstones are found in two-thirds of the cases, cholecystitis without stones in the remainder. The diagnosis has been made clinically on several occasions, and would doubtless be more often made if it were realized that the association is relatively common. The physician is no doubt often led astray from having made a diagnosis of one or the other condition during a first attack and assuming that the following attacks are of the same nature.

That cholecystitis or gallstones should follow appendicitis in some instances is not to be wondered at. The now widely-accepted bacterial origin of gallstones has been established by both clinical and experimental observation, and most experimenters believe that the infection of the gall bladder takes place, not by way of the bile ducts, but rather through the blood stream. The fact that gall-bladder infections are usually not mixed, and that the bacteria most commonly found in connection with gallstones are those commonly causing intestinal infection, supports the view that they reach the gall bladder by the blood rather than through the ducts. Naturally, if the gall bladder is infected through the blood it is most likely to receive the infection from those organs whose vessels are tributary to the portal vein. It is true that in a few instances the infection may travel along adhesions between the appendix and the gall bladder; this seems to be the route taken occasionally, but this is the exception rather than the rule. When the disease of the gall bladder precedes that of the appendix it seems likely that the latter becomes infected on account of its undue susceptibility. In such cases it may be imagined that the gall bladder acts as a reservoir for the collection of enormous numbers of bacteria which, at certain intervals, are poured out into the intestine. The appendix, rather than other portions of the intestinal tract, becomes infected because of the mechanical and structural peculiarities which render it especially vulnerable. The association of the two diseases is one of considerable practical importance, especially to the patient; the exploration of the gall-bladder region by the surgeon in all cases of appendicitis, and of the appendix in all gall-bladder diseases, will no doubt save a good many patients from a second and unnecessary operation.

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[1] Clinique Médical de l'Hotel Dieu, 1905-6.

THE INDEX.

To the student of the literature of medicine that part of the index in this issue which deals with that department should appeal most strongly. The greater value of the Index to Current Medical Literature is evidenced by its increased size, the present index being almost one-third larger than its largest predecessor. This increase in volume is due not only to the complete system of cross-reference, but also to the fact that articles are indexed largely according to their substance as well as to their title. This becomes necessary in making an index, the standard for which is utility, because of the unfortunate prevalence of titles which give no clue to the subject matter of which they are the captions. In looking over medical literature one is struck with the fact that but few really good titles are to be found. Verbosity and academic ambiguity seem to be the principal faults of authors in designating their articles. Too often a writer in naming his paper attempts to make the title too comprehensive. Much as summaries of all articles on medical subjects are to be desired, they should be given in the body of the article—i. e., at the beginning or at the close—and not incorporated in the title. The greatest degree of conciseness compatible with lucidity is the cardinal principle of title making. The system followed in making the index in general is described in the note prefacing each department of it. A careful reading of these notes will lead not only to a better understanding of the comprehensiveness of the index, but will make it correspondingly more useful. Although we believe that this is the best index The Journal has issued, we realize that it is subject to improvement. It is earnestly desired, therefore, that suggestions looking to its betterment will be made by our readers. As usual, we shall reprint this index in a paper-bound pamphlet, incorporating in it the titles of articles as listed from week to week in the department of Current Medical Literature, thus making a handy reference guide to the world's medical literature.

THE ALLEGED INCREASE IN INSANITY.

A distinguished physician has declared, in a letter to a daily paper, that with the continuation of present tendencies the whole population of one of the leading states of the Union will be insane in three hundred years. Since what applies to one state is also valid for others, this means that unless matters mend pretty nearly the whole country will be in the same unfortunate fix. He then takes it all back by the admission that this can not really happen, since preventive measures are on foot to head off such a catastrophe. Whatever may be true as regards the increase of degeneracy, there is no call at the present time for such alarmist statements, for one could easily find statistics fully as correct as those used that would indicate a very opposite condition of things. The mere increase of insanity is a very poor index of the actual condition of affairs. This country is in a transition state. It is taking in a million or two of immigrants every year and the defectives from this supply are sufficient to account for much of the bad showing in this respect. In fact, take out from our asylums the foreign born insane and the children of the foreign born, it is very doubtful whether there would be any alarming percentage of increase.

SPEAKER CANNON'S ATTITUDE TOWARD THE MEDICAL PROFESSION.

At a recent meeting of the Illinois State Medical Society Dr. J. F. Percy, in his presidential address, said some excellent things on the subject of quackery and the supineness of legislative bodies regarding it. He paid his respects in particular to Joseph Cannon, Speaker of the national House of Representatives, who, Dr. Percy said, by his indifference to the interests of the medical branches of the Army and Navy, indicates that he does not regard the physician as a political asset of sufficient importance to be worth noticing. When the representatives of the American Medical Association had an audience with Speaker Cannon in the interests of the Army and Navy medical services he "just listened to them and that was all." This is not only "mortifying," as Dr. Percy says, but it is astounding that any one occupying the position of speaker should display such a degree of ignorance of the nation's needs. It is but necessary to remember the many instances of death and disaster to the Army resulting from sanitary un-readiness in time of war, and even in time of peace, to understand fully the gravity of Speaker Cannon's persistent hostility toward the measure for the improvement of the medical department of the Army. Mr. Cannon is mentioned as a presidential possibility and it is well the country should know the timber of which he is made. It is especially necessary that the medical profession should present a solid front in order that it may, as a mere political asset, command that respect which professionally it seems unable to obtain at the hands of officials such as Speaker Cannon. As we have repeatedly stated, the medical services of both the Army and Navy have been crippled and rendered so unattractive by the neglect to correct the faulty conditions thus brought about that not only are there many vacancies in them, but it is impossible to obtain competent men to fill the vacancies. There is now a shortage of thirty assistant surgeons in the Army Medical Corps and sixty in that of the Navy, and the serious feature of the situation is that this deficiency is constantly growing, notwithstanding the most strenuous efforts to obtain candidates. To what extent this neglect to improve conditions is due to contempt for the opinions of the medical profession can not be stated, but there can be no doubt that therein is to be found its genesis. It is certainly the duty of the medical profession to call the attention of the country to the matter, and by individual and united effort to obtain relief or to place the responsibility where it belongs.

Medical News

CALIFORNIA.

Suit Dismissed.—The suit of A. B. Ambie against Dr. W. Harriman Jones, Long Beach, for the alleged improper treatment of a broken arm, was decided by the jury in favor of the defendant, May 23. The judge stated that the plaintiff had no ground for damages.

Hospital Notes.—The Jim Barden Hospital, Salinas, was opened for the reception of patients, May 27.——The hospital in San José, formerly managed by Dr. Dogge, has been secured by two trained nurses, graduates of St. Luke's Hospital, San Francisco, and will be operated as a private hospital.

Commencement Exercises.—The annual commencement exercises of the University of Southern California, Los Angeles, were held June 13, when a class of 27 was graduated. Hon. N. P. Conrey delivered the doctorate address. At the alumni banquet, which occurred on the evening of June 12, Dr. William D. Babcock, dean of the college, presided, and Dr. Joseph Kurtz acted as toastmaster.

Illegal Practitioners.—M. W. Stevens, arrested on the charge of practicing medicine without a license from the State Board of Medical Examiners, is said to have pleaded guilty at Los Angeles, June 3, and to have been fined $100. The fine was suspended on the defendant's promise to cease transgressing the law.——Six Chinese medical practitioners of Los Angeles were arrested June 4 on a charge of practicing medicine without a license and were released on bail.——Joseph Schieke, Los Angeles, charged with practicing medicine without a license, is said to have been fined $100, June 13. He had sold herb remedies purporting to be from Iceland.

Personal.—Dr. Ottiwell W. Jones has been appointed health officer of San Francisco, ice Dr. Dennis F. Ragan, resigned.——Dr. Thomas A. Williams has been elected president of the Oakland board of health, and Dr. Edward N. Ewer, health officer.——Dr. Robert V. Day, Los Angeles, has returned from a two months' tour of the East.——Dr. William J. Wickman, San Rafael, has been appointed resident physician at the state prison, San Quentin, vice Dr. Walter M. Thorne, resigned.——Dr. Charles E. Stone, Marysville, has been re-elected physician of Yuba County.——Dr. Trusten P. Perry, Yuba City, has been elected physician of Sutter County.——Dr. Francis H. Mead has been appointed health officer of San Diego, vice Dr. Thomas L. Magee, resigned.——Dr. James W. Steade has been nominated president of the board of health of San Diego, vice Dr. Thomas P. Butler, resigned.——Dr. Fred H. Van Tassel, who has been missing from his home in Berkeley for several days, has been found in Portland, Ore. It is reported that he was assaulted and robbed.——Dr. Thomas B. W. Leland, formerly coroner of San Francisco County, has been appointed police surgeon of San Francisco, vice Dr. Ottiwell W. Jones.——Dr. W. L. McFarland, Benecia, has been appointed physician of Solano County.

COLORADO.

Communicable Diseases.—During April there were reported in the state 268 cases of scarlet fever, 163 cases of smallpox, 38 cases of diphtheria, and 16 cases of typhoid fever.

Commencement.—At the annual commencement of the Denver and Gross College of Medicine, May 16, a class of 20 was graduated. The doctorate address was delivered by Franklin E. Brooks.

April Deaths.—During April 835 deaths were reported, equivalent to an annual death rate of 16.5 per 1,000. During the month 29 deaths were reported from scarlet fever, 9 from diphtheria, 8 from typhoid fever and one from smallpox.

Hospital Notes.—Dr. W. F. Berry of the Glenwood Sanitarium has moved into the new building, just completed.——On June 9 the National Jewish Hospital for Consumptives, Denver, dedicated its new woman's pavilion, chapel and several other new structures.

Personal.—Dr. Pasquale DeCunto, Denver, has had conferred on him the cross of the Order of Cavalier of the Crown of Italy on account of his philanthropy and generosity toward his fellow-countrymen.——The office and residence of Dr. William R. Winters, Silverton, were damaged by fire to the extent of $1,500, May 25, and Dr. Winters narrowly escaped with his life.——Dr. Josephine L. Peary, Colorado Springs, has resigned as a member of the board of control of the State Industrial School for Girls.——Dr. Martin E. Miles, Boulder, secretary of the School of Medicine of the University of Colorado, has resigned to enter private practice in Guadeloupe, Mexico.

DISTRICT OF COLUMBIA.

Commencement.—At the fifty-eighth annual commencement exercises of the Georgetown University, School of Medicine, June 11, a class of 19 was graduated. The medical class was introduced by the dean, Dr. George M. Kober, and Dr. Edwin B. Behrend delivered the doctorate address.

Vital Statistics of the District.—During the week ended June 8, 103 deaths were reported, equivalent to an annual death rate of 16.3 per 1,000. The principal causes of mortality were: Consumption, 12; pneumonia, 10; cerebral hemorrhage and heart disease, each 8, and kidney disease, 6; bronchitis, cancer and suicide, each 3. The births of the week exceeded the deaths by 25.

GEORGIA.

Personal.—Dr. and Mrs. William Z. Holliday, Augusta, sailed for Europe from New York, June 11.——Dr. Whatley W. Battey, Jr., Augusta, has been commissioned first lieutenant and assistant surgeon, N. G. Ga., and assigned to company duty with the Augusta companies.——Dr. Eugene B. Elder has been re-elected superintendent of the Macon City Hospital.

Sanatorium Opened.—The McDuffie-Munroe Sanatorium, a private institution for the treatment of medical and surgical cases, was opened May 1 at Columbus, under the charge of Drs. James H. McDuffie and H. Stokes Munroe.

ILLINOIS.

Sanatorium Robbed.—On June 14 burglars entered the North Shore Health Resort, Winnetka, secured several hundred dollars, assaulted a woman patient and an attendant and escaped in a buggy. The robbers have been captured and have confessed.

Personal.—Dr. Alexander Gray has been appointed health officer of Savanna.——Dr. William J. Rideout, Freeport, has returned from Europe.——Dr. Arthur Leipold, Moline, has been appointed house physician at the University of Iowa Hospital, Iowa City.

Chicago.

New People's Hospital.—Ground was broken for the new People's Hospital at Twenty-second Street and Archer Avenue, June 16. The new building is to be three stories in height and of pressed brick and steel construction. The building is put up under the auspices of the People's Hospital Association, of which William D. Schaefer is president and Dr. I. Clark Gary, secretary.

Honorary Degrees Conferred.—At the annual commencement exercises of the University of Michigan, June 20, the honorary degree of A.M. was conferred on Dr. James B. Herrick.——At the annual commencement exercises of the Northwestern University, June 20, the honorary degree of LL.D. was conferred on Dr. George H. Simmons.

Deaths of the Week.—During the week ended June 22 there were 607 deaths, equivalent to an annual death rate of 15.02 per 1,000. This is an increase of 36 deaths over the preceding week and of 184 deaths over the corresponding week of 1906. Pneumonia and consumption each caused 76 deaths; violence (including suicide), 55; Bright's disease, 51; heart diseases, 41; nervous diseases, 34; acute intestinal diseases and cancer, each 32. One death was reported from sunstroke.

Hot Weather Charities.—The Lincoln Park Sanatorium, conducted by the *Daily News*, opens this week for the season with Dr. Bathena Coone as medical superintendent, and Drs. Louis L. Gregory, Julian E. Hequembourg, Willis B. Storer and E. Iles Kerlin as attending staff; Drs. Alfred C. Cotton, John M. Dodson, E. Fletcher Ingals, Edwin B. Tuteur, Frederick W. Belknap, Maurice L. Goodkind and Cassius D. Wescott as consulting staff, with three house physicians.——The summer tent hospital, established by the Chicago *Tribune* early in June at Algonquin, has every tent filled. The new permanent hospital is expected to be ready to receive patients July 15. The tent sanatorium is in charge of trained nurses and Dr. John A. Robison is attending physician.

INDIANA.

Site for Epileptic Village Purchased.—The state has purchased 1,200 acres of land at Newcastle for the state epileptic village.

Crusade Against Itinerant Vendors.—The police of Indianapolis have started a crusade against itinerant medicine vendors who sell preparations on the street corners.

Personal.—Dr. Samuel R. Laubscher, Evansville, has been appointed physician to the Vanderburgh County poor farm.——Dr. Melville F. Johnston has been re-elected a member of the Richmond school board.——Dr. George Wysong has been appointed extra interne at the Indianapolis City Dispensary, in care of the tuberculosis department.——Dr. James M. Dinnen, Fort Wayne, has been reappointed a member of the State Board of Medical Examination and Registration.——Dr. James B. Green, Mishawaka, was presented with a gold-mounted cane by the members of the Mishawaka Physicians' Club, June 3, in honor of the fortieth anniversary of his entrance into the practice of medicine.

May Mortality and Morbidity.—The death rate for May in the state was 12.6 per 1,000, slightly higher than the rate for the corresponding month of 1906, which was 11.9. Measles was reported as the most prevalent disease. The other diseases in order of prevalence were: Rheumatism, bronchitis, tonsillitis, influenza, pneumonia, typhoid fever, scarlet fever, diarrhea, intermittent and remittent fever, diphtheria, smallpox, pleurisy, whooping-cough, erysipelas, peritonitis, cholera morbus, puerperal fever, dysentery, cerebrospinal meningitis and cholera infantum. The deaths under one year numbered 368, or 13.4 per cent. of the total mortality, and of individuals of 65 and over numbered 879, or 32.3 per cent. There were 149 cases of smallpox reported from 23 counties, with one death; 124 cases of typhoid from 31 counties, with 32 deaths; 172 cases of diphtheria from 24 counties, with 17 deaths. Tuberculosis caused 363 deaths during the month, or 13 fewer than for the corresponding month of 1906, and there were 331 deaths from pneumonia.

IOWA.

Commencements.—Drake Medical College, Des Moines, graduated a class of 17, June 14.——The Sioux City Medical College graduated a class of 11, June 4.

Medicine Distributor Fined.—After having been fined in two other cities for the promiscuous distribution of "patent medicine" samples and literature, in violation of the ordinance, Charles A. Walters attempted to violate the ordinance in Fort Dodge, and was arrested and fined $10 and costs.

Personal.—Dr. and Mrs. Percy R. Wood, Marshalltown, sailed for Europe, June 10.——Dr. Henry H. Clark, McGregor, has been elected medical director of the Iowa Department, G. A. R.——Dr. Anthony H. Vorweck, Burlington, has been appointed physician of Des Moines County for the city, and Dr. Frank P. Hanaphy, Augusta, county physician for the poor farm and the southern part of the county.

Unlicensed Practitioners.—George A. Ricard, Sioux City, accused of practicing medicine without first having obtained a license as an itinerant physician, is said to have been fined $300 and costs in the district court at Le Mars, June 1.——R. L. Stevens, an osteopath of Des Moines, charged with practicing as a physician and an obstetrician without a license, was found not guilty June 12. The instructions of the judge to the jury were that if the defendant in the case was only a teacher in the college and that if the cases were hospital cases, the decision should be in favor of the defendant.

KENTUCKY.

Proposed Consolidation.—Overtures for the consolidation of the Kentucky School of Medicine, Louisville, with another school of medicine in that city are said to have been made, and if these plans materialize Louisville will commence sessions in the fall with two schools of medicine instead of five as last year.

Personal.—Dr. Joseph W. Pryor has been appointed a member of the health board of Lexington, vice Dr. William Rodes, deceased.——Dr. John G. Brooks, Paducah, recently elected director of the Riverside Hospital, has resigned.——A fire in Fulton, June 5, burned the offices of Drs. James H. McClure and William W. Gourly.

MARYLAND.

Baltimore.

Concert for Hospitals.—The concert given by the Vienna Maennerchor, May 11, realized $1,526.36, which was distributed among the hospitals of the city.

Personal.—The office of assistant superintendent of Johns Hopkins Hospital, recently created, has been given to Dr. Rupert Norton.——Dr. William F. M. Sowers has resigned as resident surgeon of the institution and his place will be filled by Dr. Stephen W. Watts until September, when he leaves to accept the position of professor of surgery in the University of Virginia medical department and superintendent of the University Hospital, Charlottesville. He will be succeeded by Dr. R. Z. Smith at that time. Other members of the resident staff will be Dr. Charles P. Emerson of the medical department, Dr. D. B. Casler of the gynecological department, and Dr. Henry J. Storer of the obstetrical department.——Dr. William W. Russell has taken a cottage for the summer at Jamestown, R. I.——Dr. and Mrs. Robert H. P. Ellis sailed from New York for the Mediterranean, June 15.

MASSACHUSETTS.

Personal.—Dr. Bayard Taylor Crane of the Massachusetts State Sanatorium for Tuberculosis, Rutland, has been appointed superintendent of the state sanatorium of Maryland.——The old friend of students of Harvard Medical School for thirty years, James Skillen, the janitor, has sailed with his wife for a three-months visit to his old home in England.

MICHIGAN.

Discontinue Clinics.—The trustees of the Hackley Hospital, Muskegon, have decided to discontinue clinics at the hospital in accordance with the views of local physicians.

Tuberculosis Camp Opened.—The municipal tuberculosis camp of Kalamazoo opened for patients last week, and the four patients on the waiting list have taken up their residence in the camp.

State Board Appointments.—Dr. Fleming Carrow, Detroit, has been appointed a member of the State Board of Registration in Medicine, vice Dr. Walter H. Sawyer, Hillsdale; Dr. Joseph H. Ball, Bay City, vice Dr. Oscar Le Seure, Detroit, and Drs. Henry C. Maynard, Hartford, and Theodore A. Felch, Ishpeming, have been reappointed members of the board.

Personal.—Drs. Norman A. Mallory, William P. Melody, L. C. Pike and Frederick B. Stutske have been appointed city physicians of Detroit.——Dr. John W. Hoffman, Detroit, has been reappointed as pharmacist or indoor physician.——Dr. Homer E. Clarke, for several years on the staff of the East Michigan Hospital, Pontiac, has accepted a position as assistant physician at the Oak Grove Sanatorium, Flint.——Dr. Franklin Slocum, Ludington, is reported to have fallen heir to an estate of a million dollars left by his father, who was an importer of tea and silk, doing business in Moscow, Russia.

MINNESOTA.

Personal.—Dr. William J. Mayo and family, Rochester, sailed for England, June 27.——Dr. Harry O'Brien has been made chief physician of the state penitentiary, Stillwater.——Dr. Fred Huxley has left for Germany.——Dr. William W. Mayo, Rochester, has returned after a two months' trip to Japan.——Dr. Charles A. Wheaton has been appointed a member of the St. Paul police board.——Dr. Bruno Jaehnig, health officer of Red Wing, has resigned, and Dr. George C. Wellner has been chosen as his successor.

MONTANA.

Communicable Diseases.—The Great Northern extra work gang at Bowdoin, where 200 men are employed, is under quarantine, owing to the prevalence of smallpox.——Diphtheria is reported at Kendall, where one death has occurred, at Glasgow, and a number of points along the Great Northern Road at the work camps.

Personal.—Dr. John A. Lamb has been appointed city health officer of Kalispell.——Dr. Sidney A. Cooney, Helena, has been appointed secretary of the board of health of Lewis and Clarke County.——Dr. George W. Rightenour, Sheridan, has been appointed health officer of Madison County.——Dr. Henry W. Wilson, Lewistown, has been appointed health officer of Fergus County.

NEBRASKA.

Commencements.—At the fifth annual commencement exercises of the University of Nebraska, College of Medicine, Omaha, degrees were conferred by Chancellor Elisha B. Andrews; the prizes awarded by Dean Henry B. Ward, and the doctorate address was delivered by Dr. Nicholas Senn, Chicago, on "The Choice of a Profession." A class of 18 received degress, and the honorary degree of LL.D. was conferred on Major James Carroll, surgeon, U. S. Army.——The first annual commencement exercises of the Nebraska College of Medicine, Lincoln, were held May 15, when a class of seven was graduated. Dr. James F. Stevens, dean of the college, spoke on "College History and Its Ideals," the doctorate address was delivered by Chancellor Huntington of Wesleyan University, and the degrees were conferred by Dr. J. M. McLeod, president of the college.

NEW YORK.

Bequests.—Under the will of the late Mr. Frank Goodyear the Buffalo General Hospital receives $50,000 and the Children's Hospital $10,000.

Optometry Bill.—Much opposition has developed against the bill designed to legalize the practice of optometry in the state. The governor reserved decision.

Lockjaw Warning.—The State Department of Health has issued a bulletin, warning against the danger of lockjaw on the Fourth of July, as follows:

> Fourth of July injuries are very frequently followed by lockjaw. Extensive opening of such wounds and proper surgical treatment will do much to prevent the work of the tetanic symptoms, but the hypodermic injection of an immunizing dose of tetanus antitoxin will surely prevent the attack, and this preventative agent should be administered after all Fourth of July injuries. The State Department of Health has furnished for the last five years tetanus antitoxin to local health officers, free of cost, for distribution to physicians making the proper application for it. No case of tetanus has ever developed after its use as a preventative agent. Health officers not having a supply of this serum should apply to the State Department of Health for the same before the Fourth.

Personal.—Dr. Benjamin Dolph suffered painful injuries in a fall at his home in Port Jervis, May 27.——Dr. Alfred F. Hodgman, Auburn, has been commissioned as captain and assistant surgeon of the Third Infantry, N. G., N. Y.——Dr. E. Ross Elliott, Montgomery, sustained a fracture of the leg at the ankle and was rendered unconscious by a fall from his barn, June 1.——Dr. Frederick R. Calkins has been appointed surgeon in the First Infantry, N. G., N. Y., and assigned to duty with Company C.——Dr. Charles C. Duryee has succeeded Dr. William T. Clute as health officer of Schenectady.——Dr. Robert B. Lamb, superintendent of the State Hospital for the Insane, Matteawan, was severely injured in a collision of buggies at Columbus, Ohio, June 6.

New York City.

Off for Europe.—Dr. and Mrs. D. B. St. John Roosa and Dr. and Mrs. M. Allen Starr sailed for Europe, June 19, and Dr. and Mrs. D. Ernest Walker and Dr. and Mrs. Bache Emmet, June 22.

New Harlem Hospital.—This hospital was formally opened June 15. Dr. John Winters Brannan, president of the board of trustees of Bellevue and Allied Hospitals, presided, and Comptroller Metz made the principal address. The institution has accommodations for 150 patients and cost, with power house and stables, $640,000.

Walk the Horses.—Mr. Sullivan introduced at the meeting of the Board of Aldermen an ordinance to prevent the disturbing of hospital patients by vehicular traffic, which provides that no one shall drive faster than a walk through streets on which hospitals are situated, and no unnecessary noise shall be made, under penalty of $10 fine.

Milk Stations Opened.—Seventeen Nathan Straus pasteurized milk depots have been opened. This charity has been maintained by Mr. Straus for fourteen years. During the first summer of this work he dispensed 34,400 bottles from one station; last year 3,140,252 bottles were distributed. The present laboratory is so overtaxed that Mr. Straus is about to erect a new laboratory at a cost of about $100,000.

Reservoir and Aqueduct.—Mayor George B. McClellan on June 13 turned the first sod with jeweled spade, marking the beginning of this mighty aqueduct and reservoir which will bring water from the Catskill to New York City, a distance of 82 miles to the Kensico storage reservoir above New York, and will include in its tributary works a total length of 140 miles. The cost of this undertaking will not exceed $162,000,000, and it is expected to be completed in eight or ten years.

Accommodations for the Sick.—Comptroller Metz says that there have been appropriated for the purchase and enlargement of sites for hospitals in the last two and a half years $4,500,000 for Bellevue and Allied hospitals, $3,500,000 for the Department of Charities and $1,500,000 for the Department of Health. It will take $15,000,000 more to complete the buildings projected at Bellevue, the seashore and other places. The running expenses are about $3,000,000 a year.

Glasses for School Children.—The board of education has decided to request the Department of Health to make an expert examination of the eyes of all the children in the public schools of the city to determine the exact number for whom glasses ought to be provided. The committee to whom the resolution was referred said the estimate of 36,000 children needing glasses was too low. The report also stated that the examinations made were inadequate to determine the extent of myopia or to provide accurate data for the treatment of those afflicted.

Personal.—Dr. Frederick E. Beal will spend his summer vacation at Bad Nauheim, Germany, and Vienna.——Drs. Max Einhorn and Johichi Takamine have been elected honorary members of the Japanese Gastroenterological Society.——Dr. Arthur H. Harrington has been appointed superintendent of the State Hospital for the Insane, Howard, R. I.——Dr. Charles F. Roberts, sanitary superintendent, who has been connected with the department of health for 39 years, has resigned, and Dr. Walter Bensel has been appointed his successor.——Dr. Franklyn G. Brown has been reappointed assistant medical director of the Mutual Reserve Life Insurance Company.

Death Rate Goes Up.—According to the quarterly report just issued by the Health Department, the death rate has increased. There were 4,951 deaths from tuberculosis and pneumonia. Bronchopneumonia had a total of 1,807 deaths. There were 546 deaths from diphtheria; 188 from scarlet fever; 103 from measles; 104 from whooping cough; 181 from tubercular meningitis; 190 from cerebrospinal meningitis, and 373 from influenza. There were 749 deaths from apoplexy, congestion and softening of the brain. There were 124 deaths from typhoid fever. There were 551 deaths from intestinal trouble in children under 5 years old. The death rate for the quarter was at the annual rate of 20.06 per 1,000, as compared with 19.46 for the corresponding period of last year.

Habitual Drunkards Neglected.—In the annual report for 1906 of Bellevue and Allied Hospitals, just issued, Minas S. Gregory gives prominence to the fact that the state abounds in charitable institutions for almost every class of unfortunates, but as yet provides no institution for those who have become the slaves of alcohol. In such institutions, under proper treatment, a certain proportion would probably become useful citizens again. Dr. Armstrong of Bellevue suggests that habitual drunkards should be committed by proper judicial authority to state or municipal institutions in which they might be restrained and treated scientifically. Legislation would be needed to accomplish this, and the cost of maintaining such institutions would be considerable, but their need will not be questioned.

P. & S. Centennial.—The centennial anniversary of the granting of the charter to the College of Physicians and Surgeons of Columbia University was celebrated by an alumni dinner, June 11, at Delmonico's, at which about 200 of the alumni were present. Dr. Timothy M. Cheesman, Garrison, N. Y., president of the alumni association, was toastmaster, and the chief addresses of the evening were made by President Nicholas Murray Butler of Columbia University; Dr. Samuel W. Lambert, dean of the College of Physicians and Surgeons; Rev. Dr. C. Aked; Dr. Thomas L. Darlington, health officer of New York City, and Mr. George L. Rives. In connection with the celebration a series of demonstrations was given, illustrating some of the newer methods of teaching. The teaching of physiology was illustrated at the laboratory of the department by Prof. Burton-Opitz and Dr. Haven Emerson, who took up in the question of the action of the valves of the heart and described clinical methods of recording certain facts of circulation and respiration. The teaching of surgery was illustrated by Prof. Joseph A. Blake and Dr. J. W. Draper Maury, who gave the technic of undergraduate teaching in surgery, describing recent studies at the surgical laboratory. The teaching of biologic chemistry was illustrated at the laboratory of the department by Prof. W. J. Gies and his assistants, who described the action of enzymes and some of the chemical phases of the newer physiology of digestion. The teaching of pharmacology was illustrated at the recitation room of the department by Dr. A. N. Richards, who took up the action of certain common drugs on the heart.

Country Work for Consumptives.—The New York Charity Organization Society has made an investigation of the question of placing consumptives in the country as help on farms, etc., and publishes its conclusions as follows: Occasionally indigent consumptives can be placed in suitable country employment with exceedingly good results. Comparatively few such patients desire work sufficiently to apply for it, and the great majority applying for it are absolutely unsuitable, either from medical or social reasons, or from both. Patients with incipient tuberculosis only can with difficulty be persuaded to give up their city employment for the uncertainties of work in the country. Moreover, if willing to give up their work they should be sent immediately to a sanatorium. Although labor is scarce, there is little demand among farmers for men who can not do a hard day's work, and the physical makeup of the ordinary tenement dweller is ill-suited to farm life. In the small towns and villages there are somewhat better opportunities for tradesmen and artisans. The unreasonable dread of tuberculosis is present among country people, though not so marked as had been anticipated. Even with the strictest preliminary medical examination, many patients with pulmonary tuberculosis apparently able to work, did badly under the strain of work in the country when away from medical supervision. The society strongly advises physicians and others not to send consumptives to the country to shift for themselves, for the reason that any scheme for the employment of consumptives should offer facilities for the adjustment of work to the physical ability of each patient. This should be under medical supervision and should include instruction in the rudiments of farm work. A farm school in connection with a sanatorium would perhaps be an ideal arrangement.

OHIO.

Egyptian Students of Medicine.—The Medical College of Ohio graduated one Egyptian student this year, and two students from that country last year. The Cincinnati College of Pharmacy graduated this year two Egyptians, and there are at present four residents of that country at the Medical College of Ohio.

Personal.—Dr. E. Otis Smith has been elected professor of genitourinary surgery at the Medical College of Ohio, vice Dr. Charles S. Evans.——Dr. Meyer L. Heidingsfeld, Cincinnati, has been appointed junior dermatologist to the Cincinnati Hospital.——Dr. Phineas S. Connor, Cincinnati, after a service of 40 years as professor of clinical surgery in the Medical College of Ohio, has resigned. At a recent meeting of the alumni association Dr. Connor was presented with a silver loving cup.——Dr. John C. Mackenzie, Cincinnati, has retired from private practice.

Faculty Changes.—At the annual meeting of the faculty of the Miami Medical College, June 10, Dr. John C. Oliver was elected dean; Dr. William E. Lewis, secretary, and Dr. James F. Heady, treasurer. Drs. Nathaniel Dandridge and John A. Thompson, with the foregoing, constitute the executive committee. Dr. Mark A. Brown has been appointed professor of physical diagnosis; Dr. Edward W. Walker, professor of clinical surgery; Dr. Charles E. Caldwell, professor principles of surgery and operative surgery; Dr. Frederick B. Samson, professor of chemistry, vice Dr. Frederick O. Marsh, and Dr. Magnus A. Tate, professor of obstetrics, vice Dr. William H. Taylor, resigned, who was made emeritus professor of obstetrics.

PENNSYLVANIA.

Typhoid in Pittsburg.—Typhoid fever continues to be prevalent in Pittsburg, where 41 new cases were reported to the bureau of health, June 18. There have been 228 new cases reported since June 1. The disease is said to be of a more virulent type than last year, with higher mortality. The impure water supply is the only cause assigned by the health authorities for the present outbreak. The disease is prevalent in towns along the Allegheny River, and this pollutes the water supply of Pittsburg.

Personal.—Dr. A. Parker Hitchens, Glenolden, sailed for Europe, June 22.——Dr. Morgan J. Williams, Scranton, was crushed between his automobile and a telegraph pole, June 11, the injury necessitating the amputation of his right leg about six inches above the ankle.——Drs. W. W. McCleary, Bellevue; William J. K. Snyder, Avalon, and G. H. Walker, have been elected to the surgical staff, and Drs. John S. Donaldson, A. H. Elliott and E. H. Sloan on the medical staff of the Bellevue Suburban Hospital.——Dr. and Mrs. John C. McClenathan, Connellsville, sailed from Philadelphia, for Liverpool, June 22.

Vital Statistics for 1906.—Seven actually preventable diseases were responsible for 20,987 deaths in this state during 1906. There were, exclusive of stillbirths, 115,000 deaths reported to the bureau of vital statistics during the past year, and the records show that more than one-sixth of the total number were from preventable diseases. Tuberculosis heads the list with 10,632, and there were 4,039 deaths from typhoid fever; diphtheria claimed 2,484; whooping-cough, 1,683; measles, 1,583; scarlet fever, 525, and malaria, 85. Not a single county in the state was free from typhoid fever. The statistics show that the greatest number of deaths from this cause occurred betwen the ages of 20 and 40. The records show further that 2,336 people lost their lives by railway accidents and that there were 870 suicides and 351 homicides during the year.

Philadelphia.

New Chair for College.—The board of trustees of the Medico-Chirurgical College and Hospital has created the chair of orthopedic surgery and has appointed Dr. James P. Mann, clinical professor of orthopedic surgery in the institution since 1896, to the full professorship.

To Honor Dr. Packard.—At a meeting of the managers of the visiting staff and former resident physicians of the Pennsylvania Hospital, June 18, it was decided to have a portrait of the late Dr. John H. Packard painted by a well-known artist and placed in the hospital. The committee in charge of the meeting consisted of Drs. James Tyson, Theodore H. Andrews, James C. Wilson and Robert G. Le Conte.

New Internes for Blockley.—Director Neff of the Department of Health and Charities has appointed 22 medical internes for the Philadelphia Hospital. Of the number appointed 10 were graduates of the Medical School of the University of Pennsylvania, 6 of the Medico-Chirurgical College, 5 of Jefferson Medical College, and one was a graduate of the Woman's Medical College.

Personal.—Dr. and Mrs. William L. Rodman and family sailed for Europe, June 25.——Dr. and Mrs. Alfred H. Mellersh sailed for Europe, June 22.——Dr. Edward E. Montgomery is ill with pneumonia.——Dr. Edmund J. Lee sailed for Europe, June 19.——Dr. William Moss, Chestnut Hill, who has been ill, has greatly improved.——Dr. Henry W. Cattell and Dr. Alfred F. Hand sailed for Europe, June 22.

To Improve University Hospital.—The trustees of the University of Pennsylvania are planning to change the entire fronts of all the University Hospital buildings facing the south side of Spruce Street. The group of buildings to be improved comprises the main hospital building with its two wings; the nurses' dormitories and the Pepper clinical laboratory. This group of buildings embraces a total area of 700 by 320 feet. The plan under consideration is to have all these fronts remodeled in Elizabethan style, of brick, with stone trimmings. It is stated that $300,000 will be expended on the project.

Health Report.—The number of deaths reported for the week ended June 22 aggregated 463, an increase of 9 over the corresponding period of last year, and of 25 over those of last week. The principal causes of death were: Typhoid fever, 7; whooping-cough, 5; diphtheria, 7; cerebrospinal meningitis, 4; tuberculosis, 60; cancer, 18; alcoholism, 5; apoplexy, 20; heart disease, 35; bronchitis, 11; acute respiratory disease, 36; enteritis, 26; obstruction of intestines, 4; appendicitis, 4; Bright's disease, 52; congenital debility, 14; old age, 6; suicide, 6, and marasmus, 4. There were 170 cases of contagious disease reported, with 16 deaths, as compared with 146 cases and 16 deaths last week.

TENNESSEE.

Commencement.—At the first annual commencement of the College of Physicians and Surgeons, Memphis, which was held April 30, Dr. Heber Jones, dean of the faculty, was master of ceremonies, and Hon. Booth Lowery of Mississippi delivered the doctorate address. Degrees were conferred on a class of 22.

Personal.—Dr. William D. Haggard, Nashville, will sail for Europe, June 27.——Dr. E. A. Ruddiman, professor of materia medica and pharmacy at Vanderbilt University, Nashville, has been appointed chief food and drug inspector of the Department of Agriculture.——Dr. Paul Clements of Maury County, who has been serving as surgeon in the Philippines, has been elected to a professorship in the University of Manila and will sail for that place September 1.

WASHINGTON.

Hospital Notes.—The Walla Walla Sanatorium, erected at a cost of about $12,000, was formally dedicated June 3. The institution has accommodations for about 50 patients.——A laboratory of surgical pathology has recently been established at St. Luke's Hospital, Spokane.——The cornerstone of the new Sacred Heart Hospital, Spokane, was laid May 25.

Personal.—Dr. John M. Semple, Spokane, has been appointed superintendent of the Eastern Washington Hospital for the Insane, Medical Lake, vice Dr. William H. Anderson, resigned.——Dr. Elmer E. Heg, Seattle, secretary of the State Board of Health, has been appointed as a representative from the United States to the International Congress of Hygiene and Demography, to be held in Berlin in September.——Dr. E. M. Rininger, Seattle, has been appointed medical director of the Alaska-Yukon-Pacific Exposition.——Dr. Matthew B. Grieve has been appointed city physician of Spokane, vice Dr. Charles V. Genoway.——Dr. Nathan M. Baker has been reappointed a member of the Spokane board of health.

WISCONSIN.

Bequest.—The late Dr. C. C. Robinson, Milwaukee, made bequests to Milwaukee charitable institutions aggregating more than $7,000.

State Board Appointments.—The governor has reappointed Drs. Wilbur T. Sarles, Sparta; Abner B. Bailey, Fennimore; Adellon P. Andrus, Ashland, and Lewis F. Bennett, Beloit, as members of the State Board of Medical Examiners.

Hospital Report.—The annual report of the Mount Sinai Hospital, Milwaukee, shows that during the year 190 operations were performed. The total receipts of the year were $12,740, and the expenses $8,504.14. The contemplated addition to the hospital will cost $7,000, of which $3,000 is yet to be raised.

Milwaukee Tuberculosis Sanatorium.—The financial committee of the Milwaukee Sanatorium for Tuberculosis announced June 5 that the required fund of $25,000 had been raised. Work has already been started on the Wagner pavilion, which will be ready early in July, and on the Allis and Weinhagen pavilions.

Personal.—Dr. Frederick S. Luhmann, Manitowoc, has been reappointed physician of Manitowoc County.——Dr. Marshall Surenson, Viroqua, fell down stairs at his residence, June 2, and sustained a fracture of the base of his skull.—— Dr. Samuel Bell, Beloit, has been appointed medical director of the Department of Wisconsin, G. A. R.——Dr. Peter J. Calvey, North Fond du Lac, has disposed of his practice.——Dr. Robert G. Washburn, Milwaukee, sailed for Europe, June 20.

GENERAL.

Physicians Who Prescribe Liquor.—The Commissioner of Internal Revenue has made a ruling that physicians who prescribe for their patients intoxicating liquors not compounded into medicines and who fill the precriptions themselves are liquor dealers and must pay the regular federal liquor dealers' tax of $25 a year.

Decrease in Trachoma.—The Territorial Board of Immigration of Hawaii reports encouraging success in the treatment of trachoma among the Spanish immigrants. In one week more than 30 patients were allowed to leave the quarantine station and only a very small percentage of the immigrants afflicted with the disease will be deported.

New Hospital Corps Company.—Authority has just been given for the organization at Manila of a fourth company of instruction of the hospital corps, U. S. Army. The purpose of this company is to furnish a school of instruction for hospital corps men in the Philippine Islands, as well as a complete organization for a field hospital. Two of the other three companies which have given such satisfactory results in this line are now station in the United States and the other is in Cuba. Capt. C. R. Reynolds, assistant surgeon, medical department, will command the new company.

CANADA.

Food Analyses.—About one hundred samples of breakfast foods have recently been analyzed by the chief dominion analyst at Ottawa. None of the samples was adulterated, but the great difference between their price per pound and the price of oatmeal and wheat flour was pointed out; and it was questioned whether their value in digestibility was proportionately increased.

FOREIGN.

Physicians in Politics.—Our Munich exchange states that the recently elected Bavarian legislature does not contain a single medical member. Seven physicians had been nominated, but none was elected. The unsuccessful candidates were Uhl, Imhof, Fischer and Neuberger of Nuremberg, nominated by the liberal political party, and three others, nominated respectively by the center, agricultural party and the social democrats.

Professors not Allowed Outside Work.—The Paris medical faculty has recently announced that henceforth the incumbents of the special chairs of anatomy, histology, physics, chemistry and pharmacology will not be allowed to take posts as physicians or surgeons or accoucheurs in the hospitals. Professors of these branches will be obliged to agree to devote themselves exclusively to their educational work.

To Improve Greek Nomenclature.—The Medical Society of Athens has appointed a committee to assist in the formation of a system of classical Greek medical nomenclature and to collect the classical Greek definitions which may be proposed as substitutes for irregular terms newly introduced into medical literature, and in use both in Greece and in foreign lands. Prof. S. Manginas is chairman, and Dr. Achilles Rose, New York, is a member of the committee.

Sexual Enlightenment of the Young.—Our German exchanges state that the medical school inspector at Steglitz has been delivering lectures on this subject to the male graduates of the high schools and colleges, under the auspices of the professors. Recently he delivered a lecture on the same subject to the girls in the graduating class of the public schools, girls of about 14, accompanied by their mothers. The local press spoke disparagingly of the innovation, and the Prussian minister of public instruction has forbidden further work of the kind among the girls in the grammar schools. The *Allg. med. Cent.-Ztg.* states that the prohibition was based on a misconception of the official report sent in, but the prohibition has not been recalled to date.

Belgium Organizes a Medical Study Trip.—The success of the French and German medical study trips has been so pronounced that the physicians of Belgium are now arranging for a trip of the kind. The Association of the Medical Press of Belgium has taken the lead and appointed a committee, which is now in conference with a Brussels tourist organization making up an itinerary for a personally conducted tour of physicians to the health resorts and medical centers of central and western Germany. The trip will commence early in August and will last fifteen days. The total expense will be $90. The wives and daughters of physicians are admitted to the party on the same terms. Professor von Winiwarter of Liege is a leading member of the committee.

Dust Liable to be a Factor in Politics.—The Imperial Board of Health in Germany is discussing the serious aspects of the dust question as liable to have an influence on politics. The automobiles whirl up such clouds of dust that the parks and boulevards have ceased to be breathing places where the poor and middle classes can go for fresh air. The Germans have enjoyed for many generations their custom of family outings to the outlying parks, but now they return to their homes in the city at night choked with dust and, instead of being refreshed by their outing, they are embittered. The *Deutsche Med. Wochschr.* cites Rubner's saying that it is now incumbent on the cities to provide pure air for their citizens to breathe just as they have made arrangements to provide good drinking water.

New Sign in Appendicitis and Peritonitis.—Blumberg describes in the *Münch. med. Wochsch.* for June 11 a sign revealing inflammation in the peritoneum which he has found constant and reliable in nearly two years' experience with it. After palpating or applying pressure to McBurney's point or elsewhere on the abdomen, he lifts his hand suddenly. This releases the abdominal wall and its elasticity causes it to fly back to its normal place. In case of irritation of the peritoneum this elastic movement of the abdominal wall causes a brief, sharp pain, while there is no noticeable pain if the peritoneum is still intact. In an acute attack the sudden lifting of the palpating hand causes such pain that the patient makes a grimace, the pain being more intense than that experienced from pressure; in less acute cases the pain is about the same for each, and in the chronic cases there is no pain except from pressure. The appearance of the sign is therefore a warning signal, especially significant if it develops suddenly and early after the onset of symptoms, while its gradual extinction is a good omen.

German Physician Fined for Giving Tablet of Corrosive Sublimate.—In Germany the law states that poisons can be dispensed only by registered pharmacists. A suit was brought by a pharmacist against a local physician because he had given a sublimate tablet to a patient. The local court fined the physician about $4. The physician in his defense said that the law is for the purpose of protecting the public against poisons, and the pharmacists against loss of business, and that his actions had conflicted with neither of these points, as the sublimate had been procured from a pharmacist and had been given gratuitously to the patient, labeled "poison" and with minute directions. He added that all physicians give drugs to patients more or less, mentioning as examples the samples of proprietaries presented by the manufacturing chemists, and remarking that if physicians were not allowed to dispense these the profession would be deprived of an important factor in the introduction and testing of new drugs. The medical experts summoned stated that the highest safeguard for the public is the personal dispensing of the medicine by the physician, but that this certainly conflicts with the law. The court of appeals therefore rendered a decision to this effect, unwitting transgression of the law, and the judge imposed the minimal penalty of one mark or 25 cents. The case is reported in detail in the *Allg. med. Ct.-Ztg.*, June 8.

Fake Honorary Membership for the Gullible.—Last March many prominent physicians in America received notices to the effect that they had been elected honorary members of the *Accademia fisico-chemica Italiana*, of Palermo, Italy. Each notice was accompanied by a complimentary reference to the man's scientific achievements and the request that he would send his photograph and a copy of some of his works for the library of the academy. The notice was also accompanied by a copy of the by-laws, from which it was seen that persons elected to honorary membership were expected to pay $5 for the clerical expenses of the certificate of membership, etc., and an additional sum for the engraving of the medal sent to each honorary member. The *Ztschr. f. aerzt. Fortbildung*, in a recent issue, states that similar notices have been sent to numerous prominent physicians in Europe, but that inquiry in Italy brings word that "the so-called academy is not an institution founded for scientific purposes, but consists of more or less obscure elements who under this title devote themselves to personal and material aims." The Berlin professor whose name figures on the prospectus of the "academy" declares that he knows nothing at all of such an institution and that the use of his name is unwarranted. Our exchange adds that a number of physicians at home and abroad forwarded the money, etc., asked for by this "pseudoacademy in this ingenious money-making scheme."

LONDON LETTER.

(*From our Regular Correspondent.*)

London, June 15, 1907.

The Milk Supply of Children's Hospitals.

A new departure in hospital management has been taken. By invitation of the Great Ormond Street Children's Hospital, the largest children's hospital in the country, representatives of the London children's hospitals met to discuss the milk supply of children's hospitals. The unsatisfactory character of their milk supply has been a subject of concern for some years, but the hospitals were faced by the hard fact that any attempts to secure a better supply would entail increased expenditure. Dr. Carpenter, of the Northeastern Hospital for Children, detailed his experiences in search of pure milk, which revealed a startling condition, constituting as grave a scandal as the condition of the Chicago slaughter houses, described by Mr. Sinclair. He was invited by one of the largest dairy companies of London to inspect the farm from which it was purposed to supply his hospital. It was situated fifty miles from London. He found the cows huddled together, some in ill-ventilated and dingy sheds, others in pitch-dark buildings with a foul atmosphere, all of them soiled with their excrement and in a deplorably filthy condition and with little, if any, bedding on the foul floors on which they stood and lay. A batch of dirty men, with dirty hands and filthy aprons, were milking. The overflow from the milk coolers, placed in a building adjoining a manure yard, passed through a pipe in the floor to a dirty cattle trough. The junction with the pipe was by an india rubber tube with a metal screw union, which was disengaged when not in use. The open pipe in that case helped to ventilate the dirty trough into the milk cooling department. The milk was coarsely filtered before passing over the coolers, and the filtrate was found to contain a plentiful admixture of manure and stable refuse. In another large dairy farm not far from London, Dr. Carpenter found a herd of manure-begrimed cows huddled together, surrounded by manure-bespattered walls, in a pestilential atmosphere. Here was the milk cooler, and to this manure-impregnated atmosphere the milk was freely exposed. The water for the cooler was paid for by meter, and, having passed through it, discharged into cattle troughs in the center of the manure yard. These troughs were soiled with manure, both inside and outside. For washing the churns and utensils, water was taken from these troughs!

The Tuberculosis Problem in South Africa.

A short time ago an alarming increase of leprosy in South Africa was reported; now a similar increase in tuberculosis has to be chronicled. An important conference of the mayors and health officers in the Cape Peninsula has been held at Capetown to consider the steps to be taken for the prevention of pulmonary tuberculosis. Twenty years ago life insurance companies, relying on the excellence of the climate, took little notice of the disease when considering a proposal. But so great has been the spread of the disease in the last few years that they now consider that it is one of the chief risks to be guarded against. The disease has greatly increased both among the white and black population.

International Red Cross Conference.

As mentioned in a former letter, the Red Cross Society for the first time is holding its international conference in London. The Society of American Women in London invited several of the delegates to a luncheon at the Hotel Cecil, June 10. The American ambassador and Mrs. Whitelaw Reid were guests. The following American delegates were present: Brig.-Gen. Robert M. O'Reilly, surgeon-general of the United States Army, and Mrs. O'Reilly; Medical Director John C. Wise, United States Navy; Col. William Cary Sanger, Miss Mabel T. Boardman, Mr. Ernest P. Bicknell. Baron Ozawa, one of the Japanese delegates, emphasized the fact that the Red Cross Society's work goes on not only in time of war, but also in time of peace, when there is much to do to succor suffering. The American ambassador added his emphatic assent to this. In fact, Mr. Reid believes that, as years go on, the work of the Red Cross in war will steadily diminish.

Presentation to Lord Lister.

The corporation of the city of London has decided to present the honorary freedom of the city to Lord Lister in a gold box in recognition of his immense services to humanity. The last time a member of the medical profession was thus honored was over a century ago, when Edward Jenner was given the freedom of London.

New Out-Patient Building at St. Bartholomew's, London.

These buildings will be opened this month, but patients will not be received until October. This and the other extensions of St. Bartholomew's Hospital are being built on the ground, about two and a half acres, formerly part of the site of Christ's Hospital ("Bluecoat School"), and which was acquired at the cost of $1,250,000.

Decline of Breast-Feeding.

Mr. A. W. Martin, medical officer of Garton, near Manchester, states in his report regarding the prevalence of diarrhea among children in his district, that in only about half of the total number of cases had the mothers made even an attempt to suckle their infants. He said: "The present generation is witnessing an occurrence in evolution never probably experienced by the human race, and that is a race of breastless women." He further said that it is difficult to estimate the extent of the connection between this and the increased drinking habits of women, but he believes that it has an important bearing on it.

Association News

Dr. Burrell's Acceptance of the Presidency.

Boston, June 22, 1907.

To the General Secretary, American Medical Association, Chicago.

Dear Sir:—I acknowledge the receipt of your notification of my election as President-Elect of the American Medical Association. The honor is a great one and I sincerely trust that I shall be able to discharge the duties of the office to the satisfaction of the Association. May I through you extend my thanks to the House of Delegates for their confidence in electing me to this office? It will be my endeavor so to administer the office that harmony will prevail.

Herbert L. Burrell, President-Elect.

A Change in the Committee on Medical Legislation.

Dr. William H. Welch, Baltimore, having resigned from the Committee on Medical Legislation, President Joseph D. Bryant has appointed Dr. William L. Rodman to fill out the unexpired portion of Dr. Welch's term.

Correspondence

Recovery from Broken Neck.

West Newton, Mass., June 12, 1907.

To the Editor:—The article by Arthur Ayer Law, M.D., in The Journal, June 8, 1907, is entitled "Recovery from Broken Neck." There is nothing in the history of the case reported which is incompatible with the assumption that it was really a bilateral forward dislocation, without fracture. The statements with which Dr. Law supports his diagnosis of fracture viz.: "that the conclusions of practically all observers have been that dislocation of the cervical vertebræ without some fracture is impossible," and that "the articular processes are placed nearly vertical," are erroneous. Practically all observers have concluded that dislocation of the cervical vertebræ, without fracture, *does* occur. For example, Stephen Smith says: "In the cervical region forward and backward luxations may occur with or without fracture." Scudder says: "A dislocation without fracture may occur in the cervical region; it is rare in other regions of the spine." Bryant says: "For, although in four-fifths of the injuries to the spinal column involving the bones some fracture is present, in the remaining one-fifth simple dislocation exists. The majority of these cases of pure dislocation occurs in the cervical region." In the American Text-book of Surgery, Keen and White, is the following: "Dislocations of the vertebræ, these, as has been said, are commonly associated with fracture, but a number of cases have been reported and verified by postmortem examination in which uncomplicated dislocation has occurred. They were nearly all of the cervical region." In Fowler's "A Treatise on Surgery," 1906, several pages are devoted to the consideration of dislocations of the cervical vertebræ. He says: "These are more frequent than fracture in the cervical region on account of the greater flexibility of this portion of the spinal column."

George L. Walton, in the *Boston Med. and Surg. Journal*, March 31, 1889, says: "The prevailing view among earlier writers that vertebral dislocation unaccompanied by fracture was of the rarest occurrence, if not impossible, has been materially modified during the last twenty years, and is now generally acknowledged that this injury is by no means uncommon." Helferich, Kocher, Henle in von Bergmann's "Handbuch der Practischen Chirurgie," and Wagner are examples of German writers who admit of the occurrence of cervical dislocations.

Dr. Law's statement that the articular processes are placed nearly vertical is also not quite accurate. The point can be settled by Dr. Law, or by any one, by simply examining them. The articular processes of the upper cervical vertebræ are horizontal and gradually incline from above downward. But the important point with reference to this whole matter is that these dislocations may be quite complete and severe and nevertheless be easily reduced by manipulation instead of brute strength. This fact has been pointed out by Hueter and others, but notably in this country by Walton, and his work should be better understood. See *Boston Med. and Surg. Jour.*, March 31, 1889, Dec. 7, 1893, Oct. 22, 1903. Introduced also into last edition of Scudder's text-book.

I have recently reported two cases of unilateral dislocation —*Boston Med. and Surg. Jour.*, April 25, 1907—and have shown the surprising ease with which these cases can be reduced. I believe with Walton that the bilateral dislocations also may be reduced, putting back first one and then the other side, using the same procedure as with the single dislocations. In the complete dislocations the obstacle to reduction is the fact that the articular process (or processes) has slipped past its fellow, has dropped down in front of it, and is locked against a direct pull, but is easily tilted up and then by rotation made to glide into its normal position.

Frank M. Sherman, M.D.

The Somnos Habit.

Philadelphia, June 10, 1907.

To the Editor:—I have been consulted recently for a condition that I think should be given publicity through the columns of The Journal. A fellow practitioner called me in consultation under the following conditions: He was attending a woman in the higher walks of life who was, unfortunately, a victim of the morphin habit. By skilful treatment he had almost effected a cure, when he noticed some peculiarities suggestive of the use of a narcotic, but could not ascertain positively what and how the suspected agent was being used.

One evening the patient was found unconscious, with weak, depressed circulation, reduced temperature, embarrassed respiration, in a word, in profound narcotism, and the character of the symptoms showed that it was unquestionably the profound narcosis of chloral. Investigation subsequently showed that one of her employés had been bribed to obtain Somnos from a druggist who should be designated as disreputable.

It has developed that one pint of Somnos was obtained every few days for two weeks, and that on the occasion above mentioned an entire pint had been consumed during a few hours. Certainly any pharmacist, who sells Somnos or any other narcotic concoction, no matter under what name, without prescription, should be subjected to penal measures of such character as to put an end to this commercial endangering of human character and life. The symptoms are the equivalent of those of chloral hydrate and the two substances seem to be practically one and the same thing.

Henry Beates, Jr.

P. S.—Since the above was written another instance of the Somnos habit has been brought to my notice. Evidently Somnos is beginning to be used as a means of gratifying the impulse to drink. The readiness with which it is obtained demands official investigation.

H. B., Jr.

Examining the Other Kidney in Nephrectomy.

Columbus, Ohio, June 17, 1907.

To the Editor:—In your issue of June 1 Dr. Edebohls advised exploration and decapsulation, through an incision in the loin, of the other kidney before making a nephrectomy. The advice always to be sure of the other kidney can not be too strongly emphasized, but in my own work I have been in the habit of exploring the other kidney through the incision made for the nephrectomy. One can readily enter the peritoneal cavity in front of the colon, and with the gloved hand and arm palpate carefully the other kidney, and thus determine in a general way its condition. After withdrawing the hand the opening in the peritoneum is closed with catgut, and the nephrectomy proceeded with in the usual way. This gives but one wound, takes less time, and is practically as satisfactory as the method suggested by Dr. Edebohls, except that the capsule of the kidney is not removed, the importance of which has not yet by any means been demonstrated.

J. F. Baldwin.

Miscellany

Diabetic Foods.

The composition of some of the proprietary diabetic foods on the market has been investigated by the Connecticut Agricultural Experiment Station and is given in a report made by A. L. Winton. As the principal reason for adopting a special food in diabetes is to avoid the carbohydrates, the presence of such ingredients in a special diabetic food is incompatible with the purpose for which it is sold and should be regarded as essentially fraudulent unless its presence is noted. Further, it should be remembered that starch, dextrin and sugar are equally objectionable so that it is the sum of the carbohydrates and not the starch alone which should be considered in estimating the value of diabetic preparations.

The cereals and leguminous seeds as a rule contain a large percentage of starch and must be avoided by diabetics. An exception must be made in the case of the soja bean which, when ripe, contains no true starch or only traces. Most nuts (except the chestnut) are practically free from starch. Casein may be used for making a bread entirely free from starch. The attempt to wash away the starch from wheat or other cereals so as to produce a so-called gluten flour is usually only partially successful, and it would appear from the examinations that even the attempt is not made in preparing some of the advertised products of this character.

Most of the preparations examined showed carbohydrates in the proportion of from 4 to 75 per cent., a large majority rising as high as 40 per cent. Many of the wheat preparations show a considerable reduction in starch and a corresponding increase in the proteid constituents. The richness in protein tends to lessen the amount of food consumed, and in this way the actual amount of starch ingested is reduced to a greater extent than would appear from the percentage composition. Winston, however, emphasizes the fact that a gluten flour with any considerable amount of carbohydrates (for example, over 10 per cent.) should be used in very small amount, if at all, by diabetics. "A safe flour for those suffering with the disease is casein flour entirely free from carbohydrates or else a vegetable flour containing the smallest possible amount of these substances, such as may be prepared from soja beans by simply grinding with removal of the hulls, from almonds and other starch-free nuts by expressing a portion of the fat, or from wheat after washing sufficiently to remove nearly all the starch. A guarantee as to protein and starch content should be furnished with each product so that physicians can calculate dietaries for their patients."

Of the breads, biscuits, rusks, etc., examined, those showing the lowest carbohydrate content were the No. 1 proto puffs of the Health Food Company of New York, with 9.86 per cent.; the potato gluten biscuit of the Battle Creek (Mich.) Sanitarium Food Company, with 9.84 per cent., and the same firm's pure gluten biscuits, with 9.07 per cent. Casoid flour was found entirely free from carbohydrates, but Casoid biscuits contain 8.07 per cent. The author states that Casoid biscuits, although they do not fulfill all the claims of the manufacturers, "are among the least oojectionable of the bread substitutes examined."

The author quotes from the circulars of Farwell & Rhines and of the Jireh Diabetic Food Company, two firms which manufacture food for diabetics, which contain considerable starch and no marked increase in protein. The flours thus prepared appear to possess no advantage for diabetics over ordinary wheat flour. The manufacturers attempt to justify the presence of starch in their products by appealing to medical authority for the truth of their assertion that some starch is necessary for diabetics. These statements are misleading in consequence of the fact that they fail to state that this applies only to a limited class of diabetics. They also try to make it appear that the starch has been changed so as to make it less objectionable. The author's analyses and microscopic examination do not indicate that the change, if any, is of a kind that renders the materials less objectionable for diabetic use. In the author's opinion the statements are "contrary to the best medical experience, since they urge the use of the very food elements which have been shown, without question, to aggravate the disease most seriously."

Analyses of two kinds of biscuit or muffin made in the family of a diabetic patient, one from a gluten flour and the other from a soja bean meal, showed a palatable product with a very low carbohydrate content. The gluten biscuit was rich in protein, while the soja product contained a large proportion of fat. It would seem that either of these is unobjectionable, but that one might suit some cases better than the other.

Distribution of Tuberculosis in Paris.—Juillerat is in charge of the system of "sanitary house-books" at Paris. His report for 1906 shows that more than a third of all the cases of tuberculosis occurred in houses with a previous record for tuberculosis. Overcrowding can not be the cause, as the average number of inhabitants per room was only1.08. On the other hand, the room was found to be dark or with inadequate ventilation in the overwhelming majority of cases. These "tuberculosis houses" supply a third of the total contingent of deaths from tuberculosis, and a certain group of factories were found to supply a similar proportion of cases. He has investigated the home conditions in 1,008 cases of death from cancer, and found that a fifth occurred in houses already branded as "tuberculosis houses." In 12 cases 2 deaths from cancer occurred in the same house, including 3 "tuberculosis houses." The latter now shelter about as many consumptives as died there last year. He urges demolition of these nests for tuberculosis and cancer as a public necessity. There are 5,262 dwellings which have had 5, 10 or more deaths from tuberculosis during the last twelve years, and during 1906 there were 2,969 deaths in them, out of a total tuberculosis mortality of 9,573. Further details are given in his communication, which is published in *Hygiène Générale et Appliquée*, ii, page 263, 1907. A large proportion of the cases of tuberculosis are found in rented "furnished rooms."

Transplantation of Parathyroid Bodies.—Leischner has been very successful in transplanting thyroid bodies into the abdominal wall in experiments with 80 rats. The transplanted organs healed in place without notable change in substance, and seem to be functioning normally, as the animals are lively and healthy while the controls have all died. In some of the animals their own parathyroid bodies were transplanted into the spleen, and after they had healed the thyroid gland was entirely removed. He urges careful, sterile examination of a thyroid gland when it has been removed, to discover if the parathyroid bodies have been removed with it, and, if so, he advocates their immediate reimplantation. von Eiselsberg has had only two cases of severe tetany out of 49 cases in which the thyroid gland was removed at his clinic. One patient has suffered much from tetany since the removal of the thyroid twenty-seven years ago. She was summoned to the clinic again and again, when a thyrectomy was to be done, and finally conditions proved favorable and a transplantable parathyroid body was found at last and implanted. The case is quite recent, but so far success seems to be assured. A brief report of their communications appeared in the *Wien. klin. Wochschr.* for May 23, 1907, xx, page 645.

Is the Morbidity Rate Increasing?—Professor Czerny of Heidelberg answers this question in the affirmative, although he admits that the average life expectancy has increased and the death rate decreased a little during the last generation. He thinks that the morbidity is increasing mainly on account of the more strenuous life, but also because the young are less resistant than formerly. The better care now given to young children allows many weaklings to grow up who would probably have succumbed early under the old régime. This brings him to the heart of the matter, which, he believes, is the increasing proportion of women who fail to nurse their children. Lack of breast nursing entails lesser resisting power and an increased predisposition to various ailments, especially to gastro-intestinal affections. The weakness of the intestinal apparatus is seldom outgrown, and the viscera are not firmly fastened in place. This tendency to morbid movability of the viscera can be transmitted to the offspring as well as its resulting tendency to "nervousness" and predisposition to appendicitis.

All these evils he believes to be mainly the result of artificial feeding of infants.

Magnesium Sulphate in Tetanus.—Because of the approach of July 4, the following report is of interest: M. Franke reports in the *Centrbl. f. innere Med.*, No. 14, p. 345, from Gluzinski's clinic at Lemberg, a case of tetanus treated by three intradural injections, in nine days, of 1 or 2 c.c. of a 25 per cent. solution of magnesium sulphate, with recovery of the patient. The results of each injection, he states, were identical with those anticipated from Meltzer's communications on the action of the magnesium salts on the central nervous system. The same phenomena recurred in the same order after each injection. No unfavorable symptoms were observed except brief apnea after the second injection. The case was not a very severe one; the patient was a man of 32, and the first symptoms developed about twelve days after an injury of the finger, not treated by a physician. The first injection was made seven days after the first symptoms, and the others four and nine days later. Antitoxin was not given, but chloral and an emulsion of rabbit brain failed to produce any effect, while the benefit after each injection of the magnesium sulphate was prompt and pronounced. Franke says that its action can be regarded as more certain than that of any other symptomatic drugs used to date, morphin, chloral, etc. By its inhibiting action on the nerve substance it gives the organism a chance to rest and get rid of the tetanus toxin.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Utah State Board of Medical Examiners, Salt Lake City, July 1. Secretary, Dr. R. W. Fisher, Salt Lake City.

Arizona Board of Medical Examiners, Phoenix, July 1-2. Secretary, Dr. Ancil Martin, Phoenix.

Texas Eclectic Board of Medical Examiners, Dallas, July 1-3. Secretary, Dr. L. S. Downs, Galveston.

Washington State Medical Examining Board, Seattle, July 2. Secretary, Dr. C. W. Sharples, Seattle.

Colorado State Board of Medical Examiners, Denver, July 2. Secretary, Dr. S. D. Van Meter, 1723 Tremont St., Denver.

Rhode Island State Board of Health, Room 313, State House, Providence, July 2-3. Secretary, Dr. Gardner T. Swarts, Providence.

North Dakota State Board of Medical Examiners, Grand Forks, July 2-4. Secretary, Dr. H. M. Wheeler, Grand Forks.

Connecticut Eclectic Medical Examining Board, State Capitol, Hartford, July 9. Secretary, Dr. Thomas S. Hodge, Torrington.

Arkansas Eclectic State Medical Board, Little Rock, July 9. Secretary, Dr. A. J. Widener, Little Rock.

Arkansas Homeopathic State Medical Board, Little Rock, July 9. Secretary, Dr. V. H. Hallman, Hot Springs.

Arkansas State Medical Board, State Capitol Building, Little Rock, July 9. Secretary, Dr. F. T. Murphy, Brinkley.

Maine Board of Registration in Medicine, State House, Augusta, July 9-10. Secretary, Dr. William J. Maybury, Saco.

Connecticut Homeopathic Medical Examining Board, Grace Hospital, New Haven, July 9-10. Secretary, Dr. Edwin C. M. Hall, New Haven.

Vermont State Board of Medical Registration, Burlington, July 9-11. Secretary, Dr. W. Scott Nay, Underhill.

Wisconsin State Board of Medical Examiners, Capitol Building, Madison, July 9-11. Secretary, Dr. J. V. Stevens, Jefferson.

Missouri State Board of Health, Mexico, July 9-11. Secretary, Dr. J. A. B. Adcock, Warrensburg.

Oregon State Board of Medical Examiners, Portland, July 9-11. Secretary, Dr. Byron E. Miller, "The Dekum," Portland.

West Virginia State Board of Health, Charleston, July 9-11. Secretary, Dr. H. A. Barbee, Point Pleasant.

South Dakota State Board of Medical Examiners, Sioux Falls, July 10-11. Secretary, Dr. H. E. McNutt, Aberdeen.

Higher Requirements at the University of Colorado.—Word comes to us that at a meeting held recently by the regents of the University of Colorado it was voted that, beginning with the session of 1910, the preliminary entrance requirement to the School of Medicine be increased to one year in a college of arts, which should include physics, chemistry, biology and one language. It is expected later the requirement will be further increased to two years of university work.

Colorado January Report.—Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports that 41 applicants were licensed at the meeting held at Denver, Jan. 2, 1907. All applicants were submitted to an oral examination. Fourteen were required to take a supplementary written examination, but 7 did not comply. Of the 7 who took the written examination, 5 passed and 2 failed. The following colleges were represented:

REGISTERED WITHOUT SUPPLEMENTARY WRITTEN EXAMINATION.

College.	Year grad.
Rush Medical Coll.	(1884)
Northwestern University	(1885) (1902) (2, 1904) (1905)
Harvey Med. Coll.	(1902)
College of P. & S., Chicago	(1892) (1904)
College of P. & S., Keokuk	(1888) (1903)
University of Iowa	(1898)
Kentucky School of Med	(1892)
University of Louisville	(1900)
University of Michigan	(1884)
University of Minnesota	(1903)
Kansas City Coll. of P. & S.	(1880)
Missouri Med. Coll.	(1884) (1891)
*Kansas City Med. Coll.	(1904)
Washington University, St. Louis	(1901)
Marion Sims Coll. of Med.	(1896)
Barnes Med. Coll.	(1905)
Omaha Med. Coll.	(1901)
Starling Med. Coll.	(1898)
Cleveland Coll. of P. & S.	(1904)
Cincinnati Coll. of Med. & Surg.	(1866)
Hahnemann Med. Coll., Philadelphia	(1880)
Jefferson Med. Coll.	(1887) (1899)
Western Pennsylvania Med. Coll.	(1906)
University of Pennsylvania	(1889)
Woman's Med. Coll. of Pennsylvania	(1890)
McGill University	(1897) (1902)
University of Dublin, Ireland	(1892)

PASSED SUPPLEMENTARY WRITTEN EXAMINATION.

College.	Year Grad.	Per cent.
Colorado School of Medicine	(1906)	77.5
Yale Medical School	(1906)	80.
University of Kansas	(1906)	71.9
Coll. of P. & S., New York	(1902)	76.2
Kanazana Med. Coll., Japan	(1903)	70.6

DID NOT TAKE SUPPLEMENTARY WRITTEN EXAMINATION.

Physio Medical Coll. of Indiana	(1897)
Medical Coll. of Indiana	(1904)
University of Louisville	(1906)
Coll. of P. & S., Boston	(1906)
Barnes Med. Coll.	(1899)
Coll. of P. & S., St. Louis	(1899)
Memphis Hosp. Coll. of Med.	(1904)

FAILED AT SUPPLEMENTARY WRITTEN EXAMINATION.

College.	Year Grad.	Per cent.
College of P. & S., Chicago	(1905)	53.2
Indiana Med. Coll.	(1906)	60.8

*Absorbed by the University of Kansas in 1905.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

PAINFUL HEEL.

New York, May 26, 1907.

To the Editor:—If T., who, in your issue of May 25 inquires about "painful heel" will consult the *Medical Record,* Aug. 5, 1905, he will find a description of this condition. You err in thinking it neglected by other authors. It has been frequently described by orthopedic surgeons, though not under the title of "Shaffer's Foot." Clubfoot is a well-known deformity, but a nondeforming deformity is rarely met outside of Ireland. Behr, Jaeger and others have demonstrated by the *x*-ray an exostosis of the calcaneum, whose origin they attribute to gonorrhea; others again have found the exostosis without the gonorrhea. Some attribute the typical painful heel to gonorrhea, but have never found the exostosis. Sometimes a similar pain accompanies simple weak foot, especially in very heavy persons. It is easily relieved by strapping, by shoes or by a brace, but three times out of four, if the patient with this complaint will pass two ounces of urine into a glass, the well-known and justly celebrated "silver threads among the gold" will be found. When these have been cleared up, the pain will disappear, as who should say, like mists before the summer sun.

Leonard W. Ely.

Answer.—We still think that the ordinary reader would look in vain for a satisfactory treatment of the subject in the available literature. In the previous note we referred naturally to the literature available to the ordinary practitioner or student in textbooks of surgery or orthopedics. In addition to the work we mentioned we find that the symptom is referred to by Whitman, who attributes it to a calcaneobursitis. Ogilvy, in the *Medical Record,* Jan. 21, 1905, also refers it to a bursitis. Examination of the article of Dr. Ely, to which reference is made above, shows no mention of this particular symptom, although the subject of rheumatism of the foot is thoroughly treated and the importance of gonorrhea as a causative factor is clearly brought out. This possible etiology should of course be borne in mind, but there will still remain a large class of cases in which the particular symptom under consideration will be found to have an etiology similar to that explained in our note.

COMPOSITION OF MITIN.

Apalachicola, Fla., June 1, 1907.

To the Editor:—Will you kindly give me, through The Journal, the formula for "Mitinum Purum," a compound fat, mention of which is made in Dr. Jessner's "Dermatologische Heilmittel," page 17, second edition, 1905, published by A. Stuber's Verlag in Würzburg, Germany.

A. E. Conter.

Answer.—The exact composition of mitin has not been published. According to Arend, "Neue Arzneimittel," second edition, page 364, it is a liquid emulsion of fats, to which additional unemulsified fat has been added. It has the consistence of cold cream.

The Public Service

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending June 22, 1907:

Lambert, S. E., asst.-surgeon, leave of absence extended thirty days.

Johnson, R. W., surgeon, and Gilchrist, H. L., asst.-surgeon, appointed members of an Army retiring board to meet at Camp Columbia, Cuba.

Torney, G. H., deputy surgeon general, and Kennedy, J. M., surgeon, appointed members of an Army retiring board to meet at San Francisco, Cal.

Page, Henry, asst.-surgeon, granted two months' leave of absence.

Patterson, R. U., asst.-surgeon, is assigned to the command of Company A, Hospital Corps, and will report to the commanding general, Army of Cuban Pacification, for duty, accordingly.

Gilchrist, H. L., asst.-surgeon, relieved from duty in command of Company A, Hospital Corps, and will report in person to the commanding general, Army of Cuban Pacification, for assignment to duty.

Hutton, P. C., asst.-surgeon, relieved from duty at the General Hospital, Fort Bayard, N. M., and ordered to Fort William H. Seward, Alaska, for duty.

Reynolds, F. P., surgeon, relieved from duty at Fort William H. Seward, Alaska, and ordered to Fort Sill, Okla., for duty.

Sweazey, V. E., asst.-surgeon, relieved from duty at Fort Williams, Maine, and ordered to Fort St. Michael, Alaska, for duty.

Kiersted, H. S., asst.-surgeon, relieved from duty at Fort St. Michael, Alaska, and ordered to proceed to Seattle, Wash., and on arrival, report by telegraph to the adjutant general of the Army for further orders.

O'Connor, R. P., asst.-surgeon, relieved from temporary duty at Fort Crook, Neb., and from further duty at Fort Leavenworth, Kan., and ordered to Fort Gibbon, Alaska, for duty.

Pierson, R. H., asst.-surgeon, relieved from duty at Fort Gibbon, Alaska, and ordered to Fort Mason, Cal., for duty.

Morse, C. F., asst.-surgeon, granted ten days' sick leave.

Duncan, L. C., asst.-surgeon, leave extended ten days.

Lyster, W. J. L., asst.-surgeon, will proceed from San Francisco, Cal., to Presidio of Monterey, Cal., for temporary duty until such time as will enable him to return to San Francisco, and proceed on transport to sail for Manila, P. I., July 5.

Keefer, F. R., surgeon, will proceed to Presidio of San Francisco. Cal., for consultation as to the sanitary arrangements for camps in connection with the joint Army and militia coast defense exercises.

Bloombergh, H. D., asst.-surgeon, granted three months' leave of absence to take effect when his services can be spared. Captain Bloombergh is authorized to go beyond the sea and to apply for an extension of one month.

Clayton, J. B., asst.-surgeon, granted leave of absence for two months.

Connor, C. H., asst.-surgeon, granted leave of absence for three months.

Mills, F. H., contract surgeon, left Fort Des Moines, Iowa, for temporary duty at Fort Snelling, Minn.

Repp, J. J., contract surgeon, returned to duty at Army General Hospital, Washington Barracks, D. C., from leave of absence for ten days.

Freeland, H. L., contract surgeon, ordered from Vandalia, Ill., to Fort Leavenworth, Kan., for duty.

McPheeters, S. B., contract surgeon, relieved from duty at Fort Leavenworth, Kan., and ordered to accompany the Thirtieth Infantry from Fort Reno, Okla., to San Francisco, Cal., and to sail thence on first available transport for Philippine service.

Langenderfer, F. V., contract surgeon, ordered from Chicago, Ill., to Fort Crook, Neb., to accompany the Thirtieth Infantry to San Francisco, Cal., and to sail thence on first available transport for Philippine service.

Ingalls, R. E., dental surgeon, left Fort Crook, Neb., and arrived at Fort Leavenworth, Kan., for duty.

Chambers, W. H., dental surgeon, granted leave of absence for ten days en route to West Point, N. Y.

Sanford, J. L., contract surgeon, relieved from duty at Fort Washington, Md., and ordered to Fort Barrancas, Fla., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending June 22, 1907:

Plummer, R. W., P. A. surgeon, detached from course of instruction at the Naval Medical School, Washington, D. C., June 15, and ordered to the Naval Recruiting Station, Chicago.

McLean, N. T., asst.-surgeon, detached from the Naval Recruiting Station, Chicago, and ordered to the *Constellation* and to additional duty at the Naval Training Station, Newport, R. I.

Holeman, C. J., and Haines, B. F., acting asst.-surgeons, appointed acting assistant surgeons from June 12, 1907.

Beyer, H. G., medical inspector, detached from duty on board the *West Virginia* as fleet surgeon of the Pacific Fleet, and appointed a delegate to represent the Medical Corps of the Navy at congresses to be held at Stockholm, Sweden; Amsterdam, Holland, and Berlin, Germany, and ordered to proceed thence to Washington, D. C., and report to the Surgeon General of the Navy.

Dunn, H. A., P. A. surgeon, detached from the *Princeton,* when placed out of commission, and ordered to the *Nebraska.*

Butler, C. St. J., P. A. surgeon, detached from course of instruction at the Naval Medical School, Washington, D. C., and ordered to duty at that school.

Kelley, H. L., asst.-surgeon, ordered to the Naval Hospital, Navy Yard, Washington, D. C.

Clifford, A. B., asst.-surgeon, detached from the Naval Station, Canacao, P. I., and ordered home to wait orders.

Lee, A. W., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Canacao, P. I., sailing from San Francisco, about July 25, via steamer *Siberia.*

Bradley, G. P., medical director, having been examined by a retiring board and found incapacitated for active service on account of disability incident thereto, is retired from active service from June 15, 1907, under the provisions of Section 1453, Revised Statutes.

Hibbett, C. T., medical inspector, detached from special duty in the Bureau of Medicine and Surgery, Navy Department, and ordered to command the Naval Hospital, New Fort Lyon, Colo.

Berryhill, T. A., surgeon, detached from command of the Naval Hospital, New Fort Lyon, Colo., and ordered to the *Nebraska* when commissioned.

Holeman, C. J., acting asst.-surgeon, ordered to duty at the Naval Hospital, Philadelphia.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended June 19, 1907.

Glennan, A. H., asst.-surgeon-general, reassigned to duty as Chief of Division in Bureau, Washington, D. C., effective June 10, 1907.

Magruder, G. M., surgeon, granted leave of absence for one month, from July 10, 1907.

Hobdy, W. C., P. A. surgeon, directed to proceed to Mare Island, California, for special temporary duty; on completion of which to rejoin his station.

Holt, J. M., P. A. Surgeon, designated to represent the Service at the meeting of the Oregon State Medical Association, at Seaside, Oregon, July 12-13.

Lloyd, B. J., P. A. surgeon, granted leave of absence for 21 days, from August 5, 1907.

Collins, George L., asst.-surgeon, granted leave of absence for one day, June 20, 1907.

Long, H. D., asst.-surgeon, granted leave of absence for one month and 23 days, from June 19, 1907.

Blain, A. C., acting asst.-surgeon, granted leave of absence for 30 days, from June 15, 1907.

Hough, J. Spencer, acting asst.-surgeon, granted leave of absence on account of sickness for 28 days, from March 2, 1907.

Wakefield, H. C., acting asst.-surgeon, granted leave of absence for 20 days, from June 19, 1907.

Ward, J. LaB., acting asst.-surgeon, granted leave of absence for 3 days, from June 17, 1907.

Smith, Emma F., medical inspector, granted leave of absence for 30 days, from June 27, 1907, and excused for a further period of one month, without pay, from the expiration thereof.

APPOINTMENT.

Dr. Frederick T. Wright, appointed acting asst.-surgeon, for duty at Douglas, Ariz., June 14, 1907.

RESIGNATION.

Resignation of Asst.-Surgeon H. D. Long accepted, by direction of the President, to take effect Aug. 10, 1907.

CASUALTIES.

Acting Asst.-Surgeon L. W. Hodgkins, died at Ellsworth, Me., June 11, 1907.

Acting Asst.-Surgeon Julian Benejam, died at Aguadilla, Porto Rico, May 30, 1907.

BOARDS CONVENED.

A board of medical officers has been convened to meet at the Bureau in Washington, D. C., July 15, 1907, for the purpose of examining applicants for the position of assistant surgeon for entrance to the Service, and also to examine officers for advancement. Detail for the Board: Surgeon L. L. Williams, chairman, P. A. Surgeon H. S. Mathewson, and P. A. Surgeon Joseph Goldberger recorder.

A board of medical officers was convened to meet at the Bureau. June 18, 1907, for the physical examination of a pharmacist to determine his fitness for promotion to the grade of pharmacist of the first-class. Detail for the board: Asst.-Surgeon-General W. J. Pettus, chairman; Asst.-Surgeon-General J. M. Eager recorder.

A board of medical officers has been convened to meet at Newport News, Va., June 21, 1907, for the physical examination of an applicant for entrance as cadet-engineer, Revenue-Cutter Service. Detail for the Board: Asst.-Surgeon F. H. Ashford, chairman; Acting Asst.-Surgeon A. C. Jones, recorder.

A board of medical officers was convened to meet at New York, N. Y., June 21, 1907, for the physical examination of applicants for entrance as cadet-engineer in the Revenue Cutter Service. Detail for the Board: Surgeon P. H. Bailhache, chairman, P. A. Surgeon J. A. Nydegger, recorder.

A board of medical officers was convened to meet at Washington, D. C., June 21, 1907, for the physical examination of applicants for entrance as cadet-engineer in the Revenue-Cutter Service. Detail for the Board: Assistant Surgeon General W. J. Pettus, chairman; Asst.-Surgeon-General J. M. Eager, recorder.

A board of medical officers was convened to meet at Detroit, Mich., June 21, 1907, for the physical examination of applicants for entrance as cadet-engineer in the Revenue Cutter Service. Detail for the Board: Surgeon Fairfax Irwin, chairman; Asst.-Surgeon R. A. C. Wollenburg, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended June 21, 1907:

SMALLPOX—UNITED STATES.

California: Berkeley, May 25-June 1, 1 case; Los Angeles, June 1-8, 1 case.

Illinois: Chicago, June 8-15, 1 case; Springfield, June 6-13, 1 case.

Indiana: June 1-8, Elkhart, 1 case; Evansville, 1 case; Indianapolis, June 2-9, 3 cases; South Bend, June 1-8, 1 case.

Iowa: Jessup, May 16-June 12, 16 cases; Keokuk, May 1-31, 3 cases.

Kentucky: Louisville, June 6-13, 3 cases.

Louisiana: June 1-8, New Orleans, 8 cases; Shreveport, 8 cases.

Massachusetts: Lawrence, June 1-8, 1 case.

Michigan: Detroit, June 1-8, 6 cases; Huron County, June 12, present; Saginaw, June 1-15, 6 cases.

Minnesota: Stillwater, May 1-31, 4 cases; Winona, June 1-8, 1 case.

Missouri: St. Louis, June 1-8, 1 case.

North Carolina: Charlotte, June 8-15, 1 case.

Ohio: Cincinnati, June 7-14, 3 cases.

Pennsylvania: Homestead, May 29-June 7, 2 cases.

Tennessee: Nashville, June 8-15, 2 cases.

Texas: Galveston, May 31-June 7, 3 cases.

Utah: Ogden, May 1-31, 2 cases.

Washington: Spokane, June 1-8, 10 cases.

West Virginia: Charleston (Kanawha County), Jan. 1-June 14, 68 cases; present in county.

Wisconsin: Milwaukee, June 1-8, 8 cases.

SMALLPOX—FOREIGN.

Brazil: Bahia, May 18-25, 11 cases; Para, May 18-June 1, 13 cases, 9 deaths; Rio de Janeiro, April 29-May 12, 1 case, 3 deaths.

Canada: Halifax, June 9-15, 4 cases; Toronto, April 28-June 1, 17 cases.

Chile: Iquique, May 6-13, present.

China: Hongkong, April 6-27, 31 cases, 23 deaths.

Colombia: Cartagena, May 12, present.

France: Paris, May 25-June 1, 11 cases, 2 deaths.

Germany: General, May 18-25, 9 cases.

Great Britain: Southampton, May 25-June 1, 1 case.

India: Calcutta, April 28-May 4, 47 deaths.

Italy: General, May 23-30, 24 cases; Florence, May 26-June 2, 1 case; Messina, May 18-25, 2 cases.

Java: Batavia, April 27-May 4, 2 cases.

Madeira: Funchal, May 26-June 2, 20 cases, 13 deaths.

Mexico: Aguas Calientes, June 1-8, 13 deaths; Monterey, May 26-June 2, 1 death; Nuevo Laredo, June 7, 2 cases, imported.

Portugal: Lisbon, May 25-June 1, 10 cases.

Russia: Moscow, May 9-18, 3 cases, 2 deaths; Odessa, May 18-25, 12 cases, 2 deaths; Warsaw, May 4-11, 5 deaths.

Spain: Barcelona, May 21-31, 3 deaths; Valencia, May 26-June 2, 9 cases.

YELLOW FEVER.

Brazil: Para, May 18-June 1, 4 cases, 3 deaths; Rio de Janeiro, April 29-May 12, 5 cases, 3 deaths.

Cuba: San Nicolas, June 12-18, 1 case.

West Indies: Trinidad, Port of Spain, May 18-25, 3 cases, 1 death.

CHOLERA.

India: Calcutta, April 28-May 4, 35 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, May 23-26, 1 case, 1 death.

PLAGUE—FOREIGN.

Australia: Brisbane, April 6-20, 3 cases, 2 deaths; Port Douglas, April 6-13, 2 cases; Sydney, April 6-20, 5 cases, 1 death.

Brazil: Bahia, May 18-25, 1 cases, 1 death; Rio de Janeiro, April 29-May 5, 1 case, 1 death; Para, May 25-June 1, 1 case, 1 death.

Chile: Antofagasta, May 6-13, 19 cases, 19 deaths.

China: Hongkong, April 20-27, 1 case, 1 death.

Egypt: Alexandria, May 18-23, 3 cases, 1 death. Provinces: May 16-23, Assiout, 18 cases, 25 deaths; Beni Souef, 2 cases, 1 death; Girgen, 7 cases, 7 deaths; Keneh, 4 cases, 7 deaths; Minieh, 16 cases, 9 deaths.

Formosa: General, May 5-12, 162 cases, 132 deaths.

India: Calcutta, April 28-May 4, 344 deaths.

Mauritius: March 28-April 25, 5 cases, 2 deaths.

Peru: April 24-May 1, Callao, 1 case; Chiclayo, 1 case; Ferrenafe, 1 case; Lima, 12 cases, 4 deaths; Paita, 6 cases, 2 deaths; Pimentel, 2 cases, 1 death; Tambo, 5 cases, 3 deaths; Trujillo, 14 cases, 10 deaths.

Marriages

John H. O'Donovan, M.D., to Miss Nannie Schriver, at Baltimore, June 8.

John S. Fischer, M.D., to Miss Maud H. McShane, both of Baltimore, June 12.

Maurice Lazenby, M.D., to Miss Sophia M. Shankin, both of Baltimore, June 12.

Henry L. Charles, M.D., to Miss Cora I. Hurd, both of Paw Paw, Mich., May 29.

William L. Clark, M.D., to Miss Mary McMahon, both of Philadelphia, June 12.

Collin Foulkrod, M.D., to Miss Gertrude Allen, both of Philadelphia, June 13.

Robert A. Bunch, M.D., to Miss Beulah L. Batey, both of Muncie, Ind., June 12.

Leroy W. Baxter, M.D., to Miss Mabel Householder, both of Columbus, Kan., June 5.

Robert Edmund L. McCormick, M.D., to Miss Mary Shrum, both of Irwin, Pa., June 12.

Frank H. Hutchins, M.D., to Miss Luella McWhirter, both of Indianapolis, June 12.

Jacob W. E. K. Davis, M.D., to Miss Emmeline Elton, both of Omaha, Neb., June 12.

William Wylie Scott, M.D., to Miss Lena Leola Caldwell, at Augusta, Ohio, June 15.

Richard Schorse, M.D., to Miss Dorothea Kelvelage, both of Milwaukee, Wis., June 12.

Edward W. Delcher, M.D., Jr., to Miss Euphronia Schaefer, both of Baltimore, June 12.

H. Austin Delcher, M.D., to Miss Bernadine McCormick, both of Baltimore, June 7.

David Cheever, M.D., Boston, to Miss Jane Welles Sargent of Wellesley, Mass., June 8.

Thomas W. Tormey, M.D., Madison, Wis., to Miss Eva M. Cole of Geneseo, Ill., June 12.

Maurice A. Walker, M.D., Dillon, Mont., to Miss Lucie M. Ford of Lima, Mont., June 25.

Clarence E. Smith, M.D., Newbern, N. C., to Miss Cecilia A. Lacy, at Baltimore, June 10.

Edwin W. Robinson, M.D., Philadelphia, to Miss Florence Evey of Bellefonte, Pa., June 10.

Oliver B. Waite, M.D. Philadelphia, to Miss Mary Willets Pharo of Sherwood, Pa., June 12.

John George Jeffers, M.D., to Miss Martha Tazewell Cordell, both of Baltimore, June 17.

Merton S. Pearre, M.D., Frederick, Md., to Miss Hallie Ray Morris, at Unionville, Md., June 8.

Oran Douglas Ward, M.D., England, Ark., to Miss Myrtle Flowers, at Bastrop, La., June 26.

Edward Lyon, M.D., Jr., to Miss Florence Walton Slate, both of Williamsport, Pa., June 10.

Guy P. Levering, M.D., Lafayette, Ind., to Miss Priscilla Ochiltree of Rushville, Ind., June 15.

Wallace R. Hunter, M.D., Erie, Pa., to Mrs. Daisy Baldwin-Amidon of New York City, June 12.

Arnold L. Meredith, M.D., Wooldridge, Mo., to Miss Agnes E. Teel of Prairie Home, Mo., June 5.

Thomas Edward Caulfield, M.D., to Miss Helen Frances Moore, both of Woburn, Mass., June 12.

Rawley Holland Powell, M.D., Grafton, W. Va., to Miss Blanche Gardner, at Baltimore, June 13.

Frank Brandon Ervin, M.D., Wellston, Okla., to Miss Mae Olivia Whisler of Oklahoma City, June 12.

Joseph Long Alexander, M.D., to Miss Lynnwood Hamilton Kunkle, both of Mount Solon, Va., June 19.

Joseph Berry Greene, M.D., Birmingham, Ala., to Miss Sarah Edwards of East Cleveland, June 26.

Russell Murray Rome, M.D., to Miss Lilah Campbell Hutchinson, both of Brooklyn, N. Y., June 12.

Jacob Biedermann, M.D., Argyle, Minn., to Miss Priscilla Rose Provencher of Minneapolis, Minn., June 12.

Francis Henry Bermingham, M.D., to Mrs. Rebecca Mosgrove Patterson, both of Brooklyn, N. Y., June 1.

Edward Dabney Starke, M.D., Front Royal, Va., to Miss Moselle DeLauncy Sowers, at Front Royal, June 8.

Arthur Ellis Pattrell, M.D., North Grafton, Mass., to Miss Nina Eliza Goulett, at Boston, Mass., June 18.

Ellsmer Landis Piper, M.D., Shade Gap, Pa., to Miss Urilla Minerva Doran of Spring Run, Pa., at Washington, D. C., June 4.

Wilfrid H. Haughey, M.D., Battle Creek, Mich., to Miss Edythe L. Cowles of Sand Lake, Mich., at Maple Valley, Mich., June 27.

Deaths

Samuel Spencer Wallian, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1865; New York University Medical College, 1883; a member of the medical societies of the state and county of New York; the American Electro-Therapeutic Association, and the Medicolegal Society; once president of the Medical Association of Northern New York; assistant surgeon of the Thirteenth Wisconsin Volunteer Infantry during the Civil War; president of the Medico-Pharmaceutical League, died from pneumonia, at his home in New York City, June 12, after a brief illness, aged 71.

Thomas W. Florer, M.D. Medical College of Ohio, Cincinnati, 1849; one of the organizers and once vice-president of the Indiana State Medical Association; formerly a practitioner of Crawfordsville, Ind.; surgeon of the Twenty-sixth Indiana Volunteer Infantry during the Civil War, and since that time a practitioner of the South; a member of the Texas and Navarro County medical societies, died at his home in Corsicana, Texas, May 10, from paralysis, after an illness of two years, aged 84.

John J. Morrissey, M.D. New York University Medical College, 1884; a member of the American Medical Association; visiting physician to St. Joseph's Hospital; adjunct physician to St. Vincent's and St. Francis' hospitals, and consulting physician to the Metropolitan Hospital and Dispensary, died at his home in New York City, June 14, after an operation for fracture of the skull, due to a fall while attempting to board a street car, aged 48.

James Haller, M.D. Cleveland Medical College, Medical Department Western Reserve College, 1851; son of one of the earliest practitioners of the Miami Valley; a practitioner of California until 1854; assistant surgeon and later surgeon of the Thirty-eighth Ohio Volunteer Infantry during the Civil War; since 1868 a practitioner of Burlingame, Kan., died at his home in that city from epithelioma of the mouth and throat, June 12, after a prolonged illness, aged 83.

John B. Brooks, M.D. New York Homeopathic Medical College and Hospital, New York City, 1864; assistant surgeon One Hundred and Forty-sixth New York Volunteer Infantry during the Civil War; a member of the board of education of Hot Springs, Ark., for many years, died in his apartments in that city, June 15, from hemorrhage of the stomach, after an illness of ten days, aged 67.

Isaac Warren Starbird, M.D. Dartmouth Medical School, Hanover, N. H.; who did gallant service during the War of the Rebellion and at its close was a brevet brigadier general; a member of the Massachusetts Medical Society, and surgeon of the Soldiers' Home in Massachusetts, died at Boothby Hospital, Boston, recently, from diabetic gangrene, three weeks after an amputation of the leg at the thigh, aged 67.

Eugenio R. Eggleston, M.D. Homeopathic Hospital College, Cleveland, 1875; a veteran of the Civil War; formerly a member of the faculty of the Homeopathic College, University of Michigan, and president of the State Medical Society; at one time health officer of Mount Vernon, Ohio, died at his home in Chardon, Ohio, June 18, aged 68.

John Alden Robinson, M.D. Cornell University Medical College, New York City, 1904; a member of the American Medical Association; pathologist to the Arnot-Ogden Hospital, Elmira, and coroner of Chemung County, N. Y., who was operated on for appendicitis ten days before, died from tetanus in the Arnot-Ogden Hospital, June 14, aged 31.

Charles B. Gilbert, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1876; one of the founders of, and for many years visiting physician to the Homeopathic Hospital, Washington, D. C., died at his home in Washington, June 13, from septicemia, due to an ulcerated tooth, after an illness of ten days, aged 60.

Orrin A. Tompkins, M.D. University of Buffalo (N. Y.) Medical College, 1865; a member of the medical societies of the state of New York and of Cattaraugus County, died at his home in Randolph, N. Y., June 11, after a prolonged illness, aged 66.

Wilhelm Karl Kubin, M.D. College of Physicians and Surgeons in the City of New York, 1892; of Orange, N. J.; surgeon of the Hamburg-American steamship *Prinz Eitel Friedrich*, was found dead in his stateroom on the steamer, June 12, from the effects of an overdose of morphin, aged 44.

George J. Bucknall, M.D. College of Physicians and Surgeons in the City of New York, 1864; a member of the American Medical Association; for many years a practitioner of San Francisco, died at Lane Hospital in that city, June 10, several days after an operation for intestinal disease, aged 71.

Thomas Hunter Wimer, M.D. University of Maryland School of Medicine, Baltimore, 1883; a member of the Minnesota State and Lyon-Lincoln counties medical societies, died at his home in Marshall, Minn., April 17, from pericarditis with effusion, after an illness of nearly four weeks, aged 44.

H. C. Mueller, M.D. College of Physicians and Surgeons in the City of New York, 1873; formerly a practitioner of Port Jervis, N. Y., Cripple Creek, Colo., and Santa Fé, N. M., died on his homestead in San Juan County, N. M., May 10, from heart disease.

Arthur F. Newbury, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1891; of Hallettsville, Texas, died in St. Mary's Infirmary, Galveston, Texas, June 9, from perforation of the intestines, due to typhoid fever, aged 40.

Hiram Daniel Enoch, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1863; assistant surgeon of the First West Virginia Volunteer Cavalry during the Civil War, died at his home in Washington, Pa., June 16, aged 72.

Giles Davis, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1886; of Wichita, Kan., died at the Thomas Sanitarium in that city, June 14, from the effects of a drug taken to relieve pain, aged about 50.

William J. Swinton, M.D. Bellevue Hospital Medical College, New York City, 1873; for many years local physician for the Central Railroad of New Jersey, died at his home in Somerville, N. J., June 15, from paralysis of the throat, aged 58.

Andrew J. Gardner, M.D. Cleveland Medical College, Medical Department of Western Reserve College, 1848; a pioneer pharmacist of Grand Rapids, Ohio, and one of the incorporators of that village, died at his home June 11, aged 79.

Lamar Seeley, M.D. Johns Hopkins Medical School, Baltimore, 1906; of Seattle, Wash.; assistant house surgeon in St. Luke's Hospital, New York City, died suddenly in that institution, June 14, from heart disease, aged 26.

Charles J. Schulze, M.D. University of Greifswald, Germany, 1846; the oldest practitioner of Berks County, Pa., died at his home in Reading, June 15, from cardiac dropsy, after a short illness, aged 88.

James Henry Jones, M.D. Kentucky School of Medicine, Louisville, 1884; died at his home in South Fork, Pa., from pleuro-pneumonia, following the fracture of a leg several weeks before, May 26.

William F. Gillespie, M.D. Medical College of Virginia, Richmond, 1867; a Confederate veteran, died at his home in Ellisville, Louisa County, Va., from nephritis, after a prolonged illness, aged 67.

Charles Parsons Brown, M.D. Detroit (Mich.) Homeopathic College, 1903; a practitioner of Toronto, Ont., died June 14 from diabetes, while on his way to Grace Hospital, Detroit, Mich., aged 35.

Robert M. Ianson, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1885; died at his home in Ingalls, Mich., March 17, from pneumonia, after an illness of four days, aged 64.

Matthew Curran (License, Rhode Island, 1895); a veteran of the Civil War, died at his home in Pawtucket, R. I., April 27, from cerebral hemorrhage, after an illness of three weeks, aged 83.

Albert J. Givens, M.D. Cleveland Medical College, Medical Department of Western Reserve College, 1881; died at his home in Allegheny, Pa., June 14, after a long illness, aged 49.

Ernest L. Henderson, M.D. Medical College of Ohio, Cincinnati, 1881; died at his home in Kansas City, Mo., from paralysis, June 14, after an illness of four months, aged 49.

Frank A. Williams, M.D. Medical College of Indiana, Indianapolis, 1889; of Cuba, Ind., died in Mount Summit, Ind., June 12, after an illness of one year, aged 46.

Charles E. Cadwalader, M.D. University of Pennsylvania, Philadelphia, 1861; of Philadelphia, died in London, Eng., June 11.

S. H. Frazer, M.D. Beaumont Hospital Medical College, St. Louis, 1901; died at his home in Lilbourn, Mo., June 8.

Book Notices

Experiments on Animals. By Stephen Paget. With an Introduction by Lord Lister. Third Edition, Revised. Cloth. Pp. 387. Price, $3.00. New York: William Wood & Co., 1907.

This is the third edition of a book which gives a clear and illustrative account of the progress of medical science as affected by the performance of experiments on animals. It is written by one who, while not himself an experimenter, has been long associated with such work as secretary of the Association for the Advancement of Medicine by Research, and who has had abundant opportunity to become acquainted with its beneficial results. The work takes up in Part I the principal physiologic problems that have been solved by animal experimentation and shows in a forcible manner how Galen established physiology by a correct method, but how by the abandonment of that method no progress was made by his followers for hundreds of years until the revival of experiments on animals by Harvey and others. In Part II the service of animal experimentation in disclosing the nature and cause, and eventually the treatment of septic processes, tuberculosis, anthrax, plague, rabies, cholera, etc., is described and the new aspect given to pharmacology by animal experiment is briefly considered. The English law against vivisection and a reprint of a pamphlet by the author entitled "The Case Against Vivisection," completes the volume.

Retroperitoneal Hernia, Being the Arris and Gale Lectures on the Anatomy and Surgery of the Peritoneal Fossæ, delivered at the Royal College of Surgeons of England in 1887. By B. G. A. Moynihan, M.S., F.R.C.S. Second Edition. Revised and in Part Rewritten by the Author and J. F. Dodson, M.S., F.R.C.S. Cloth. Pp. 195. Price, $2.00 net. New York: William Wood & Company.

This review of a somewhat obscure subject in surgery was made some years ago, but the progress of investigation has necessitated an extension and in part a rewriting of the work. The book discusses the development of the intestinal canal and the peritoneum, the duodenal folds and fossa, the cecum and vermiform appendix, the inter-sigmoid fossa and hernia of the lesser peritoneal sac. Each chapter gives first the anatomic researches into the various folds and fossæ which give opportunity for the formation of hernia and then a clinical description of the various forms of retroperitoneal herniæ. The subject has its practical aspect, since the diagnosis of some of these rare herniæ may clear up obscure symptoms of disease of the digestive tract and, if a diagnosis can be made, there is hope in some cases of successful surgical treatment.

Manual of Clinical Chemistry. By A. E. Austin, A.B., M.D., Professor of Medical Chemistry and Toxicology in the Medical Department of Tufts College, Boston. Cloth. Pp. 278. Price, $1.75. Boston: D. C. Heath & Co., 1907.

This work is an attempt to meet the needs of the physician and student for a knowledge of the chemistry which concerns the processes of the human body and the diagnosis of disease, a knowledge for which the student has hitherto been obliged to consult at least three different classes of books: works on general medical chemistry, physiologic chemistries in the narrower sense, and guides to the chemical diagnostic methods. The author has endeavored not only to supply the knowledge given by these various works, but to correlate it in such a way that it may be of the greatest practical value.

Therapeutische Technik für die ärztliche Praxis. Ein Handbuch für Arzte und Studierende. Herausgegeben von Prof. Dr. Julius Schwalbe. Zweiter Halbband. Mit 169 Abbildungen. Paper. Pp. 787. Leipzig: Verlag von Georg Thieme, 1907.

This second volume comprises the technic of the treatment of diseases of the individual organs, the ear, nose, larynx, chest, stomach, intestines, the genital and urinary organs, and the nervous system. The various operations are carefully described and fully illustrated.

High Frequency Currents: Their Production, Physical Properties, Physiologic Effects and Therapeutical Uses. By H. E. Crook, M.D., B.S. Cloth. Pp. 296. Price, $2.00 net. New York: William Wood & Company.

The value of the high-frequency currents is well recognized in America and in Europe, and it is the aim of this author so to present the subject as to extend their use among English-speaking physicians, especially in Great Britain. The treatise gives a plain account of the character, method of production and effects of these currents with the mode of application. The clinical value of the method is discussed in the later chapters. Many of the cases are quoted verbatim from journals, and the presentation has the air of a rather uncritical compilation of reports. The book, however, will serve as an excellent introduction for one who wishes to investigate this advanced method of electrical therapy.

Medizinische Anwendungen der Elektrizität von M. U. Dr. S. Jellinek. Mit 149 Abbildungen im Text. Paper. Pp. 453. Munich: Druck und Verlag von R. Oldenbourg, 1906.

This work constitutes a volume of the eighteen-volume encyclopedia of electric technic ("Die Schwachstromtechnik in Einzeldarstellungen"), and aims to give a complete account of the application of electricity to medicine. The author has drawn from many sources and presents an account of the theory of electricity with the various forms of electric apparatus, the physiology of electricity and the technical method of its application in medicine.

Society Proceedings

COMING MEETINGS.

Oregon State Medical Association, Seaside, July 12-13.
Minnesota State Medical Association, Duluth, August 13.
Ohio State Medical Association, Cedar Point, August 28.
Wisconsin State Medical Society, Superior, August 20-22.

CONNECTICUT STATE MEDICAL SOCIETY.

One Hundred and Fifteenth Annual Meeting, held in Hartford, May 22-23, 1907.

The President, Dr. William L. Higgins, South Coventry, in the Chair.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. E. J. McKnight, Hartford; vice-presidents, Drs. Franklin P. Clark, Danbury, and Miner C. Hazen, Haddam; secretary, Dr. Walter R. Steiner, Hartford; treasurer, Dr. Joseph H. Townsend, New Haven; delegates to the American Medical Association, Drs. William H. Carmalt, New Haven, and D. Chester Brown, Danbury.

New Haven was chosen as the next place of meeting, May 27-28, 1908.

Sodium Citrate in Infant Feeding.

Dr. H. Merriman Steele, New Haven, reviewed the literature on this subject and gave his experience with the use of sodium citrate in fourteen cases. In summing up he agreed with Dr. Chapin of New York, that it was best to interfere with milk chemically as little as possible with reference to the good of the child.

The Neurasthenic Neuralgias.

Dr. Frank K. Hallock, Cromwell, said the neurasthenic or neurotic neuralgias may be differentiated from the neuralgias due to lesion of nerve or ganglion, to toxic and infectious agents, to defects in the blood or in the body metabolism, or to other physical disorders by the following characteristics: First, psychic influences and marked fluctuations in the mental state as well as in the body condition produce noticeable variations in the degree of pain relatively greater in the neurasthenic neuralgia than in those due to more definite causes. Second, they are often characterized as being peculiarly difficult to bear; in other words, they have a mentally disorganizing or demoralizing quality. It is not because the neuralgia is so severe, but it insidiously undermines the will and power of the individual to endure it as one would bear ordinary pain of corresponding degree. Third, the neurotic neuralgias may be slow and obstinate, but they are invariably curable, unless the patient is a profound chronic invalid and will not respond to nervous and bodily upbuilding. They occur only in the neurasthenic condition, or its equivalent, however produced. Superimposed on this condition then is an exciting cause such as local or general strain, exposure to wind, cold or wet, a blow or fall, emotional disturbance or mental shock, or there may be no appreciable cause.

The neurasthenic neuralgias may be non-objective, that is, with very slight or no concomitant physical symptoms, or they may be objective, that is, the pain is accompanied by localized symptoms, sensory, vasomotor, secretory. The former may be subdivided into the paresthetic or "nervous pain," the habit pain and the idiopathic varieties. The objective or neuritic variety has definite local symptoms and simulates neuritis, so that a diagnosis between neuritis and a neuritic neuralgia is sometimes difficult. There is no true motor element present in the neuralgia, while some degree of paresis or paralysis is common in neuritis and the points of Valleix are absent. Atrophy and anesthesia are not present in neuralgia.

The origin of the neurasthenic neuralgias can be interpreted as follows: There exists in all cases a definite central element or factor; in the non-objective forms the central is relatively greater than the peripheral element, the latter being merely the external manifestation of a disturbed condition of an internal sensory nerve center or tract; in the objective or neuritic neuralgia the same postulate holds true, the peripheral manifestations simply being increased in extent or degree; and finally in all cases where the peripheral element operates as a factor in the production of the pain, it is best explained as some form of perineuritis irritation; it is certainly not a true neuritis.

In the symptomatology the mental characteristics of the patients are spoken of and the point is brought out that individuals with a relatively weak will, by nature or through invalidism, are most subject to the non-objective types of neuralgia, while those who have a strong will and are intense in thought and action are prone to the neuritic neuralgias.

The treatment consists essentially in rest for the affected part and building up the underlying neurasthenic or below-par condition of the patient. In treating neurasthenics it is a mistake to make the symptoms too objective or label them with specific names. As Dana has recently pointed out, it is both unfortunate and incorrect to apply the fashionable term neuritis to so many of the brachial neuralgias.

Chronic Gonorrhea.

Dr. R. A. McDonald, New Haven, spoke on the prevalence and serious character of this disease. He gave statistics of 1,000 cases to show its long duration, mentioned its complications and the parts affected, stated the time required to cure chronic cases, and discussed the diagnosis and the methods of treatment.

Some Complications of Acute Otitis Media.

Dr. E. Terry Smith, Hartford, showed the importance of an early diagnosis and proper treatment in acute inflammations of the middle ear. He detailed the histories of eight patients. Two were cases of mastoiditis with recovery without operation; two were cases of mastoiditis, with rapid fluctuations in temperature and high polymorphonuclear counts, which recovered after operation; in three cases lateral sinus thrombosis was present with some unusual features; the last case was one of meningitis serosa, of otitic origin, which resulted in recovery, after an operation.

Diagnosis and Treatment of Some of the More Common Diseases of the Knee Joint.

Dr. Philip D. Bunce, Hartford, limited the scope of his paper by excluding tuberculosis as well as the diseases and conditions seen mostly in children. He discussed the diagnosis and treatment of acute and chronic synovitis, the diagnosis and treatment of hypertrophic arthritis, and the diagnosis and treatment of villous arthritis.

Significance of Cardiac Pain.

Dr. Edward K. Root, Hartford, discussed the importance of pain in the chest as a symptom of commencing cardiac degeneration, especially coincident with high blood pressure, or other evidences of myocardial change. The similarity between substernal pain and some of the milder varieties of so-called angina pectoris was also discussed, and their similarity was noted.

Diagnosis of Kidney Insufficiency, and the Treatment of Uremia.

Dr. Oliver T. Osborne, New Haven, showed the part the liver plays in uremia; then he commented on the physiology of the kidneys and gave the prognostic importance of albumin and casts in the urine. He discussed chronic nephritis with albumin and casts, only intermittently present in the urine. In conclusion he detailed the treatment of uremia.

Tumors of the Cecum.

Dr. Oliver C. Smith, Hartford, gave a brief review of the literature. He spoke on the anatomy and physiology of the cecum, and gave the symptoms and diagnosis of tumors in this region. Then he reviewed the surgical procedures that might be called for, and explained the technic of the radical operation. He detailed three methods of anastomosis and presented the opinions of six noted surgeons as to the best method. After referring to the after care of patients, who had been operated on, and the results of the different operations, he gave his own experience with tumors in this situation.

(To be continued.)

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-seventh Annual Session, held at Rockford, May 21-23, 1907.

(Concluded from page 2152.)

Opsonins, Opsonic Index and Vaccine Therapy.

Dr. John C. Hollister, Chicago, said that to aid a patient in his struggle against infection, we should strengthen his phagocytic power. We can increase the number of leucocytes, but we know that it holds only a subordinate place in increasing phagocytosis. Wright has not only perfected a method of determining the strength of the opsonic power, but also of increasing it if it is low; the first by what is known as the opsonic index, the latter by vaccine therapy. We must aid phagocytosis in order to strengthen resistance. Phagocytosis has two factors: leucocytes and opsonins. We can increase the number of leucocytes, but that is of limited value. We can estimate the opsonic strength of the infected patient. We can be of marked assistance if his opsonic index can be raised and kept up.

In what infections can we say vaccine therapy is of definite value? First, in staphylococcus infections; acne, furunculosis, carbuncles and the more generalized forms of staphylococcus invasion. Second, in infections by the colon bacillus: pyelitis, cystitis, pleuritis. Third, in infections by the tubercle bacillus, especially in localized tuberculosis of the skin, bones, joints and genitourinary tract.

The author has not yet had sufficient experience in the treatment of pulmonary tuberculosis to draw conclusions. Fourth, as to infections by the gonococcus. Here he could say that a person infected by that organism acutely or chronically usually has a low index. This low index can invariably be raised and maintained at a higher level. The outlook is promising in spite of the fact that the technic is difficult.

Treatment of Pelvic Infections.

Dr. Channing W. Barrett, Chicago, said that: 1. Pelvic infection is a destructive process, sometimes causing only mild disturbances, sometimes causing death with or without provoking a marked inflammatory reaction. 2. Pelvic inflammation is a protective process which may or may not save the life of the patient, according to the virulence of the infection and the completeness of the inflammatory reaction. 3. A pelvis inflammation has no power of self-extension, but tends rather toward repair. 4. During the acutely active stage of a pelvic infection the patient should usually receive non-operative treatment until it may be determined that drainage or removal of some organ will remove or decidedly lessen the source of infection. Then drainage, removal of the uterus, tube or ovary may be indicated. 5. Non-puerperal, non-operative acute infection is usually, but not necessarily, of gonorrheal origin. 6. An acute primary infection of the tubes and ovaries should be treated conservatively in the beginning to save these organs. 7. Chronic pus tubes should be removed. 8. Two safe operations are always preferable to one dangerous one.

The following papers also were read:

"When Should Gastric Ulcer be Treated Surgically and When Medically?" by Dr. Bertram W. Sippy, Chicago; "Achylia Gastrica in Its Relation to Intestinal Function," by Dr. Frank Billings, Chicago; "Progressive Infective Gangrene and Allied Affections," by Dr. L. Ryan, Chicago; "Indications for Technic of and Results in Surgery of the Peripheral Nerves," by Dr. John B. Murphy, Chicago; "A New Modification of the Primary Position in the Bloodless Treatment of Congenital Hip-Joint Dislocation," by Dr. Frederick Mueller, Chicago; "Postoperative Gall Bladder and Gall-Duct Fistulæ," by Dr. M. R. Barker, Chicago; "Emesis During Period of Gestation," by Dr. Edwin M. Minnick, Moline; "Feigned Eruptions," by Dr. Frank Hugh Montgomery, Chicago; "A Report of Two Unusual Cases," by Dr. David Lockie, Pontiac; "Exophthalmic Goiter," by Dr. O. M. Steffenson, Chicago: "Partial Thyroidectomy as the Treatment of Exophthalmic Goiter," by Dr. A. P. Heineck, Chicago: "Interstate Medical Reciprocity and Our Degraded Certificate," by Dr. C. T. Robinson, Edwardsville.

WEST VIRGINIA STATE MEDICAL ASSOCIATION.

Fortieth Annual Meeting, held in Huntington, May 15-17, 1907.

The President, Dr. William W. Golden, in the Chair.

At this meeting the attendance was 50 per cent. larger than ever before.

The secretary reported that the membership had increased from 430 at the last meeting to 650. Many very interesting papers were read and elicited a spirited discussion.

Dr. J. N. McCormack, Bowling Green, Ky., delivered a public address which was notable and which, it was believed, would be long remembered in the history of Huntington as a revelation, tending to inaugurate an era of better understanding between physcians and the laity, and to promote harmony of understanding and unity of purpose and action between the great factors of society in all the various forms of human activity.

Dr. Fleming Howell, in his address, spoke of the origin of the medical profession and showed what medicine had done for the welfare of the people, and how the physicians and the people had regarded one another in the different ages of the world, and how they should regard each other to-day.

It was decided to publish the official journal of the association monthly, and the committee on publication, consisting of Drs. S. L. Jepson, L. D. Wilson and J. L. Dickey, was reappointed.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Fleming Howell, Clarksburg; vice-presidents, Drs. C. O. Henry, Fairmont; J. E. Rader, Huntington, and J. Schwinn, Wheeling; secretary, Dr. T. W. Moore, Huntington; treasurer, Dr. H. A. Owens, Elkins; delegate to American Medical Association, Dr. V. B. Churchman, Charleston.

AMERICAN ACADEMY OF MEDICINE.

Fifty-Second Annual Meeting, held at Atlantic City, June 1 and 3, 1907.

(*Continued from page 2148.*)

A Medical Career and the Intellectual Life.

Dr. Casey A. Wood, Chicago, took this topic as the subject of his presidential address. The most conspicuous want of the medical practitioner was said to be a useful and pleasure-giving recreation. What that particular form of occupation should be might well vary with the individual, but that it should be instructive—perhaps unconsciously instructive—seemed self-evident. Sir John Herschel in his eloquent estimate of the advantages of literary pursuits said that in books were found solace, refinements and recreations. The physician, however, it was felt, must have a feeling of unrest when not engaged, even during his recreation, in work likely to add to the sum total of human knowledge. To meet this condition the pursuit of some branch of the natural sciences as the desirable recreation of the practitioner of medicine was advocated, and a plea made for the adoption of what might be called the "outdoor" sciences as the most useful and most valuable of all the recreations, because of the close relation between the natural sciences and the study and practice of medicine.

The Relation of the Medical Profession to the Housing Question.

Dr. S. A. Knopf, New York City, discussed the selection of proper ground for dwellings with a view of assuring proper drainage, proper ventilation, plumbing; the necessary cubic air space for each individual; light, sunshine and heating facilities. The paper further discussed the general sanitary arrangements of rooms; internal equipment; hygienic measures and precautions to avoid what is commonly known as indood diseases; dwelling on the precautions which should be taken in dwellings to diminish the existence of dust and its danger as a disease carrier. Even the so-called sterile or non-pathogenic dust the author said could be productive of disease, and he considered it the duty of the physician, hygienist and of the sociologist to ascertain what can be done to reduce the fearful morbidity and mortality caused by indoor and dust diseases and infirmities brought about by the unhygienic housing of the masses in general. To hope for any appreciable results the cooperation of statesmen, public educators and philanthropists was considered an absolute necessity.

General Aspects of the Housing Problem.

Dr. Gertrude U. Light, New York City, said that the housing problem has, at least in the cities, resolved itself into the immigrant's problem. Treatment must proceed along parallel lines. First, the regulation, in respect to members and fitness of the arriving alien; second, such personal and legislative activity as shall procure the construction and maintenance of model dwellings, and prevent the wasteful repetition on the outskirts of the processes which have created the central slums.

DISCUSSION.

Mr. Paul Kennaday, New York City, said that just so long as the public generally will tolerate the dreadful condition of the tenement-house dwellers, so long will they exist. Although the foreigner is a part of the general public, he has not the ability to express his need and it is the duty of the educated citizen to study and remedy the evil. Prisons generally were spoken of as hotbeds of tuberculosis, but reference was made to the prison in New York to which prisoners with tuberculosis are now sent, with a decreased mortality. The necessity was emphasized of placing questions of this kind before the public through the public newspaper rather than through medical journals. In the tuberculosis movement about 1,500 copies of a press pamphlet had been sent each week to a large number of newspapers in New York City. The same could be done in regard to the tenement-house problem.

Mr. John Martin, corresponding delegate to the Women's Trade Union League, considered the housing problem almost entirely a city problem, the problem in the village being rather one of information concerning the construction of the house. The crucial point in the difficulty of the crowded tenements, he said, is to prevent the crowding in of so many people on a stated area. With an increase of 80,000 in population in the last five years, as there has been in the lower part of Manhattan, the most elaborate sanitary devices and housing methods can not cope with the increase on the restricted space. The solution, he thinks, is in making the cities bigger. Following the suggestion of Mr. Devine, this can be done, in part, by forbidding the erection of factories on areas already full. While this would take the crowds away from the city centers, the question of transportation would arise. To meet this difficulty he suggested for scientific consideration, apart from political theories, whether it might not be wise, by taxation or other means, to take into the common exchequer a part of that unearned increment of land value and spend this on freeing the transportation facilities in order that the people might be taken out of the hotbeds of disease and of crime and put on the borders of the city.

Miss Claghorn, New York City, thought that from some points of view the housing in small towns and villages is worse than in the cities. In the small towns the difficulty lay in improper sanitation; in the cities, in the covering of ground space and in the height of buildings. She suggested that in the line of legislation there should be regulations regarding the height of buildings.

Dr. Woods Hutchinson, New York City, thought the housing problem not one solely of the great cities or of the slums. The modern hotel and the Pullman car offered illustrations of glaring lack of facilities for ventilation. Another point is in reference to the dread held by many of night air, which he regarded as absolutely nothing but a survival of that dread of the powers of darkness and of the prince of the power of the air who might swoop down on them and carry off their souls to perdition if the wind blew on them at night. Regarding the building of model tenement-houses, he believed such could be erected to give the owners a fair return if only the greed of the landlord could be moderated in some way, and he thought it not too much to say that the mass of the voters of the country would see that this moderation were brought about. He believes that a limit would be placed on the possibility of individual aggregation of wealth and the taking of an unfair part of the earnings of the poor.

Dr. Edward Jackson, Denver, agreed that the solution of the problem of overcrowding lay largely in taxation that should secure the best value of lands, and the maintenance of transportation that should allow men to spread out over the largest district of the country and in the encouragement of large manufacturers to spread out over a larger part of the country. Railroad discrimination is largely responsible for the phenomenal growth of cities, and this point should claim the attention of citizens in the matter of politics. The restriction of buildings to a certain height should also be a matter of legislative concern in order that natural light may be preserved for city dwellers.

Dr. H. O. Marcy, Boston, spoke of the splendid transportation facilities in his city. Notwithstanding this, immigrants from Southern Russia or Italy naturally want to remain in the colonies of their fellowmen.

Dr. Thomas D. Davis, Pittsburg, said that in his city they had taken the factories out of the city, with the result that trains are run to carry the people back to the crowded districts. Although nice houses are to be had near the works, the people will not occupy them, desiring rather to get back to the life of the city.

Dr. Charles McIntire said that Dr. Spalding, who had been obliged to leave, had asked him to say that in Portland they had very little of the housing problem because the prohibition law is lived up to, and with the removal of temptation men have more money and there is no slum district.

(*To be continued.*)

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Cholera Infantum.

This is regarded by Holt as one of the clinical types of acute intestinal intoxication. The symptoms, he says, depend on the rapidity with which the products of putrefaction are absorbed. There is a strong causal relationship between it and impure milk; in fact, some writers speak of the condition as acute milk infection. The disorder may be due to toxic changes in the milk developed either before or after ingestion. The effect of the poison on the heart, nerve centers and vasomotor nerves of the intestines produces the primary symptoms common to this condition, secondary manifestations being due to the destructive abstraction of fluids from the body. In treating the disease prophylaxis is of the first importance. Care and cleanliness in feeding, prompt and careful attention to every apparently mild digestive disturbance, and the complete abstinence from milk, or at least a greatly diminished use of it, as soon as the first symptoms of the disease appear, are essential preventive measures. Bearing in mind that such cases are true intoxications, Holt states that the main indications are: To empty the digestive tract; to neutralize the effect of the poison; to make up for the fluid loss and to reduce fever. Intestinal irrigation and gastric lavage meet the first indication—cathartics being too slow in their action. Hypodermatic injections of morphin and atropin may be given to neutralize the toxins. For a child of 12 months not more than 1/100 gr. (0.00065 gm.) of morphin and 1/600 gr. (0.000108 gm.) of atropin should be given as an initial dose. Morphin should not be given if the child is in a relaxed and stuporous state, or if the diarrhea is but slight. Physiologic salt solution by hypodermoclysis is practiced to replace the fluids lost, and the temperature may be reduced by hydrotherapy. Antipyretic drugs are strictly contraindicated. If the symptoms do not subside, Tyson recommends the use of from 2 to 4 drops of deodorized tincture of opium in 2 drams of starch water given by the rectum. By mouth the following may be given:

℞.	Pulvis ipecacuanhæ et opii........	gr. 1/10	006
	Bismuthi subnitratis................	gr. ii	12

M. Sig.: Give at one dose.

The following may be of value:

℞.	Bismuthi subnitratis	℥ss	15
	Phenol (carbolic acid)...............	gr. ii	13
	Mucilaginis acaciæ		
	Aquæ menthæ piperitæ, āā............	f℥ii	60

M. Sig.: One-half teaspoonful every hour.

Where there is great nervous irritability the following may be of value:

℞.	Potassii bromidi	℥ss	15
	Syrupi	f℥i	30
	Aquæ menthæ piperitæ...............	f℥iii	90

M. Sig.: A teaspoonful every two hours.

Small and frequently repeated doses of calomel have been found by Taylor and Wells to be of great value. From 1/40 to 1/30 of a grain may be given until two or three grains have been administered.

Incompatibles.

PRECIPITATION OF ALKALOIDS.

The *Pharmaceutical Journal*, April 6, calls attention to the fact that mercuric chlorid and potassium iodid are often ordered together in solution and the resulting mixture is a precipitant of alkaloids, which are sometimes ordered in the same mixture. For example:

℞.	Liq. hydrargyri perchloridi (B. P.)....	f℥iss	45
	Potassium iodidi	ʒii	8
	Syrupi zingiberis	f℥ss	15
	Infusi cinchonæ (acid)................	f℥ii	60
	Aquæ q. s. ad........................	f℥viii	240

The alkaloids of the cinchona are precipitated and the precipitate also contains much mercury.

Myalgia.

Augustus A. Eshner, Philadelphia, recommends the following formula in myalgia:

℞.	Tincturæ guaiaci ammoniatæ		
	Fluidextracti cimicifugæ		
	Fluidextracti cocæ, āā..................	f℥i	30

M. Sig.: One teaspoonful before meals.

For external application Hare recommends the following liniment, well rubbed into the skin:

℞.	Tincturæ belladonnæ	fʒi	4
	Tincturæ aconiti		
	Tincturæ opii, āā.....................	fʒii	8
	Linimenti saponis q. s. ad............	f℥vi	180

Sig.: Poison. To be used externally and only as a liniment.

The same author states that in some cases chloroform liniment is singularly successful, and that poultices applied as hot as can be borne and covered with oiled silk to retain the heat are often of great value.

Shoemaker advises applying belladonna liniment to the affected muscles.

Medicolegal

Ordering of Physical Examination by Physicians.

The Supreme Court of California says, in the personal injury case of Johnston vs. Southern Pacific Company, that here for the first time the question came before it for adjudication regarding the power of a court to order the physical examination of a party. It also states that what is here said must be regarded as applicable strictly to civil actions. It is a principle of criminal law that the defendant may not be compelled to give evidence against himself. In civil actions, where a plaintiff is seeking affirmative relief, the adverse party may compel him to give such evidence, even to becoming a witness. The decision here is in favor of the power.

In the case before the Supreme Court the trial court had refused to order such an examination on the ground that it had not the power to make such an order, although it declared that if the authorities bore out the defendant's contention, it would make the order.

As to the power of a court to order such examination in proper cases, the overwhelming weight of authority, the Supreme Court says, is that it exists. The Supreme Court of the United States substantially alone has denied the power in Railroad Company vs. Botsford, 141 U. S. 250. In Brown vs. Railroad Company (N. D.) 95 N. W. 155, the Botsford case is reviewed. It is said that it is not authority in a state court, and that the reason of the rule as to federal courts comes from the fact that all United States courts other than the Supreme Court must, in the absence of statute, follow the mode of proof as it existed in actions at common law. By the state courts, however, with unusual unanimity, it is held that courts have the power to order such examinations, and should exercise it with a sound discretion. In some states, as New York, the matter is controlled by statute, but where it is not a matter of statute the courts are uniform in declaring the existence of the power.

The court here cites a large number of authorities to support its position.

Damages for Injury to Physician.

The Court of Civil Appeals of Texas says, in Galveston, Harrisburg & San Antonio Railway Company vs. Young, an action for personal injuries brought by the latter party, a physician, who was thrown from a train by the breaking of a defective coupling, that the fall from the cars broke his collarbone in two places, his right arm was broken, and one end of the bone run under the other, where it was pressing under the hollow of the arm; his shoulder blade was broken; his leg injured so that it had not recovered, and his back was injured. He had been injured so as to produce constant constipation, and while his normal pulse was 70 to 75, it was at times since his injury as high as 135. He was rendered unconscious for some time by his fall and he suffered great pain. His nervous system had been greatly disturbed, and his heart troubled him, and hemorrhoids had resulted from his constipation. He was 50 years old when hurt, and was engaged in the practice of surgery and diseases of women. He testified that he earned from $4,000 to $8,000 a year. The right arm was an inch and a half or two inches shorter than the left, and his jaw was injured, so that a part of the bone worked out. The use of the right arm was greatly impaired, and he could not perform delicate operations with it, and its condition was permanent. Under these circumstances the court does not think a verdict in the physician's favor for $15,000 damages was excessive.

Revenue Officers Can Not Approve Formulas or Medicines.

Acting Commissioner of Internal Revenue Robert Williams, Jr., rules that the commissioner of internal revenue can not approve either the formulas or the medicines submitted by manufacturers. The new product should be so marked as to be easily identified by the revenue officers. When it is placed on the market, if it contain alcohol it will be subject to the inspection of this office, and if found that it is not being sold in good faith as a medicine, or does not contain sufficient medicinal ingredients to prevent its use as a beverage, the parties handling it will be subject to special tax.

Complaints to Physician Admissible in Evidence.

The Supreme Court of Errors of Connecticut holds, in the personal injury case of Gilmore vs. American Tube and Stamping Company, that a ruling of the trial court admitting the complaints of the plaintiff to his physician of his "wound throbbing at night and loss of sleep" was correct. It says that as the complaints were made during the "actual treatment" of the wound, they were, in the absence of evidence to the contrary, presumably made for the purpose of receiving medical treatment and advice, and when made for that purpose were admissible in evidence.

Right of One Ruptured to Exhibit Himself to Jury.

The Supreme Court of Alabama holds, in Southern Railway Company vs. McGowan, a personal injury case brought by the latter party, that the plaintiff had the right to show that he was ruptured by the fall he had had, and to exhibit himself to the jury, if the trial court saw fit to permit him to do so.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below:

Boston Medical and Surgical Journal.

June 13.

1 *Relation of the Clinical Laboratory to the Practitioner of Medicine. J. B. Herrick, Chicago.
2 *Arteries of the Corpus Striatum. J. B. Ayer and H. F. Aitken, Boston.
3 *Case of Pneumaturia. A. E. Taussig, St. Louis.
4 *Repair of Cystocele. E. Reynolds, Boston.
5 *Pulse Pressure Estimation. S. I. Franz, Washington, D. C.

1.—This article appeared in The Journal, June 8, 1907, page 1915.

2. **Arteries of Corpus Striatum.**—Ayer and Aitken have made a careful and complete study, from fresh dissections, of the circulation of the corpus striatum, and in this article, which is well illustrated, the results of their work are detailed.

3. **Pneumaturia.**—Taussig reviews the literature on this subject, and reports in full one case observed by him, in which pneumaturia was noted on the sixth day following a radical panhysterectomy done for carcinoma of the cervix uteri. He summarizes his paper as follows: 1. Pneumaturia may occur either as the result of a rectovesical fistula or of intravesical fermentation. 2. In the latter type, the gas may originate either from the fermentation of glucose in diabetes, or from the decomposition of proteid substances in cystitis. 3. Of the non-diabetic cases, the micro-organism responsible for the pneumaturia has been isolated in only eight cases; in three, it was the *Bacillus lactis aërogenes*, and in five (including the one reported above) the *Bacterium coli commune* (or immobile). 4. In pneumaturia due to the *Bacillus lactis aërogenes*, the gas formation is readily referable to the peculiar characteristics of the bacillus. 5. In pneumaturia due to the *Bacterium coli commune*, the gas formation may be due: (*a*) To the presence of some proteid, not yet definitely determined, that yields a gas when broken down anaërobically by the *Bacterium coli commune*, as suggested by Adrian and Hamm; or (*b*) to the presence of a peculiar strain of *Bacterium coli commune* that is capable of producing gas when the usual varieties fail to do so. 6. The fact that the bacterium isolated from the case reported had in its earlier generations an abnormal gas-producing power on ordinary culture media lends support to the second hypothesis.

4. **Cystocele.**—Reynolds describes an operation, which he has employed with great satisfaction in the repair of cystocele. The principle underlying the operation is the same as that employed in herniotomy—that is, the weakened tissues are dissected off until firm fascial edges are reached. The hernial sac or cystocele is then inverted and the strong tissues are brought together and sutured.

5. **Pulse Pressure Estimation.**—Franz employs a modified form of a sphygmometer, devised some years ago by A. Bloch.

New York Medical Journal.

June 15.

6 *Traumatism as an Etiologic Factor in Appendicitis. J. B. Deaver, Philadelphia.
7 Case of Obstructive Jaundice in Chronic Pancreatitis. G. A. Friedman, New York.
8 Study of Tropical Diseases as they Occur in the Philippines. P. M. Ashburn and C. F. Craig, U. S. Army.
9 Bubonic Plague in Siam. C. S. Braddock, Jr., Haddonfield, N. J.
10 Relation of Insects to Dissemination of Disease. D. H. Bergey, Philadelphia.
11 The Roentgen Ray, Ultraviolet Ray and High-Frequency Currents in Diagnosis and Therapy. S. Tousey, New York.
12 *The Medical Man Afloat. H. S. Baketel, New York.
13 Acute Lymphatic Leukemia Clinically Suggesting Myelogenous Origin. S. O. Sabel and G. R. Satterlee, New York.

6. **Traumatism and Appendicitis.**—Deaver urges immediate operation in cases of appendicitis due to trauma, as soon as the diagnosis is made.

12. **Medical Men Afloat.**—Baketel details the duties of the ship's surgeon on the transatlantic liners. He considers the service an excellent one, both from the experience that may be obtained, and financially.

Medical Record, New York.

June 15.

14 *Autointoxication in Its Medicolegal Aspects. H. Stern, New York.
15 *Treatment of Exophthalmic Goiter. J. A. Booth, New York.
16 *Indicanuria, Its Etiology and Practical Significance. W. H. Porter, New York.
17 *Locomotor Ataxia; a New Theory as to Its Cause and Cure. L. N. Denslow, New York.
18 Milk Supply of Vienna. E. J. Lederer, Vienna.
19 *Pilocarpin as an Adjuvant in Treatment of Syphilis. W. J. Robinson, New York.

14. **Autointoxication.**—Stern discusses the forensic importance of the autotoxicoses. He believes that certain pathologic conditions as well as certain forms of death demanding legal inquiry are due to autotoxic processes of carbolic origin. Therefore, Stern claims, that these processes should obtain legal status in courts of law.

15. **Exophthalmic Goiter.**—Booth's views are in keeping with those entertained by clinicians generally. He reports 8 cases and refers to 18 among which there were 3 patients cured, 5 improved and 10 were not benefited. Thyroidectomy is favored as the operation of choice.

16. **Indicanuria.**—According to Porter, indican in the urine is never normal, but is always an abnormal condition because it is the result of putrefactive processes and disturbances in the working of the nervous mechanism. Errors in diet, lack of outdoor exercise and defective digestive secretions are recognized as etiologic factors.

17. **Locomotor Ataxia.**—Denslow is of the opinion that the changes that occur in this disease are due primarily to irritation of peripheral nerves, producing reflex disturbances in the spinal cord and brain, and that such irritation kept up continuously for a sufficient length of time can and does produce pathologic changes in the cord, although such irritation, it has been supposed, could only bring about functional disorders.

19. **Pilocarpin in Syphilis**—Robinson has obtained good results from the use of pilocarpin in cases of syphilis, which refused to be influenced further by mercury and iodids. The pilocarpin brings the mercury to the surface of the body, the skin lesions are directly affected and the syphilides disappear. Robinson says that if pilocarpin be given for a week or two and then discontinued, much smaller doses of mercury will be necessary in order to obtain the desired effect. He administers the pilocarpin alone, in 1/32-grain doses, giving three such doses daily.

Archives of Pediatrics, New York.

May.

20 *Weight of Breast-Fed Infants During First Two Weeks of Life. J. P. C. Griffith and J. C. Gittings, Philadelphia.
21 *Hydrencephalocele and Spina Bifida. B. K. Rachford, Cincinnati.
22 *Carbolic-Acid Poisoning by Rectal Injection. G. N. Acker, Washington, D. C.
23 *Case of Measles Superimposed on Scarlatina. P. J. Eaton, Pittsburg.
24 *Acute Non-suppurative Encephalitis in Children. I. A. Abt, Chicago.
25 Case of Congenital Hydronephrosis, Dilatation of Ureters and Hypertrophy of Bladder in Infant. D. J. M. Miller and C. Y. White, Philadelphia.

20. **Weight of Breast-Fed Infants.**—Griffith and Gittings claim that while the initial loss of weight in a new-born infant can not be prevented entirely, it can be lessened materially by the administration of the milk of another nursing woman, until the mother's secretion has been established; yet this offers no very great advantage, and the difference in the rates of gain does not justify the administration of any artificial food during the first days of life.

21. **Hydrencephalocele and Spina Bifida.**—Rachford reports a case of this kind, the child remaining alive about three and one-half weeks. A remarkable feature in the case was the rise and fall of the temperature as artificial heat was applied and withdrawn. The temperature rose as high as 108 F. and fell to 92 F.

22. **Carbolic-Acid Poisoning.**—Acker reports two cases of carbolic-acid poisoning following the use of rectal enemas. In both cases, it is evident that the acid was not mixed with the water before being put in the bag, and settled to the bottom, the children receiving the poison with the first ounce or two injected. Both patients recovered.

23. **Measles Superimposed on Scarlatina.**—The points of interest in Eaton's case were the absence of preliminary exanthema, the appearance of the rash of measles on the scarlatinal background, the double desquamation and the absence of complications.

24. **Acute Non-Suppurative Encephalitis.**—Abt reports two cases. One patient, a previously healthy female child, was taken suddenly ill with headache, fever, and increasing unconsciousness, a condition which continued for about ten days. When she awoke from the stupor she was found to be suffering from a generalized paralysis. The use of the left side was recovered in a very few days. The child was and is now suffering from a complete right-sided hemiplegia. Her intelligence does not seem to have suffered to any marked degree. In the second case, which was very similar to the first, there is paralysis of the left half of the face, and some interference with motion of the right hand and arm and leg. This case was considered of additional interest in that it showed undoubted evidence of a cross paralysis, with the lesion located in the pons and belonging to the variety referred to as polioencephalitis inferior.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 1.

1 Hernia in Children. E. Owen.
2 *Operation for Removal of Entire Rectum and Neighboring Lymphatic Area for Carcinoma. P. L. Mummery.
3 *Squamous-Celled Carcinoma of Stomach and Esophagus. H. D. Rolleston and F. W. Higgs.
4 *Two Cases of Multiple Intestinal Obstruction. R. Ramsey.
5 New Genera of Nematodes Occasionally Parasitic in Man. R. T. Leiper.
6 *Roentgen-Ray Treatment of Ringworm of the Scalp. J. M. H. Macleod.
7 Plea for Use of Tuberculin With and Without Sanatoriums. W. C. Wilkinson.
8 Case of Urticaria Pigmentosa Treated with Roentgen Rays. F. H. Jacob.
9 Urticaria and Influenza. J. Reid.
10 Eggs in Diet of Infants. W. J. Midelton.
11 Maniacal Chorea. W. Mussellwhite.

2. **Removal of Rectum for Carcinoma.**—Mummery describes an operation which he has employed successfully in eight cases. All the patients have perfect fecal control. The operation is a modification of Quenu's perineal operation for excision of the rectum. All of the rectum, the glands in the hollow of the sacrum, and the attached cellular tissue are removed in one piece. The normal opening of the bowel is restored in almost all the cases that do not necessitate removal of the sphincters. It is not a mutilating operation.

3. **Carcinoma of Stomach and Esophagus.**—The points of peculiar interest about the case reported by Rolleston and Higgs are the following: 1, A large squamous celled carcinomatous ulcer, having all the macroscopic appearances of a primary growth, in the stomach associated with a smaller and

apparently more recent growth in the esophagus; 2, repeated intestinal hemorrhages without hematemesis, which, taken in conjunction with the presence of acid-fast bacilli in the material thought at the time to be sputum, gave rise to a diagnosis of tuberculous ulceration of the intestine.

4. **Multiple Intestinal Obstruction.**—In the two cases reported by Ramsey, the primary obstruction was caused by a hernia, which produced excessive vomiting and peristalsis, to which are ascribed the development of secondary hernias and multiple obstructions.

6. **Ringworm of Scalp.**—In two cases of ringworm of the scalp treated by Macleod, with the Roentgen ray, both patients developed measles, and it was noted that the eruptions appeared on the areas rendered temporarily bald by the Roentgen rays.

The Lancet, London.

June 1.

12 *Punctured Fractures of Base of Skull. R. L. Knaggs.
13 Surgical After-treatment. B. C. Stevens.
14 Wright's Method of Testing Blood and Urine. D. McCay.
15 *Case of Multilocular Ovarian Cyst in Infant. C. W. MacGillivray.
16 Rinné's Test. R. Lake.
17 *Congenital Hemorrhoids. F. V. Milward.
18 Case of Tubal Pregnancy Associated with Ovarian Cyst. E. G. E. Arnold.
19 Value of High-Frequency Spark as Local Application. E. R. Morton.

12. **Punctured Fractures of Base of Skull.**—Knaggs says that the salient features of these fractures are: 1, The frequency with which they are overlooked; 2, the not uncommon retention of a foreign body the presence of which is quite unsuspected; 3, the almost universal tendency to septic complications if the more immediate danger of death from intracranial hemorrhage and cerebral injury is escaped, and 4, their fatal character.

15. **Multilocular Ovarian Cyst in Infant.**—MacGillivray says that the tumor was first noticed when the child was three months old. The growth filled the whole distended abdominal cavity from the diaphragm to the true pelvis, and was a typical multiple cystic ovarian tumor. The appendix, cecum and ascending colon were in front of the tumor and the posterior layer of the peritoneum had to be torn through in order to enucleate the mass. The patient recovered.

17. **Congenital Hemorrhoids.**—Milward reports three cases in which a hemorrhoidal condition was noted from birth.

Bulletin de l'Académie de Médecine, Paris.

20 (Year LXXI, Nos. 18-21, pp. 497-661.) *Gonorrheal Proctitis and Its Complications. (Blenorragie rectale.) Brunswick-le-Bihan and Fournier.
21 *Aseptic, Puriform Effusion of Meninges with Intact Polynuclears. (Epanchement, etc., des meninges.) F. Widal.
22 Human Spirochetosis in Colombia. (Spirochetose.) R. Blanchard.
23 Safety in Coal Mines. (Sécurité dans les mines de houille.) N. Gréhant.
24 Typhoid Fever, etc., After Ingestion of Oysters. (Nocivité des huitres.) Chantemesse and others.
25 *Tapeworm from a Dog. (Dipylidium caninum chez l'enfant à Paris.) R. Blanchard and H. Papillon.
26 *Sequels of Appendicitis. (Appendicite.) L. G. Richelot.
27 Mode of Development of Traumatic Muscular Osteomata. (Ostéomes musc.) V. Cornil and P. Coudray.
28 Alcohol and the Child. (Alcool et l'enfant.) R. Brunon.
29 *Pubiotomy. (Opération de Gigli.) Doléris and Ballanghien.
30 *Toxicity of Urine Important for Prognosis in Appendicitis. (Toxicité urinaire dans l'app.) Lannelongue.

20. **Gonorrheal Proctitis.**—This affection is very common among Mohammedans in Tunis, but there is not much evidence of inflammation and the pus is brownish. It may become complicated by perirectitis which may compress the rectum, or there may be a stricture in the rectum. The clinical picture is liable to simulate a syphilitic affection.

21. **Aseptic Meningitis.**—A young man suddenly presented the symptoms of meningitis, but lumbar puncture allowed the escape of puriform but sterile cerebrospinal fluid, with numerous polynuclears intact. The symptoms subsided immediately after the lumbar puncture.

25. **Tapeworm from a Dog.**—The case described was that of a child of nine months, probably infected with the eggs of the *Dipylidium* by fleas from a dog. Only sixty cases are on record of the presence of this form of tapeworm in the human subject, and four of the cases were observed at Paris. Blanchard comments on the necessity for destroying the fleas on cats and dogs to prevent transmission of parasites.

26. **Intestinal Affections Traceable to Appendicitis.**—Richelot gives a list of cases in which refractory intestinal affections, including mucomembranous enteritis, were unexpectedly cured by a casual appendectomy for comparatively insignificant trouble in the appendix. The cause of the intestinal disturbances was evidently a microscopic appendicitis in all these cases, although no symptoms were apparent from it in some instances. He remarks that we are only just beginning to realize the pathogenic possibilities of appendicitis. Medicine and surgery, he adds, have done much to dissipate confusion and to render insidious and fulminating diseases accessible to treatment; they should press bravely on along this road, scrutinizing obscure conditions with deeper insight, grouping symptoms and the slightest traces of signs, broadening the diagnosis and thus rendering the physician capable of assuming responsibilities beyond what our masters ever dreamed of.

29. **Pubiotomy in France.**—Gigli's "extramedian symphyseotomy" has been done in twelve cases in France, with the survival of all the mothers and children. A few complications were observed, but none serious, although the operation was done two or three times in a private house without much preparation. It was found that the pelvis is not permanently enlarged after pubiotomy to such an extent as after symphyseotomy.

30. **Toxicity of Urine Important for Prognosis of Appendicitis.**—Lannelongue states that in the five years, 1885-1889, abut 470 cases of peritonitis were recorded at the Trousseau Hospital at Paris. This was before the days of appendicitis. During a similar period of five years recently, 443 cases of appendicitis were recorded. He thinks that this proves that the increasing number of cases of appendicitis is due merely to the better differentiation now possible. He has become convinced that the toxicity of the urine is a reliable sign of the gravity of the condition. The urine is from three to five times as toxic as in health. The amount of urine per kilogram to body weight, which kills a rabbit when injected into a vein, is a standard for comparison of the toxicity of the urine. He calls this amount the urotoxic unit or "urotoxy." The "urotoxic coefficient" is the number of urotoxic units produced by the unit of weight. The normal urotoxy of the adult ranges from 40 to 80 c.c., while in children the figure is larger, ranging from 110 c.c. between 5 and 7, to 84 c.c. between 8 and 10, and 89 c.c. between 11 and 14, the limits being 62 and 120 in health. The urotoxic coefficient varies from 0.44, 0.52 to 0.535. In appendicitis the urine is so much more toxic that a much smaller amount kills the rabbit, sometimes as little as 21 c.c., the urotoxic coefficient thus increasing from 0.535 to 1.53. He relates a number of cases that show the reliability of the information afforded by the urotoxies. In one case a child of 11 presented a severe appendicitis with 22 urotoxies. Two days after prompt appendectomy the urotoxies numbered 60, corresponding to the rapid clinical improvement. In a number of other cases the symptoms were apparently severe, but the urotoxies were never below 50 or 62, and no attempt at surgical interference was made. The patients soon recovered. In another group of cases, with diffuse peritonitis, the urotoxies numbered 20 or 24, and the patients soon succumbed. In a third group the urinary toxicity was 75, 88 and 102 urotoxies after the subsidence of a mild attack of appendicitis. Discovery of a high degree of urinary toxicity in protracted or chronic appendicitis is a contraindication to operative treatment, as it indicates that the system is still seriously intoxicated, and the operation should be postponed for a time. He fastens the rabbit on a plank and hangs up on the wall a glass funnel connected with a rubber tube 3 yards long and 2 cm. wide, with a faucet arrangement at the outer end. A delicate trocar is fastened to the faucet, small enough to enter one of the dorsal veins in the rabbit's ear. The urine to be tested is filtered through fine linen to arrest salts in suspension, etc., and the fluid is allowed to flow very slowly and gradually into the vein in the ear. The experiment requires from thirty to sixty minutes. In case of

extreme toxicity the animal soon has a few convulsions and dies.

Semaine Médicale, Paris.

31 (XXVII, No. 22, pp. 253-264.) *Salt-Free Diet in Scarlet Fever and Scarlatinal Nephritis. (Régime déchloruré dans la scarlatine, etc.)

31. **Salt in Scarlet Fever and Scarlatinal Nephritis.**—Most French clinicians have long made it a practice to keep scarlet fever patients on an exclusive milk diet, some insisting on it for forty days. It has been found, however, that practically the same benefit is obtained by restricting the amount of salt in the food, and the present article reviews the evidence that has been presented in this line. The general opinion seems to be, it concludes, that scarlatinal nephritis is the result of the settling in the kidney of some secondary infection, belonging to what Roger calls the "tardy infectious syndrome." Neither a milk diet nor dechloridation is able to prevent the renal affection in question. Nevertheless, assuming that this secondary nephritis is on the point of developing or is in a latent form during the days that follow the febrile stage, anything that tends to throw more work on the kidney or to keep up its normal amount of work in health must certainly tend to favor the development of the nephritis. The nephritis once established, the elimination of chlorids does not proceed normally, and more or less serious accidents may result. Hence, restriction of salt not only has a preventive action against, but also a direct curative action in scarlatinal nephritis.

Berliner klinische Wochenschrift.

32 (XLIV, No. 16, pp. 461-508.) Conception in Medicine of Adaptability to a Purpose. (Begriff der Zweckmässigkeit in der Krankheitslehre.) Goldscheider.
33 Cosmetic Operations on the Nose. (Rhinoplastik.) J. Joseph.
34 *Experimental Research on Diabetes. (Diabetes.) G. Zuelzer.
35 *Functional Tests of the Heart. (Funktionsprüfung des Herzens.) B. Fellner and C. Rudinger. Commenced in No. 15.
36 *Silver Technic for Spirochete Staining and Its Results. (Levaditifärbung der Spir. pal.) C. Benda.
37 Hydrotherapy in Clinical Instruction. (Hydrotherapie als klin. Lehrgegenstand.) Winternitz.
38 "Open Tuberculosis to the Shut-in Sanatoria; Shut-in Tuberculosis to the Open Health Resorts." (Stellung der offenen Kurorte im Kampfe gegen die Tub.) R. Rothschild.
39 Treatment of Obesity with Special Regard to the Heart and Vascular System. (Entfettungskur.) M. Fisch.
40 Physiologic Action of Carbonated Baths. (Versuche mit kohlensauren Gasbädern.) F. M. Groedel.

34. **Experimental Study of Diabetes.**—Zuelzer is convinced that the pancreatic juice and the juice of the suprarenals have an antagonistic action. He thinks that what has been called "pancreas diabetes" is in reality more of a "suprarenal diabetes." His experimental research seems to sustain this view.

35. **Katzenstein's Functional Test of the Heart.**—The Katzenstein method determines the adapting power of the heart under compression of both femoral arteries. The findings with seventy patients are tabulated. They confirmed the results of other tests and suggested functional incompetency when no other test was able to reveal it. The course of the cases confirmed the diagnosis. This test was described in The Journal, page 159, xliii, 1904.

36. **Pale Spirochetes in Syphilitic Lesions.**—Benda relates a number of interesting findings, among them the discovery that the formations resembling giant cells in miliary gummatous nodules in the liver of children with inherited syphilis are in reality merely agglomerations of pale spirochetes walled in and finally killed by an encroaching wall of leucocytes. His findings show that many of the typical syphilitic lesions have accumulations of spirochetes as the nucleus for the formation.

Grèce Médicale, Syra, Greece.

Last indexed, XLVII, page 1964.

41 (VIII, Nos. 17-20, pp. 33-34.) *Diagnosis of Malaria in Absence of Hematozoa. (Fièvres continues.) J. Cardamatis.
42 *Bilious Hemoglobinuric Fever. (Fièvre bil. hemogl.) Id. and N. Pezopoulous.
43 *Congenital Malaria. (Paludisme cong.) Id.
44 (Nos. 21-24, pp. 45-52.) Recent Malarial Fevers in Attica and Beotia. (Fièvres palustres.) Id. and L. Diamessis.

41. **Diagnosis of Malarial Fever in Case of Absence of Hematozoa.**—Cardamatis announces that it is possible to differentiate malaria by microscopic examination of the blood even when no hematozoa are to be found. Disintegration of the bodies of the malarial parasites releases the pigment contained in them. Discovery of a few minute, single or double, dark-colored granules in, on or near the red corpuscles shows that the malarial parasites have been in the blood, but that they have been destroyed and that now nothing is left but the black grains, relics of the nuclei, generally of the estivo-autumnal variety. Discovery of larger, dark-colored grains, generally double, testifies to the previous existence in the blood of the large spherical forms of the parasite of tertian fever. In cases in which no hematozoa or black grains can be discovered, the recent presence in the blood of the parasites of tertian fever can be determined by examination of the larger red corpuscles. Examining those that are twice as large as normal, or larger still, and unusually bright red, minute particles of the pigment of the nuclei of the malarial parasites may be discovered clinging to them, or delicate wavy lines of protoplasmic substance on their surface, alone or with particles of pigment. Sometimes nothing is found but the dotted appearance to which Schüffner has called attention (pointillage). This is noted exclusively in the tertian infection, and only on the infected red corpuscles. The latter may be of otherwise normal aspect and size, or they may be pale and vary in size. In 300 cases of malaria in which the blood was examined the above findings always confirmed the clinical history in each case, while nothing of the kind was ever observed in healthy persons or in patients with other affections. The Romanowski stain, slightly modified, was used. An increased proportion of mononuclear leucocytes is also, this author states, a sign of malaria, but alone it is not reliable, as quinin is liable to induce hyperleucocytosis. A colored plate accompanies the article in No. 21, showing the details and arrangement of the large and small single and double clumps of pigment in or on the red corpuscles, the wavy lines of protoplasm clinging to their surface, and the dotted aspect of the red corpuscles described above.

42. **Bilious Hemoglobinuric Fever.**—Cardamatis relates his experiences with nine severe cases of hemoglobinuric fever in chronic malaria. Hematozoa were found in the blood in only half the patients. He warns emphatically against giving quinin in cases of hemoglobinuric fever. In one case the previous medical attendant had given quinin freely during the attack and the patient succumbed to anuria. All the others recovered. Treatment was with subcutaneous injection of salt solution every six hours, with the same by rectum twice a day; wet cupping to the lumbar region; from 5 to 8 gm. of calcium chlorid during the day; restriction to a milk diet, and complete abstention from alcoholic drinks. The patient was kept in a warmed bed. If hematozoa are found in the blood, or if paroxysms recur, he gives 1 gm. of methylene blue a day, in four doses, keeping this up for ten days, and then commencing cautiously with quinin, 0.1 gm. every two or three days. If no fever follows this the dose is gradually increased until the patient is taking 1 gm. or 1.25 gm. of quinin a day. This is kept up for several days, by the end of which time the patient is not only cured of his hemoglobinuric fever, but also of the malaria as well.

43. **Congenital Malaria.**—Cardamatis and Pezopoulos declare that the malarial parasites do not pass from the mother to the fetus. They base this assertion on six cases in which the mother's blood was swarming with hematozoa while none was discovered in the blood, liver or spleen of the new-born child, in the distal portion of the placenta or in the umbilical cord. The phagocytes take up vegetable mocro-organisms and are liable to transport them through the placenta to the fetus, but they do not seem to be attracted in the same way by the malarial parasites, so long as they are alive. Consequently there is no phagocytosis of live hematozoa. In the thousands of examinations of malarial blood made by the writers the discovery of hematozoa incorporated by leucocytes was an extremely rare finding.

Sei-i-kwai Medical Journal, Tokyo.

Last indexed, page 1468.

45 (XXVII, Nos. 2-4, pp. 145-160.) Necrosis of Maxillary Bones as Sequel of Measles and Description of 2 Cases. T. Majima.
46 Case of Paralysis of Both Hypoglossal Nerves Caused by Dental Abscess. I. Tanaka.

GENERAL INDEX.

All *reading matter* in The Journal from January to June, 1907, inclusive, is indexed here. (For Current Medical Literature Index see pages 2244 to 2277.) All societies, congresses, etc., are grouped under the general subject of "Societies" at the end of the letter "S." Similarly, all "Deaths" and all "Book Notices" are indexed under those titles at the ends of the letters "D" and "B" respectively. Matter pertaining to the Association is under "American Medical Association." With the above exceptions, all matter is indexed under the most important word of the heading that was used in The Journal, and also under the subject heading. For instance, sarcoma of femur will be found indexed under "sarcoma" as well as under "femur." Such titles as "ocular manifestations, etc.," have also been indexed under "eye." Cross references have been made wherever this was possible. It is also well to remember that in looking up a certain subject, related words should be consulted, for example, testes, testicle; skull, cranium; bowel, intestine. The letters used to explain in which department the matter indexed appeared are as follows: "E" editorial; "O" original article; "T" therapeutics; "P" pharmacology; "Ml" medicolegal; "C" correspondence; and "ab" denotes an abstract of an article that has appeared in full elsewhere. *Names of authors* of original articles appearing in The Journal do not appear in this index.

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SOCIETIES.

Abbreviations:

Acad.—Academy.
Am.—American.
A.—Association.
Coll.—College.
Conf.—Conference.
Cong.—Congress.
Dept.—Department.
Dist.—District.
Hosp.—Hospital.
Internat.—International.
M.—Medical, Medicine.
Nat.—National.
Phys.—Physicians.
Ry.—Railway.
S.—Society.
Surg.—Surgical, Surgery, Surgeons.
Univ.—University.

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CURRENT MEDICAL LITERATURE

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Explanation: *The reading matter which appeared in* The Journal *is not indexed here,* except the original articles and the abstracts of original articles. This index includes the titles and the subjects of original articles published in the leading medical journals of the world, including The Journal, during the past six months. The titles and the names of the journals in which they appeared were published weekly in the Current Medical Literature Department, to which references are made. The figures in parentheses refer to the paragraph; the number following, to the page in The Journal. For instance, "Roentgen rays in carcinoma and sarcoma (14) 737," refers to page 737 of The Journal, on which is found, opposite paragraph 14, the title of the paper and the name of the author, viz., "Roentgen Rays in the Treatment of Carcinoma and Sarcoma, C. Williams." This title is listed under the journal in which the article appeared, *The Lancet*, London, January 26. When "ab" follows a page number, it indicates that the article was abstracted in The Journal. For instance, "Cancer, its treatment by modern methods, (1) 178-ab." On page 178, paragraph 1, will be found an abstract of this article, which appeared in the *British Medical Journal*, Dec. 15, 1906. Titles of articles which appeared in The Journal are indicated in the index by an asterisk (*) before the page number. For instance, "Goiter, *273," refers to page 273 of The Journal, on which is found the complete original article. Index to authors of all articles, both original and those listed under Current Medical Literature, is on pages 2278 to 2290 of this Index.

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